

# SINC-LINK VOL.8 NO.5

## SEPT - OCT '90

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TORONTO TIMEX-SINCLAIR  
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## Editorial

I'll keep it short this time.  
While the western worlds' navies are steaming around the Persian Gulf, keep this in mind. Many of those ships have command and control systems run by computers with FPMs no larger and clock speeds no faster than our "dinky toy computers".

Makes me kinda wonder just how big ones' home computer really needs to be.

Keep on Sinc-ing  
(Absolutely no pun intended)

J.T.

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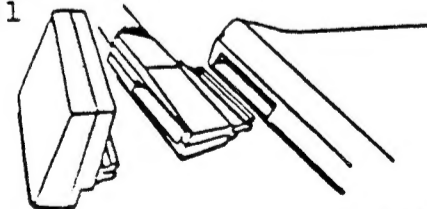
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# BOB'S Notebook: Making Graphs with LKDOS V3.

There are many uses for the LKDOS version 3 EPROM that have yet to be explored and put to good use. Larry Kenny, in his letter in the May/June issue of Sinc-Link suggested using the RAND USR 100: DRAW command to do graphs. It had never occurred to me to do that. I tinkered with it for a while and came up with the program listed below. From it came the two samples it created.

The methodology here is quite simple but a few explanations might be helpful:

Line	Explanation
130	Names of the bars are read into array a\$ from the DATA line 390. They could be product names or staff names, etc.
160	The (x 1000) clarifies the scale being used for the lower chart.
180	Scale markers are printed; the "AT" values position these down the right side and in reverse order: (5-j), so that "0" is at the bottom.
210	The month initials are printed across the bottom of the chart.
220	RND is used to simulate some values.
230	The bars are drawn alternately black and grey (x does this).
270	The upper chart is now printed.
320	Note the way the months are printed for the horizontal bars vs the verticals in line 210. Also the months are in reverse order.
330	Simple markers; lines could be used via PLOT and DRAW.
410	A subroutine to draw a border around the chart.

### About the shading using LKDOS:

Only two LKDOS patterns have been used in this demo. There are eight others plus a user definable one. Bars could be placed closer together or even touching to get more data on the screen.

Time now to type in the listing and RUN it to see if you get the SCREEN\$ looking just right. You might have to adjust the spacing here and there in the strings; this column is being written using Pixel Print Professional and getting the listing into PPP caused some uneven spacing. It takes getting used to!

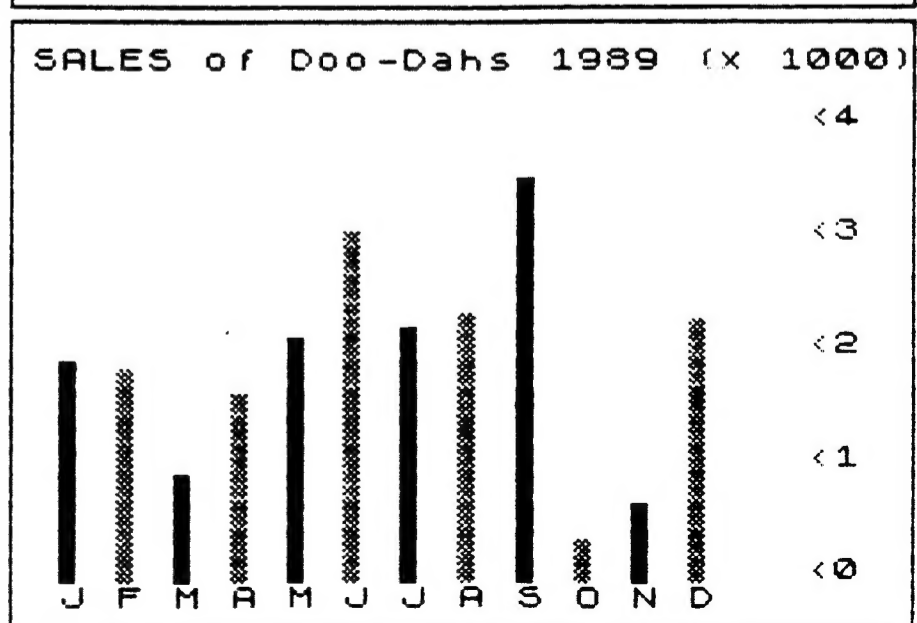
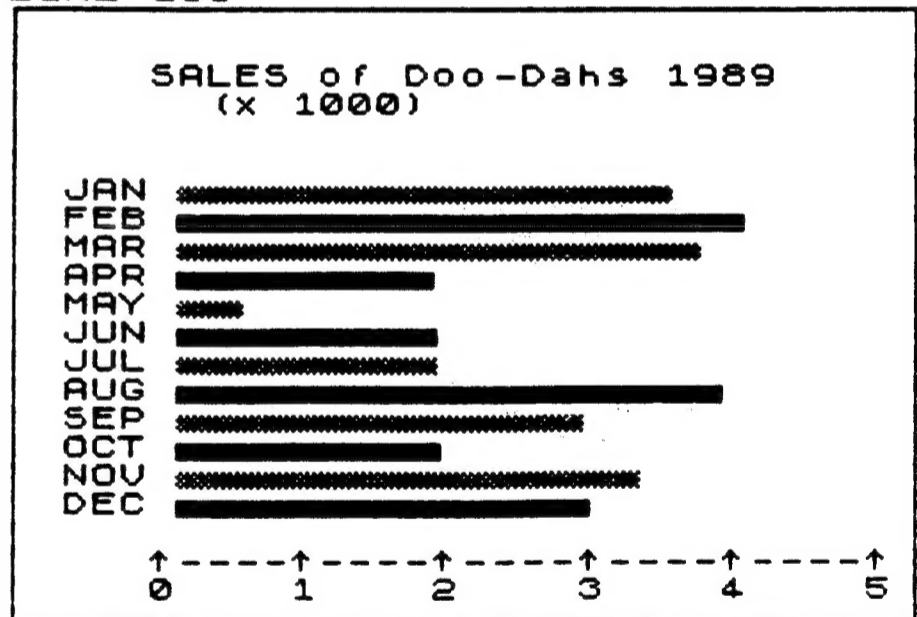
In any case, this demo should help you get started at designing your own graphs.

Bob Mitchell 900813.

```

100 RANDOMIZE USR 100:
OPEN #4,"dd"
110 DIM a$(12,3)
120 RESTORE 390
130 FOR i=1 TO 12: READ a$(i):
NEXT i
140 PAPER 0: INK 7: BORDER 0:
CLS
150 RANDOMIZE
160 PRINT " SALES of Doo-Da
hs 1989 (x 1000)"
170 GO SUB 410
180 FOR j=1 TO 5: PRINT AT j*
4-1,20;"<";5-j: NEXT j
190 LET x=1
200 FOR i=1 TO 12
210 PRINT AT 20,i*2;a$(i, TO
1);
220 LET y=RND*120
230 PLOT 8*i*2,16: PRINT #4:
DRAW 5,y,x
240 LET x=ABS (x-3)
250 NEXT i
260 PRINT #0;" [ENTER] ": PAUSE 0
270 CLS
280 PRINT " SALES of Doo
-Dahs 1989" (x 1000)"
290 GO SUB 410
300 LET x=1
310 FOR i=1 TO 12
320 PRINT AT 21-i-3,2;a$(13-i);
330 PRINT AT 19,5;"↑----↑----↑
----↑----↑----↑"
340 PRINT AT 20,5;"0 1 2
3 4 5"
350 LET y=RND*190
360 PLOT 48,8*i+24: PRINT #4:
DRAW y,5,x
370 LET x=ABS (x-3)
380 NEXT i
390 DATA "JAN","FEB","MAR",
"APR","MAY","JUN","JUL","AUG",
"SEP","OCT","NOV","DEC"
400 STOP
410 PLOT 2,2: DRAW 252,0: DRAW
0,172: DRAW -252,0: DRAW 0,-172
420 RETURN
9000 PRINT #4: SAVE "bars.B1"
LINE 100

```



*Psi CHESS AND THE LARKEN*  
by George Chambers

The Psi CHESS is an excellent chess program. It was put out in 1983 by "The Edge", Covent Garden, London England. It is designed for the Spectrum, and can be played on a Spectrumized TS2068. By use of the NMI-key it can be saved to disk with the Larken system.

The program has the capability of saving the pertinent data (about 256 bytes) of a game in progress, for reloading later. The drawback, for a Larken user, is that the SAVE is to tape. This article details how to convert the program to do this save and load to a Larken disk.

The procedure on this disk requires use of four utilities which are to be found on disks #1 and #12 of the club Larken library. The process is complex because I found no easy way to break into the program (all my tricks failed!). This procedure would be applicable to all such programs.

It was first necessary to locate the SAVE and LOAD routines in the program. By doing some experimental saves and loads it was evident that the data was being saved as a short headerless block of code. That is to say, there was no header to the saved code. This meant that one could not inspect the saved code for header information.

So.... I think the best thing is to prepare two copies of the chess program, over and above your original. What we want to start off with is one 9-track (Larken) NMI-save, and one 10-track NMI-save copy of the chess program. We shall call them chess-9 and chess-10 to simplify things. (You make 9-track copies by holding down the CAPS SHIFT key while pressing the 1-5 keys.

Using the programs "crack.B1" and "saver1.B1" from library disk #12, I saved a portion of "chess-9", from address 24000, to the top of memory. Maybe I should explain the way it is done. The "crack.B1" program loads the "chess-9" program track-by-track into the computer. As each track is loaded into the computer it is saved off to tape before the next track is called up. This process is automatic; it takes about 10 minutes to save a program to tape. Then the "saver1.B1" program is loaded, the tape is played back, and the "chess-9" program is placed back into the computer, again automatically. But with a difference. Only a portion of the "chess-9" has been put back into the computer; that portion from address 24000 and upwards. The computer has been given a CLEAR 23999 instruction, so there is a bit of room for some short Basic routines. Save this code to disk. SAVE "pchess.C1" CODE 24000,41535.

We do this so we can get into the chess program and search out the location of the LOAD/SAVE routines. And to find some empty space for our Larken code. We are going to

use this information later to modify the chess-10 program. After we have this information this "pchess.C1" will be discarded.

Now to search for the SAVE and LOAD routines. One thing that is common to these routines is the m/c instruction LD IX. This equates to a 221 and 33 (decimal) in adjacent addresses. I used a FOR/NEXT loop to search through the program looking for this number sequence. The routine would print out the address of every occurrence. There were several. I then loaded the program "spec48.Cs" (a disassembler on library disk #12) and took a look at these locations. They looked promising. I took note of two addresses, 42917 and 42934. These were significant because they were CALLs to LOAD and SAVE routines in the Spectrum ROM; addresses 1378 and 1222. I took a printout of the m/c around those addresses.

I propose to do the same with this program as I had done with the "Penetrator" program, described earlier in Sinc-Link (Vol.8 No.2). That is, introduce a Larken SAVE and LOAD routine in an empty space somewhere in the program, and redirect the ROM calls to the Larken code. I would need room for about 130 bytes of code. I searched through the memory for some space, and found some starting at address 48400.

Since loading "spec48.Cs" partially corrupted the "chess.C1" program in memory, I reloaded it. Then I did a PRINT USR 42893 and PRINT USR 42922 to verify the SAVE and LOAD routines. These were addresses of m/c leading up to the ROM calls SAVE and LOAD. And sure enough these put us into the SAVE and LOAD modes.

I reworked addresses of the "Penetrator" code to suit the new location. Also, since the original chess "tape-saves" were headerless, i.e. had no name, a name had to be added to the code to satisfy the Larken system.

The Basic listing included here is the result of this. Type this in, SAVE it (hopefully you will not need it again); then RUN it and save the resulting code at 48400. Save "chess.C1" CODE 48400,130. Save it to tape, not disk. It will be easier this way.

Now comes the tricky part. Although we have been working with the "chess-9" program, this SAVE/LOAD code has to be introduced into the uncrackable "chess-10" program. To do this we are going to use two utility programs; "bopeep.B1" (on library disk #12), and "doctor.B1" (library disk #1).

We are going to use "bopeep.B1" to do two things. Description of the "bopeep.B1" utility is too involved to go into here. Details are on the disk. Suffice to say that with this utility we shall POKE several numbers "directly" into the "chess-10" program. Firstly, we shall POKE four addresses with new numbers. These numbers will cause the chess program to CALL the Larken code when a SAVE or LOAD function is invoked. Poke these numbers:

Address	new no.	(orig. no.)
42918	16	(98)
42919	189	(5)

42935	25	(198)
42936	189	(4)

Note: 16+256\*189=48401 and  
25+256\*189=48409

calls to the Larken code

Secondly, we shall "mark" the spot where we want to locate the Larken code. Now, we could POKE this code directly, continuing the process described above. However, there are about 125 numbers to be POKEd, and this can be quite a chore. Instead, we are going to make use of the "doctor" utility and the 130-byte block of code (chess.C1) we saved earlier on tape. Using the "doctor" utility we shall load into the computer the track of the "chess-10" program that contains the wanted address 48400.

But I digress. To mark the track we shall call up addresses 48400, 48401, and 48402; and POKE a value of 201 into each. We do this to make this address quite distinctive when we search for it later, with "doctor". At the same time, take note of which disk-track the 7th track of chess-10 is located. We'll want to know this shortly. The ten disk tracks of "chess-10" appear on the screen of "bopeep".

Having completed the "marking" we shall now load "doctor.B1". I'm going to make it easy for both of us. I've already determined, by breaking into the "bopeep" program during it's operation, and looking at some of it's variables, that this address, 48400, is located in the 7th of the 10 tracks of the "chess-10" program. And by using a FOR/NEXT loop to search for the three 201's on the track while it was in the "doctor" program, I find that the wanted chess-10 address (48400) is now at address 51500 in the "doctor" program. Are you still with me? Do check this out.

While you have this track 7 of chess-10 in the "doctor" program, and while you are viewing the (doctor) address 51500 with Option "D", you should see the 201's that we poked earlier. BREAK from the program, load the "chess.C1" code you saved earlier (be sure to LOAD "chess.C1" CODE 51500). Then get back into the doctor program by pressing the C (CONTINUE) key, then work the "B" and "C" keys. If this fails to put you back into the "doctor" program, then do a GOTO 4100. Verify that the code you just loaded is in place starting at address 51500. Note that it over-writes the 201's. If you have done things correctly it will have!

Be sure the disk with chess-10 is still in the drive, and is unprotected. Then re-save the track in "doctor", by pressing the "S" key to save to the same track.

This completes the operation. Load your "chess-10" program into the computer (Spectrum mode, of course), and try out the SAVE and LOAD options. Be sure to have an unprotected disk with at least one spare track in the drive. It could be the same disk as chess-10 was loaded from. Or

it could be another disk. However the SAVE and LOAD will be to the same drive as the program was originally loaded from. You cannot change drives. Do a SAVE first, so that when you try a LOAD there will be a chess code file to load. Otherwise the system will crash. I assigned the name "chess.Cx" to this code file. It takes one track.

\*\*\*\*\*

#### Basic Code Loader

```

10 FOR n=48400 TO 48526
20 READ a: POKE n,a
30 NEXT n
100 DATA 205,33,189,201,0,0,0,0
,0
110 DATA 205,80,189,201,0,0,0,0

120 DATA 243,0,205,98,0,33,126,
189,17,34,32,1,10,0,237
130 DATA 176,62,11,50,2,32,205,
198,0,33,0,251,34,51,32
140 DATA 33,0,1,34,49,32,205,20
1,0,58,100,0,251,201,0
150 DATA 0,0,243,0,205,98,0,33,
126,189,17
160 DATA 34,32,1,10,0,237,176,6
2,11,50,2,32,205,204,0
170 DATA 33,0,251,34,51,32,33,0
,1,34,49,32,205,207,0
180 DATA 58,100,0,251,201,0,0,1
12,99,104,101,115,115,46,67,120,
28,0,0,0,0,0,0,0
200 STOP
9000 PRINT USR 100: SAVE "chess.
B1"

```

#### LOAD & SAVE code from "chess-09"

```

42892 C9      RET
→42893 3EFF   LD   A,255
42895 118012  LD   DE,4736
42898 DD2100A8 LD  IX,43008
42902 37      SCF
42903 CD9DA7  CALL 42909
42906 FDE1    POP  IY
42908 C9      RET
42909 14      INC  D
42910 08      EX  AF,AF'
42911 15      DEC  D
42912 F3      DI
42913 3E0F    LD   A,15
42915 D3FE    OUT (254),A
→42917 CD6205 CALL 1378
42920 FB      EI
42921 C9      RET
→42922 CDCDA7 CALL 42957
42925 DD2100FB LD  IX,64256
42929 110001  LD   DE,256
42932 3EFF   LD   A,255
→42934 CDC604 CALL 1222
42937 FDE1    POP  IY
42939 C3CDA7  JP   42957
42942 3EFF   LD   A,255
42944 DD2100FB LD  IX,64256
42948 110001  LD   DE,256
42951 37      SCF
42952 CD9DA7  CALL 42909
42955 FDE1    POP  IY
42957 2100FB   LD   HL,64256
42960 7E      LD   A,(HL)
42961 EEFE   XOR  254
42963 77      LD   (HL),A
42964 2C      INC  L
42965 20F9   JR   NZ,42960
42967 C9      RET

```

A few days ago I came across something which not everyone is aware of. Sometimes when the write-protect tab is broken off the side of a cartridge, we place a small piece of tape across the gap to enable us to write to the cartridge. This is OK, but only up to a point, as we usually take an address label or Scotch tape to put across the gap, this is NOT OK. This is the wrong type of tape !!! I have noticed on occasion that a cartridge would behave in a strange manner, and in many cases I noted that this was caused by the tape not standing up to the pressure of the small spring in the drive. The tape had got a little warm and had slipped.

Also, when replacing the label on a diskette, I noticed there was a lot of residue left on the disk. If some of this goo gets onto the inside of the disk envelope, then it can get onto the face of the disk, from there to the heads, and all your disks get contaminated. Expensive.

So I went to my local stationary supply store, Grand & Toy in Burlington, and spoke to Dave Wolsey, the manager of that store, and I got some real good answers.

It would appear that plastic gives off an oily substance and this substance attacks the adhesive used in ordinary labels, causing the adhesive to deteriorate over a short period of time, and become very soft.

Have you noticed the manufacturers labels sticks real good? sometimes too good? That label is made for the job. The ordinary label is made to stick to paper, a different thing from plastic.

Grand & Toy sell a label specifically made for diskettes, which will work, and when removed will leave no residue. The labels for 5 1/4 are in boxes of 30, cost \$3.95, or 10 box lot for \$37.00. The label for 5 1/2 disks are in boxes of 25 for \$6.59 or \$30.30 for 5 boxes. 5 colours in each box.

Not expensive for the trouble saved.

What we need in this business is good old stick-ability

H. H. H.

Had some letters from members who were having trouble with their newly acquired disk drives not operating as they should. The problem was no format no load and various other little things. One of those members did some checking on his disk power supply, and discovered the 12volt source was running about 13.5, and the 5v source about 6.7 v. Last I heard was that he did some adjusting and things were a lot better. I passed this on to someone else, I have not heard back from him yet.

Seems the "New England QL User Group" is off and running. Peter Hale at the helm. Best of luck folks. Peter says that they are going to print a programme listing in their newsletter each issue, and if you don't want to go to the hassle of typing it in for yourself, send a US dollar, and they will send a disk all ready to go. Sounds a good idea. (This offer for MEMBERS ONLY) This group is dedicated to the QL. That is ONLY the QL. They already have a couple of dozen members. Good for a start.

It would appear that some of the missing QL's are coming to the surface. If you sent anything to Tom Bent and did not get it back, contact Paul Holmgren and he might just be able to help you. Seems that Paul bought up all Toms stuff. Might be worth a call to Paul. Jeff Taylor our editor, says he thinks his QL has been found.

I hope the new publisher of UPDATE can come up with better delivery than we have recently had. This is August 7 I write this, and I am still waiting for the July issue. Not really good enough. I will wait and see how long it takes to come before I renew. I was not at Milwaukee but from what I hear going around, there were a few unhappy folks that Sharps were absent. Next year the show will be in Chicago, at least that is what I heard. Come on Mark, make a showing. I will try and get to that one; so on that basis alone it would be profitable for you to attend.

The QL Library has had some really nice material added this last couple of months. Howard Clase in Newfoundland has sent in quite a few items, lots of Fonts, and a lot of SuperBasic Procedures. Also he sent in a disk full of interesting stuff from Emmanuel Verbeeck of Belgium. One of those items is IMAGIX, which is a graphic reproducing system. It even makes the EYE-Q image look better. I think this must be oriented to the JS version rather than our JSU, as there are a couple of minor bugs, but nothing to detract from the program to any great extent. QL'ers need this one.

H.H.

## ZX81 TAPE LIBRARY

by G. Chambers

Our ZX81/TS1000 tape library does not see much activity these days. Partly, I suppose it's because the more active members have moved onto the TS2068 and the QL. However, it may also be because of an unawareness of the treasures that our tape library holds.

The following two listings are taken from tape #65. They are loading utilities. The first one is for use on a tape program which crashes during loading. It may be from a flaw on the tape, for example. The program will allow you to salvage that part of the program which has loaded prior to the "break" in the tape.

```
1 REM E82A0C4037ED522A0C40380
AE80100003E76EDB92323C30304
10 REM SAVE PART OF A BAD TAPE

20 FAST
30 LET a=124
40 FOR I=508 TO 929
50 POKE I+A*256,PEEK I
60 NEXT I
70 LET B=A*256+834
80 POKE B,55
90 POKE B+7,A+3
100 POKE B+32,6
110 POKE B+33,A+2
120 POKE B+38,A+3
130 POKE B+60,A+3
140 POKE B+64,A+1
150 FOR J=1 TO 25
160 LET C=16512+J*2
170 POKE J+A*256+517,(PEEK C-28
)*16+PEEK (C+1)-28
180 NEXT J
190 RANDOMIZE USR B
200>PRINT "THIS PROGRAM WILL RE
COVER A DAMAGED TAPE FROM TH
E BEGINNING OF A PROGRAM TO THE
DAMAGED SPOTOR DROPOUT.",,,,,,
220 PRINT "RUN PROGRAM",,,,,,"WHE
N PATTERN APPEARS,",,,,,,"LOAD" TH
E DAMAGED TAPE AS YOU WOULD A NO
RMAL TAPE"
```

The second program is for use in making a copy of a tape which starts running automatically after the load is complete. Customarily these programs cannot otherwise be broken. Well, I say they cannot be broken; the knowledgeable among us know that you can stop such a program by getting into the FAST mode, then doing a RAND USR 832 (or RAND USR 836). However, this program will do a SAVE as well.

```
1 REM E1CDBB02E821FDF8A7ED522
OF421DB04C3FC020000000000000
10 REM SAVE A SELF-RUN PROGRAM

20 FAST
30 LET A=124
40 FOR I=508 TO 929
50 POKE I+A*256,PEEK I
60 NEXT I
70 LET B=A*256+834
80 POKE B,55
90 POKE B+7,A+3
100 POKE B+32,6
110 POKE B+33,A+2
120 POKE B+38,A+3
130 POKE B+60,A+3
140 POKE B+64,A+1
150 FOR J=1 TO 25
160 LET C=16512+J*2
170 POKE J+A*256+517,(PEEK C-28
)*16+PEEK (C+1)-28
180 NEXT J
190 PRINT USR B
200 PRINT "THIS PROGRAM WILL SA
VE PROGRAMS THAT CANNOT BE BROKE
N INTO. PSION CHESS, FOR EX
AMPLE."
210 PRINT ,,,,,"RUN PROGRAM.",,,"
WHEN PATTERN APPEARS, PLAY THE
UNSAVEABLE PROGRAM"
220 PRINT ,,"THE SCREEN WILL GO
BLANK ..... INSERT A FRESH TAP
E..... PUSH RECORD BUTTON
..... PRESS ""S"" TO SAV
E"
```

FORMER CAMBRIDGE SALESMAN TRIES  
DATABASE FOR MAIL ORDERS.....

HINTS AND TIPS ON QL'S  
by E.P. Wannum

Nigel Searle, who previously represented the Z-88 laptop computer from Cambridge North America, has begun offering a database of mail-order bargains to anyone willing to pay one percent of the price quoted.

His company, The Marketing Clinic, says the philosophy is simple: if you don't save, you don't pay. The service for PC or PC peripheral buyers is available on weekdays, from 9am to 6pm, Eastern Standard Time, at 603-357-1061. The number for Macintosh buyers is 603-352-9836.

Searle explains how the new service, called Best Buys, works. "You call me with the product you're seeking. I quote a price, and ask if you are interested. If you say No Thanks, that's the end of the conversation. If you are interested, you give me your credit card number and I tell you where it's available. You can ask additional questions and back out earlier."

Searle adds he may offer the service on a 900 number, if volume justifies it. "If we get enough volume we'll move to a 900 number and a totally interactive system. There's a reason 900 numbers are used for television offers. It's a \$1,000 per month minimum charge."

Searle also mentioned the sad tale of what happened to the Z-88, a 1-pound, non-DOS compatible laptop with a foam rubber keyboard users could take to the beach. "Cambridge North America's parent, Diversified Foods, got into financial difficulties and the banks went after Cambridge to repay those loans because it was the only profitable part of the business", Searle says. "CNA late last year filed Chapter 11 bankruptcy to protect itself from its parent company's bank, and they continue to operate under Chapter 11, selling the Z-88. But you may have noticed very little advertising because they are very tight on cash--they're giving it to the bank. Meanwhile there's a new distributor based in New York, called the Cambridge Group, just beginning to import the Z-88, and sell it." So the story of the Z-88 isn't over -- it's just entered a new chapter.

For more information, you can contact: Nigel Searle, The Marketing Clinic. The phone number is 603-352-9836. Check it out, maybe he will be able to find that special something that you were looking for and weren't able to find. You never know what he has on his database, if you don't give him a try first.

from The Hacker of Las Vegas

For those just getting familiar with the QL I offer the two following bits of advice for you to try. Once you are familiar with them you will be ready use them and have fun. To the degree that you make progress at a hobby it will remain fun.

(1) Screen saving on the QL is easy, but it uses 32K of storage on disk or mdv to do so. The screen starts at memory address \$20000 (131072) and finishes at \$27FFF (163839). The easiest way to save to MDV is to have the command SBYTES mdv1\_picture,131072,32768 in your screen design program. To get back (load) the picture you execute the statement LBYTES mdv1\_picture,131072. The name "picture" is used only as an example and can be any name that you wish. What is a SCREEN? When you look at a picture on your monitor, from top to bottom, and left to right, then you are looking at a screen.

(2) The DIR command will take a channel number assigned to it, such as Dir#2, MDV1\_file. This will list the directory information of the MDV on channel two. The DIR command is similar to the CAT (catalog) command that TS2068 Oliger users are used to. You can use this to compare two directories that are fairly long by listing on different channels, rather than the first listing being displaced by the second. Then you can do a look-see and check for any differences.

Retyped from the Indiana Sinclair-Time Newsletter



## QUILL and TOOLKIT\_2

Back in the May/June of SINK-LINK, I mentioned the problem of using QUILL in an un-expanded QL when TK2 is installed.

Since then I have had a couple of comments about Quill failing to load, and asking me for a clean copy of Quill. It turned out that TK2 had recently been installed, and that was when the trouble had started.

The symptoms are this. You load up Quill, getting the command window along the top of the screen, then the QL makes a point to Microdrive #2, and display on the screen :- Unable to start Quill

Press SPACE to continue

Press ESC to abandon QUILL

Loading is halted at this point.

The other night I was speaking to Peter Hale about this and that and other things, and I mentioned this problem to him, and the first question he asked was if I was loading from #2 drive. I said from #1. Then he asked if I had a cartridge in #2 drive, of course I had to say NO.. AHA says Peter, thats your problem, and then went on to explain.

We all know, QUILL takes up a lot of memory, which is one of its greatest drawbacks. We have all, I am sure, been in the middle of a document or letter and had the drives start up to create a DEF\_TMP file, most annoying.

This is what was happening when we tried to load Quill and TK2. TK2 takes up some memory, just enough that there is no room for QUILL, so it tries to create a DEF\_TMP file on drive #2, and as there is no cartridge in #2, QUILL closes down.

So you CAN use QUILL and TK2 in an unexpanded QL, provided that you have a cartridge in drive #2 to hold the DEF\_TMP file.

I wonder how this affects the Networking? which is how all this chatter started up. I guess that this should permit us to Network QUILL on an unexpanded unit. When I get time I will try it, in the meantime someone else might care to have a go and let us know the results. How about it someone out there.

Hugh Howie.

## MULTIPLICATION ACCURACY WITH THE ZX81 by G. Chambers

As the Sinclair manual states, the ZX81 can multiply with an 8-digit accuracy.

The following program will allow you to multiply two integers of any (practical) length with absolute accuracy.

```
30 INPUT X$
40 INPUT Y$
50 DIM A( LEN X$ + LEN Y$)
60 FOR M = LEN X$ TO 1 STEP -1
70 FOR N = LEN Y$ TO 1 STEP -1
80 LET C = M + N
90 LET B = JAL X$(M)
100 LET A(C) = VAL Y$(N) * B + A(C)
110 LET I = INT A(C) - (I * 10)
120 LET A(C) = A(C) - (I * 10)
130 LET A(C-1) = A(C-1) + I
140 NEXT N
150 NEXT M
160 CLS
170 PRINT X$; "X"; Y$; " = ";
180 PRINT
190 FOR P = 2 TO (LEN X$ + LEN Y$)
200 PRINT A(P)
210 NEXT P
220 STOP
```

## PRINTER INK by G Chambers

I mentioned a source of printer ink in the last newsletter. This prompted a response from one of our members, Mac Pace. He writes:

Dear George,

Received my July-Aug SINK-LINK this AM, and noticed your remark on printer ink.

Computer Friends, Inc.  
14250 N.W. Sciences Park Dr.  
Portland, OR 97229  
(503) 626-2291

A good supplier of ink as well as cartridges and lots of stuff. Ink is \$2. per 2oz. I have several different ribbons of different colors, these people are a good source.

Also have you heard of EBONIZE Ink spray, it does a pretty good job.

UPWEGO COMPUTER SUPPLY, INC  
120 West Madison St.,  
Chicago, IL 60602

\$14.95 for spray can good for 20 ribbons

Yours very truly, Mac Pace.

**PLOTTING CHARTS and CURVES  
on the T/S 2040**

In this demonstration we will show how the T/S 2068 and its running mate, the T/S 2040, can accept 12 INPUT values and convert them into a Vertical Bar Chart or a Point to Point Curve. Routine "D-17" is the basic program for the bar chart and "D-19" is a similar program for the point-to-point curve. You can enter any 12 dollar amounts. In practice, however, these amounts would be of about the same magnitude, thus presenting a reasonable looking figure.

About the only difference between these two routines is in the area of lines 208 to 240.

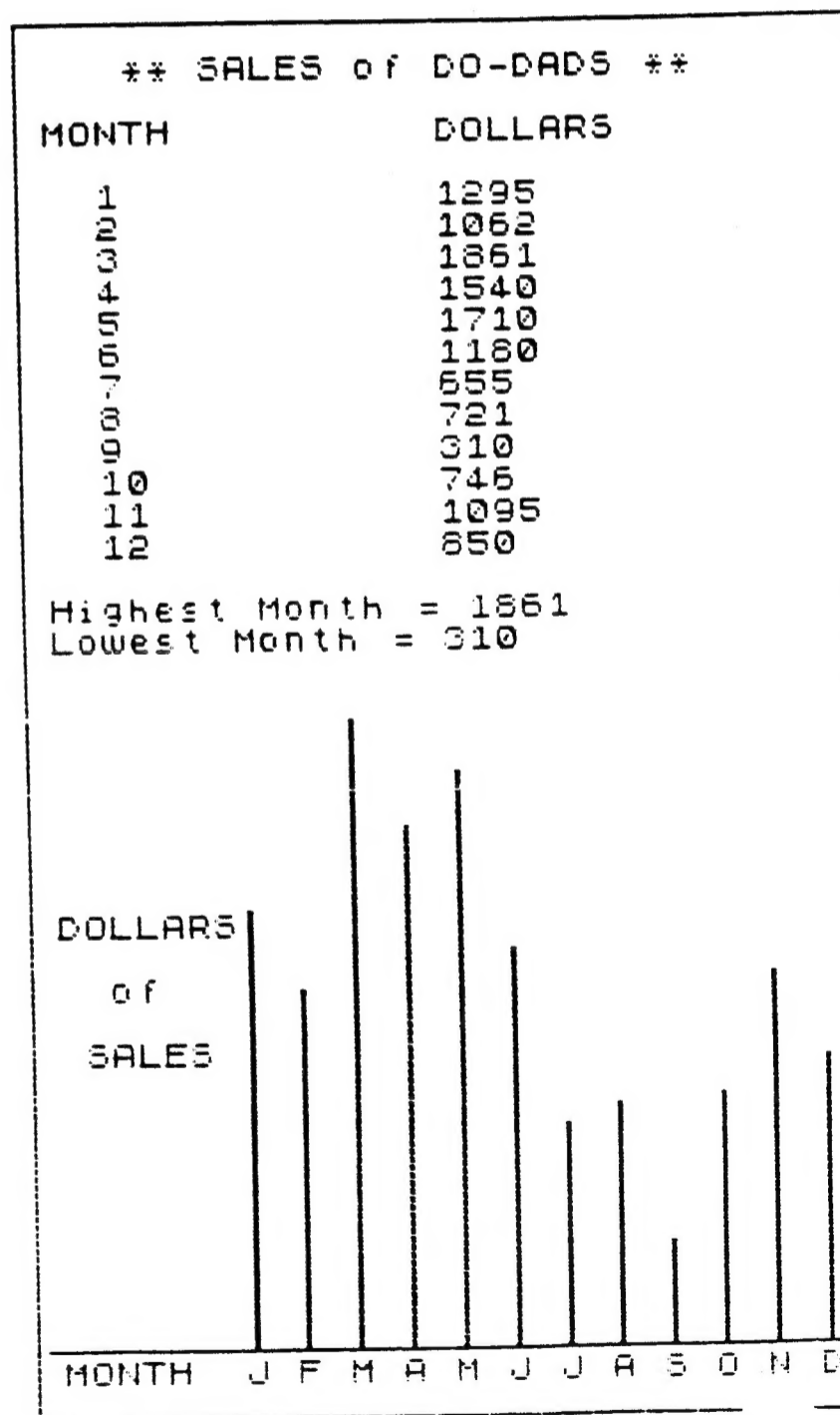
There is another feature to the routines that adds to their utility. The programs are written so that the output is sent to the T/S 2040 printer, with both the upper and lower half continuously and automatically copied. Thus they are blended into a single illustration.

Now I wonder how many other more sophisticated computer-printer combinations can match this effectiveness and simplicity of providing a hard copy of similar data, with a basic program that is readily altered to suit one's needs?

Warren Fricke,  
WNY User Group

```

5 REM ** MODEL OF A VERTICLE
  BAR CHART.
10 REM ** "D-17", 2-10-88, WF
30 DRAW 0,175: DRAW 255,0: DRA
W 0,-175
40 PRINT AT 1,4:** SALES of D
O-DADS **";AT 3,1;"MONTH","DOLLA
RS"
50 DIM a$(30): DIM s(12)
60 FOR n=1 TO 12
70 INPUT "Enter sales, month N
o. ";(n);" ";s(n)
80 PRINT AT 4+n,3;n,s(n)
85 NEXT n
90 LET max=0
100 FOR n=1 TO 12
110 IF s(n)>max THEN LET max=s(
n)
120 NEXT n
130 LET min=max
140 FOR n=1 TO 12
150 IF s(n)<min THEN LET min=s(
n)
160 NEXT n
170 PRINT AT 18,1;"Highest Mont
h = ";max;AT 19,1;"Lowest Month
= ";min
180 PRINT AT 20,1;"Have PRINTER
ready, and press";AT 21,1;" ENT
ER if data is OK.": INPUT c$
190 PRINT AT 20,1;a$;AT 21,1;a$
: COPY : CLS
202 PRINT AT 5,1;"DOLLARS";AT 8
,3;"of";AT 10,2;"SALES"
205 PRINT AT 20,1;"MONTH J F M
A M J J A S O N D"
207 PLOT 17: DRAW 246,0
210 FOR m=7 TO 143 STEP 16
220 FOR n=0 TO 1
230 PLOT n+m,17: DRAW 0,s((n-67
)/16+1)*158/max
240 NEXT m: NEXT n
250 PLOT 0,175: DRAW 0,-175: DR
AW 255,0: DRAW 0,175
260 COPY
  
```



```

5 REM ** MODEL OF A POINT TO
      POINT CURVE
10 REM ** "D-19", 3-2-88, WF
30 DRAW 0,175: DRAW 255,0: DRA
W 0,-175
40 PRINT AT 1,4;"** SALES of D
O-DADS **";AT 3,1;"MONTH","DOLLA
RS"
50 DIM a$(30): DIM s(12)
60 FOR n=1 TO 12
70 INPUT "Enter sales, month N
o. ";(n);" ";s(n)
80 PRINT AT 4+n,3;n,s(n)
85 NEXT n
90 LET max=0
100 FOR n=1 TO 12
110 IF s(n)>max THEN LET max=s(
n)
120 NEXT n
130 LET min=max
140 FOR n=1 TO 12
150 IF s(n)<min THEN LET min=s(
n)
160 NEXT n
170 PRINT AT 18,1;"Highest Mont
h = ";max;AT 19,1;"Lowest Month
= ";min
180 PRINT AT 20,1;"Have PRINTER
ready, and press";AT 21,1;" ENT
ER if data is OK.": INPUT c$
190 PRINT AT 20,1;a$;AT 21,1;a$
: COPY : CLS
202 PRINT AT 6,1;"DOLLARS";AT 8
,3;"of";AT 10,2;"SALES"
205 PRINT AT 20,1;"MONTH J F M
A M J J A S O N D"
207 PLOT 4,17: DRAW 246,0
208 PLOT 67,17+s(1)*158/max
210 FOR n=83 TO 243 STEP 16
220 LET y1=17+s((n-83)/16+1)*15
8/max
230 LET y2=17+s((n-67)/16+1)*15
8/max
240 DRAW 16,y2-y1: NEXT n
250 PLOT 0,175: DRAW 0,-175: DR
AW 255,0: DRAW 0,175
260 COPY

```

```

** SALES of DO-DADS **

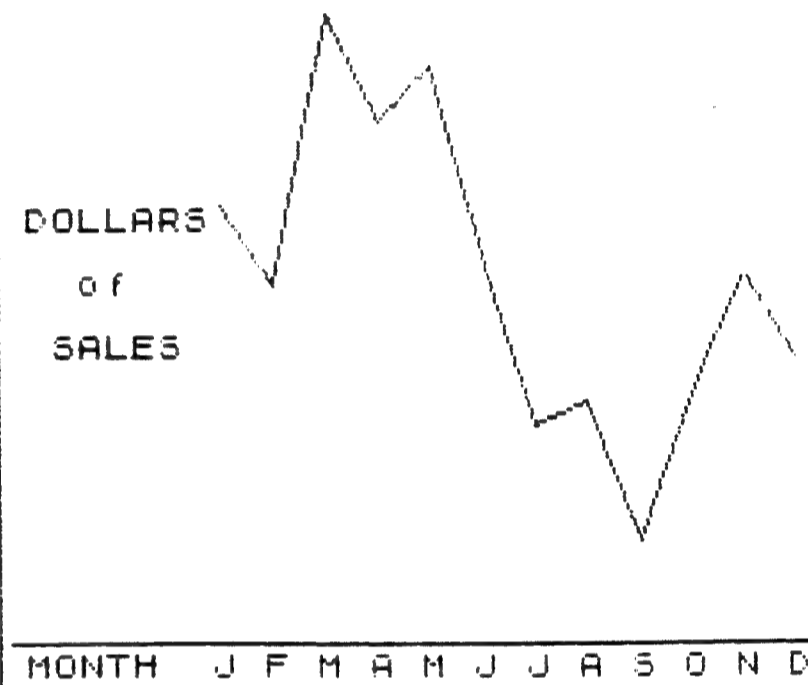
```

MONTH	DOLLARS
1	1295
2	1062
3	1861
4	1540
5	1710
6	1160
7	655
8	721
9	310
10	746
11	1095
12	650

```

Highest Month = 1861
Lowest Month = 310

```



**MULTIPLICATION**  
by George Chambers

The following listing "multip.B2", is based on an article entitled "Russian Peasant Multiplication", by Dale Fritz, that appeared in an exchange newsletter (I've lost track of which one it was, sorry about that). I shall quote from the article:

"..This is a method to multiply two integers, using only addition, doubling, and halving. Granted, it is not as fast as our decimal system, but how does it work???"  
Beats me, gfc!

```

5 REM      Russian Peasant
      Multiplication
6 REM
7 REM      From the Seattle T/S
User Grp June 1990 newsletter

10 INPUT "First number ";x
15 LET product=0
20 INPUT "Second Number ";y
30 IF x=0 THEN PRINT product:
STOP
40 IF x/2<INT (x/2) THEN LET
product=product+y
50 LET x=INT (x/2)
60 IF x<0 THEN LET y=2*y
70 GO TO 30
100 STOP
9000 PRINT USR 100: SAVE "peasan
.B1"

```

"IMAGIX" by Emmanuel Verbeeck.

---\*\*\*---

If you are in a hurry for a hard copy of your latest graphic, forget this programme. Use an inferior one. If you want QUALITY, read on.

IMAGIX has just come into our library, and from what little I have done with it, you can be assured it will be in frequent use.

Some images are provided with the programme, but you can use EYE-Q images, as well as others, and in each case the production is better than the original.

On first loading IMAGIX, you are presented with an excellent menu which suggests the default to use, but also gives you an on-screen range of values available. You don't have to look through a manual, it is all on the screen, just press the appropriate number, and get on with the job.

To save a lot of rhetoric, I have attached a copy of the menu. Some options need emphasis. Note that you have a printing density of 1 to 4. I found with a good ribbon in the printer, '1' was excellent.

Also you are asked for the number of copies you want, 1 to 9. Now, if you want a lot of copies you are

going to have to wait, but the quality is worth the wait. It takes about 15/20 minutes to precision print the cat, which is one of the supplied pictures. If you use an EYE-Q image, then that comes down to about 5/10 minutes. Once again the definition is excellent. Much better than the original EYE-Q image.

REVERSED, BLACKLESS etc, requires a little explanation. With IMAGIX, what you see on the screen is what you get, black is black and white is white. If you have a black background that is what is printed, so in this case you ask for REVERSED, and it looks great. You can even get a mirror image print-out.

The last item is a real dandy, it prints side-ways. (Landscape) It prints an 8 inch image, along the page about 12 inches, that is using a stretch factor of 2. You can magnify or shrink the image as your desire.

I have not used it a great deal, but from what I have seen, this is a really great programme. It is in YOUR Club library. Worth having.

I have not gone into a great deal of detail, just don't miss out. Imagine what it might do to your MODEM downloads.

*NHM.*

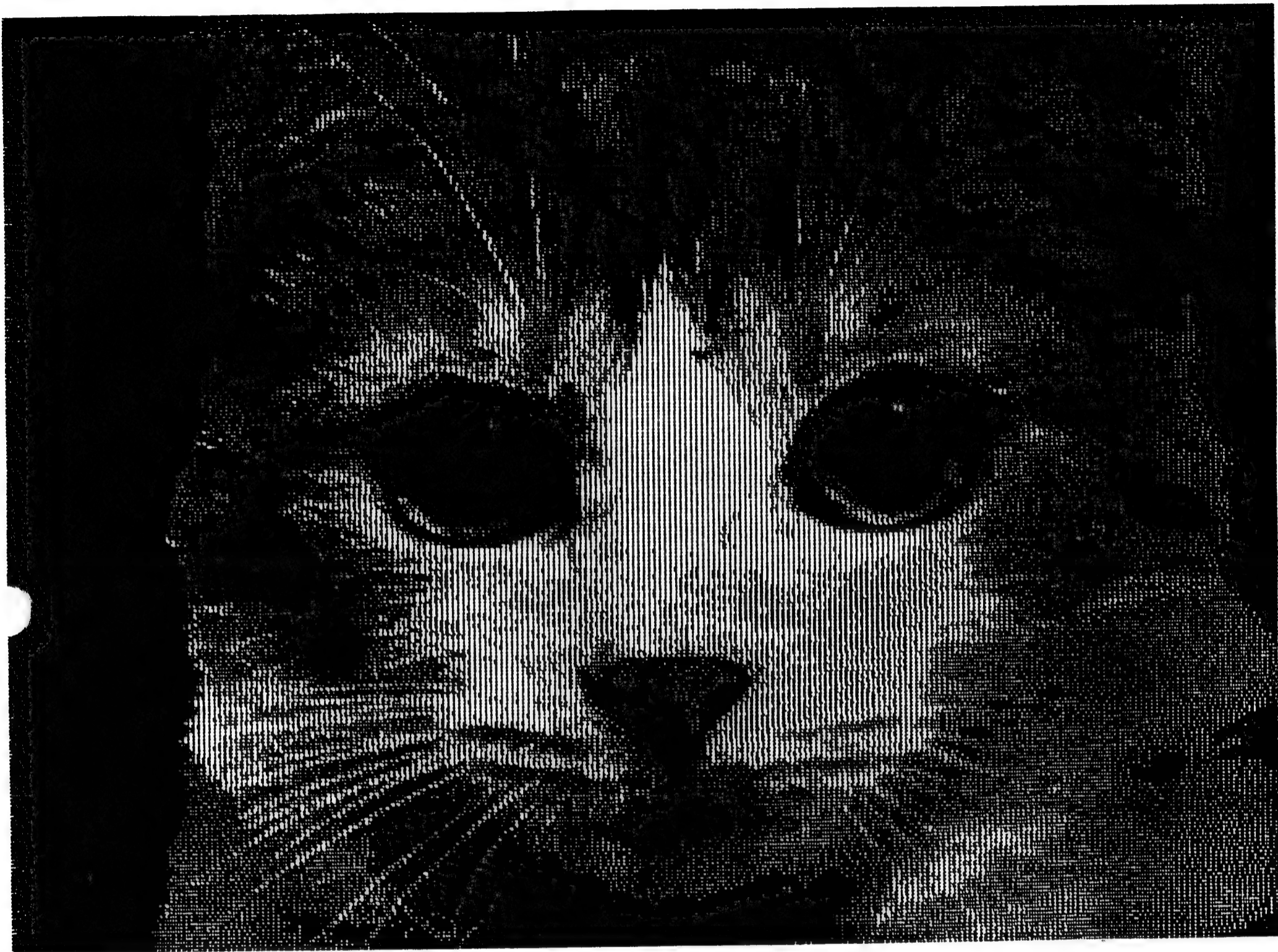
Input File  
Output file

-----  
Dump Area width in pixels (from 4 to 256, steps of 4)  
Dump area height in pixels (from 4 to 256, steps of 4)  
First pixel column (-1 for centered, or from 0 to 255)  
First pixel line (-1 for centered, or from 0 to 255)  
Horizontal stretch or squeeze factor (-4,-2,0,2,4)  
Vertical stretch or squeeze factor (-4,-2,0,2,4)  
Upper paper margin (from 0 to 511)  
Left paper margin (-1 for centered, or from 0 to 240)  
Bottom paper margin (from 0 to 511)  
Printing density factor (from 1 to 4)  
Number of identical copies (from 1 to 9)  
-----

Reversed, Blackless or Normal colors restitution (R,B,N)  
Optimise printing Precision or Speed (P,S)  
High (mode 4) or Low (mode 8) resolution (H,L)  
Start dumping area from Top or Bottom (T,B)  
Start dumping area from Left or Right (L,R)  
Input screen file is Standard or EYE-Q format (S,E)  
Portrait or Landscape printing orientation (P,L)  
-----

ENTER = NEXT

ALT+ENTER = PREVIOUS



IMAGIX Sample Screen

Review - BYTE POWER's *The Print Factory* by Jeff Taylor

BYTE POWER has long been known for its innovative approach to presenting new Timex-Sinclair programs with its *First Class* series of magazines on tapes and font packs. Now the Boisvert brothers have assembled a suite of desktop publishing programs which will allow you to produce newsletters, covers, banners, title screens, letterheads, greeting cards and just about anything you can think of which utilizes a dot-matrix printer.

With over 150 graphic designs and more than 1 different font styles this package has something for everyone.

For those users who do not have a full size printer, *The Print Factory* contains a program which will allow your TS2040 to emulate a large printer.

*The Print Factory* comes on three tapes or is available on two disks, modified for your mass storage system - Larken, in my case.

There are eleven programs contained within this package.

*First Edition* and *The Press* are used to produce newsletters, posters, covers and letterheads. *First Edition* is used if graphics are to be incorporated into the text while *The Press* is used if screens are going into the text area. Both programs allow different fonts and script sizes to be used in one document.

*Letter-Perfect* is a word-processor that was designed for those users whose printers do not have NLQ or changeable fonts.

*The Labeler* allows you to produce personalized labels with your your choice of graphics and fonts.

*Banner Printer* is used to make banners which can exceed 25 feet in length. Three font styles are available and these can be increased to double height.

*The Card Maker* produces your own greeting cards using any of the graphic designs available. Different designs and text can grace the four sides.

*Quick Screen* allows you to create screens to be used with *Press*. Fonts and text can be added.

*The File Keeper* enables you to mix and match graphics to create custom libraries for such programs as *First Edition*, *Banner Printer* and *The Card Maker*.

*The Translator* is used to load *Pixel Print* (Lemke Software Development) icon libraries and translate them into *Print Factory* graphics.

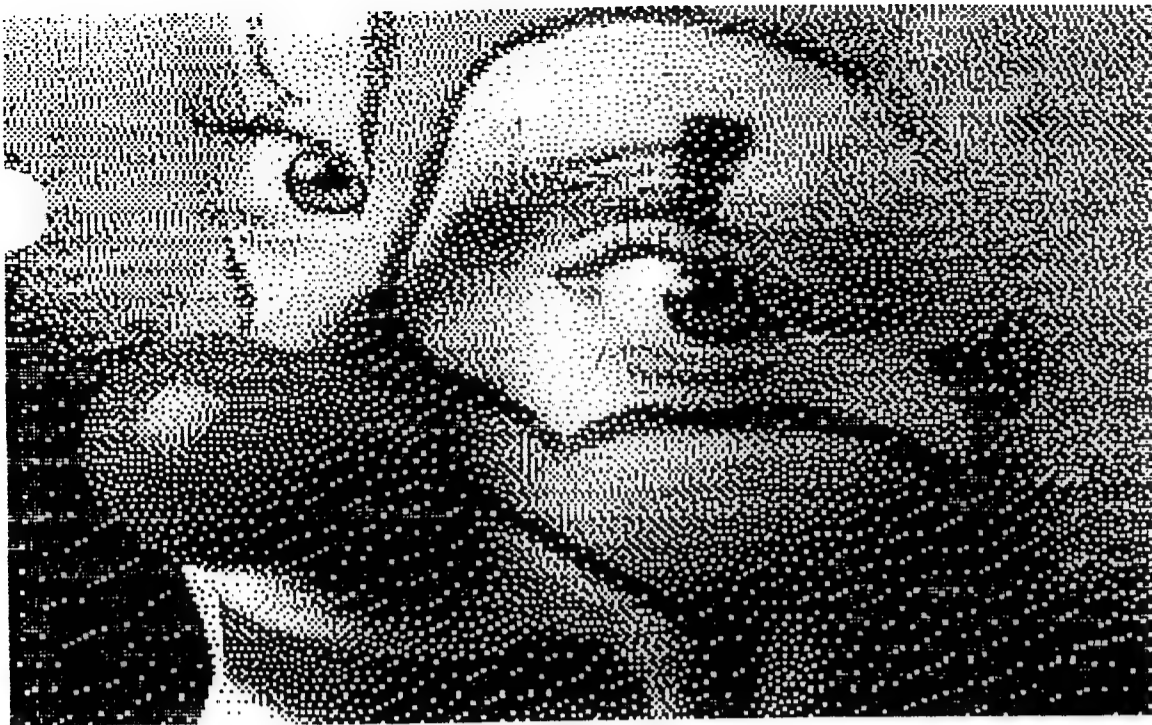
*The Creator* allows you to create and work on your own graphic designs or modify existing ones.

*ZX Driver* is a special driver for the TS2040 and it is used to emulate an eight pin printer

Obviously I can't describe all the features or demonstrate all the graphic capabilities of this package but I can say that there isn't another desktop publishing suite that offers as many options as *The Print Factory*. My only gripe is that the manual does not go into enough detail or offer examples of each feature within the programs. Consequently you must experiment considerably before you become competent but by then you will have a good grasp of pixel manipulation, text orientation and how your printer really works.

At \$24.95 US plus \$3.00 for shipping and handling this suite of programs is a must-have for serious TS2068 scribes and artists. Contact BYTE POWER at: 1748 Meadowview Avenue,

Pickering, Ontario, Canada  
L1V 3G8



# STOP

CLOWNING AROUND WITH OTHER  
DESKTOP PUBLISHING PROGRAMS!  
THE PRINT FACTORY IS THE BEST!

\* THIS PICTURE IS A SUPER LARGE SCREEN, COMING SOON IN THE COMPANION I

#### Cumana Interface

Some time ago a serious fault appeared with one of my Cumana Disk Drive Interfaces. I said interfaces, because I was keeping an extra interface just for security reasons. The device read disks O.K. but it would not format any of my floppies. After some perplexed moments of reflexion and consultation with some friends of QL expertise we tried everything possible but to no avail. Eventually it was sent to the States and was returned in the same condition. Then when all else had failed I wrote to Cumana in England and received a prompt reply. So off went the interface to the U.K. It just came back this morning through the mail, was passed through Customs without any charges, but with lots of correspondence from Cumana.

They are still repairing units and will continue to do so as long as the parts are available. In my case, you won't believe this it was a COLD SOLDER JOINT, or as it was referred to in the correspondence "dry joint".

The information for CUMANA is as follows:

CUMANA Ltd.,  
The Pines Trading Estate,  
Broad Street,  
Guildford,  
Surrey U.K.,  
GU3 3BH

TEL : ( 0483 ) 503121  
TELEX : 859380  
FAX NO. 503326

They accept VISA .

L. Laferriere

# LARKEN DISK EDITOR - REVIEW

LARKEN DISK EDITOR	
1	Edit data on disk
2	Read Disk Headers
3	Change Head Speed
4	Reformat Single Block
5	Initialize Directory
6	Map out Bad Blocks
7	Change Disk Name
8	Cat/Goto Drive (Now 0)
9	Display Track Map

I have saved the best part for last: 1-Edit data on disk. This is the heart of the program and is very well done. The screen that you work with is shown below:

ADDRESS	PEEK	CHARACTER	BLOCK EDITOR
54500	76	L	COMMANDS
54501	65	A	ENT- SCROLL
54502	80	R	SPC- Step
54503	75	R	N- New Num
54504	69	K	C- Char Strs
54505	78	M	G- Goto Addr
54506	30	E	F- Find Num
54507	68	D	S- Save Blok
54508	73	S	Q- Main Menu
54509	83	H	
54510	75	K	
54511	32	E	
54512	69	D	
54513	68	S	
54514	73	H	<< EDIT LINE
54515	84	T	
54516	79	O	-BUFFER INFO-
54517	82	R	5000 START
54518	13		5514 END
54519	45	-	Block - 0

Shown above is the initial menu screen. 2-Read Disk headers reports all formatted blocks in the following form:

BLK NAME	START	LENTH	LINEM
18	Form1t.co	15000	4000 91

LINEM is the start line for a basic auto-run program, and meaningless for code.

3-Change Head Speed allows you to choose 6, 12, 20 or 30MS. This is useful if you receive a "slow" disk from someone to copy for your use.

4-Reformat a single block allows you to repair a damaged block. You choose from Larken, Herco, Oliger or RAMEX systems. The header info in 2 above is for the Oliger setup.

5-Initialize Directory clears out the directory and track map without changing the name of the disk. I find this feature handy for disk management.

6-Map out Bad Blocks finds faulty blocks and then asks if you want them mapped out.

7-Change Disk Name allows you to rename a disk. The name can be as long as you want, including remarks, and is done in one pass before performing this operation I have found it wise to look at the catalog to be sure you have the right disk info stored.

8-Catalog/Goto Drive displays current drive whenever the main menu is up. You may change drive by entering a number and then see the catalog. If you press enter instead of a number you will see the catalog of the current drive.

9-Display track map shows the current use of disk space by showing an X for "used" and 0 for "empty". I changed my work copy to use - for empty to suit my own taste.

Speaking of customizing, I added another choice to mine. 0-Warn Boot in current Drive by adding the lines

```
265 PRINT AT 15,4;"0 Warn Boot in Current Drive"
385 IF INKEYS="0" THEN PRINT M4:NEW
```

Another change to my work disk was to combine the main code program (Edit.c1) with the Format 1 Track code for Larken (Form1t.c1) by loading both and then saving "Edit.c1" CODE 40000,5000 in line 6000. This is still only one block and the only code I'll ever use is always loaded. Lines 1630 through 1710 were then deleted.

NOTE: This column is done with Pixel Print Plus using font e3 with a kern of -2 and space of -1. The title and some work on the block editor screen were done with BytePower's Small Screen Painter. Many fonts and variations are available in the BytePower games. The font in the right hand column is from the introduction of a BytePower disk.

The shaded section represents a blue band showing the line you are able to edit. Actually the window on the right is also blue and is always on screen. You never have to look up the command you want. The movement through the block has been compiled and is fast. If a block marker shows it is identified in the 'character' column. Goto address instantly moves to it.

Find num is a search mode. You can enter a number or if you are looking for a letter you can enter CODE "a". This also works very quickly.

Once you have located the area you want to change you may enter the number (code) or a string of characters.

Movement through the block can be one space at time (press space bar) or a continuous scroll by pressing enter.

I like being able to see above and below the edit line. The program is quick and easy to use.

In addition to a good program you get 7 pages of instructions with explanations of what is in the header of each file, where to locate the disk name on block 0, what the markers mean and so on.

In addition to the simple things I wanted from this program there is a section for you that are more advanced programmers. Things such as LKDOS subroutines are described. Larry describes how to save and load from machine code routines. He gives some guidelines for mc LKDOS programming.

The last page has LKDOS address and subroutines as well as the main routine jump table. I expect that the manual alone is worth the cost to an advanced programmer.

Larry has done a first class job with this program. I have found it very useful even though I am not an advanced programmer.

Les Cottrell Cocoa, FL USA

## KEYBOARD INTERFACE FOR THE TS1000 AND THE 2068

R Bruneau Sept 1990

This hardware project provides the user of either a TS1000 or 2068 with an easy method of adding an external keyboard to their systems without any modifications to their machines. The interface is buffered and emulates the internal keyboard hardware. Its use is transparent to the operation of the TS1000 or 2068 and should not affect any other peripheral devices.

The printed circuit board (pcb) can be constructed as a feed-through board a-la Sinclair or as a daughter board that plugs into a mother board a-la IBM. Additionally, you have the option of bringing 5 volts or Reset to the remote keyboard through the DB15 socket for extended function keys or a reset key. The printed circuit can be photocopied directly onto mylar for ironing on to prepared copper circuit board. If you have access to photographic equipment, you could go the professional route and photoetch a pcb but for most of us, the photocopy method is the easiest. For those people who are not familiar with the photocopy transfers, a mylar with improved heat and release characteristics has been developed that allows you to make a photocopy of your artwork and transfer it to circuit board with a household iron. For one-off designs it is easier than resist pens and dry transfers.

### CONSTRUCTION

- Install all jumpers including the one that will be under the IC sockets for U2, U3.
- Install IC sockets and capacitors. note polarity of C1.
- Install 10k SIP resistor pack or 5-10k resistor alternative.
- To have a remote RESET switch cut the trace that goes between Pins 1 & 2 of U3 marked with the two triangles and install R2. Otherwise do not install R2.
- For a feed-through board, bend the edge connector pins to fit the hole spacing on the board, insert and solder. Place the extender board between the pins on the solder side and solder all pins to the board. It is important to use only enough solder to make the connections. Too much heat is also bad as it will lift the traces off the board.
- For a daughter board, insert short lengths of wire through the pcb and the fingerboard and solder the pads on both sides.

## TESTING

- Check the board for solder bridges, poor connections and broken traces.
  
- Connect the completed board, with no chips installed, onto the computer buss and turn the system on. If a cursor or normal copywrite screen does not appear, turn the computer off and check the board again for bridging between traces. If you get a normal screen, turn the computer off and install the chips. You should now have a working interface. Connect your remote keyboard with a matching socket and check key action. If the wrong letters appear on the display when you type, some of the address or data lines have been connected incorrectly .

Several articles on "real" keyboards have been published in this newsletter, other magazines and books available in our paper library.

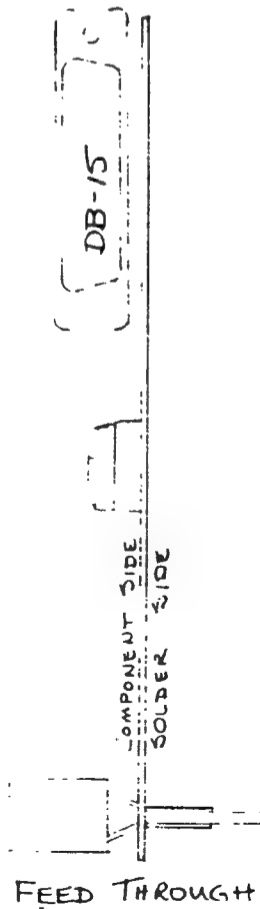
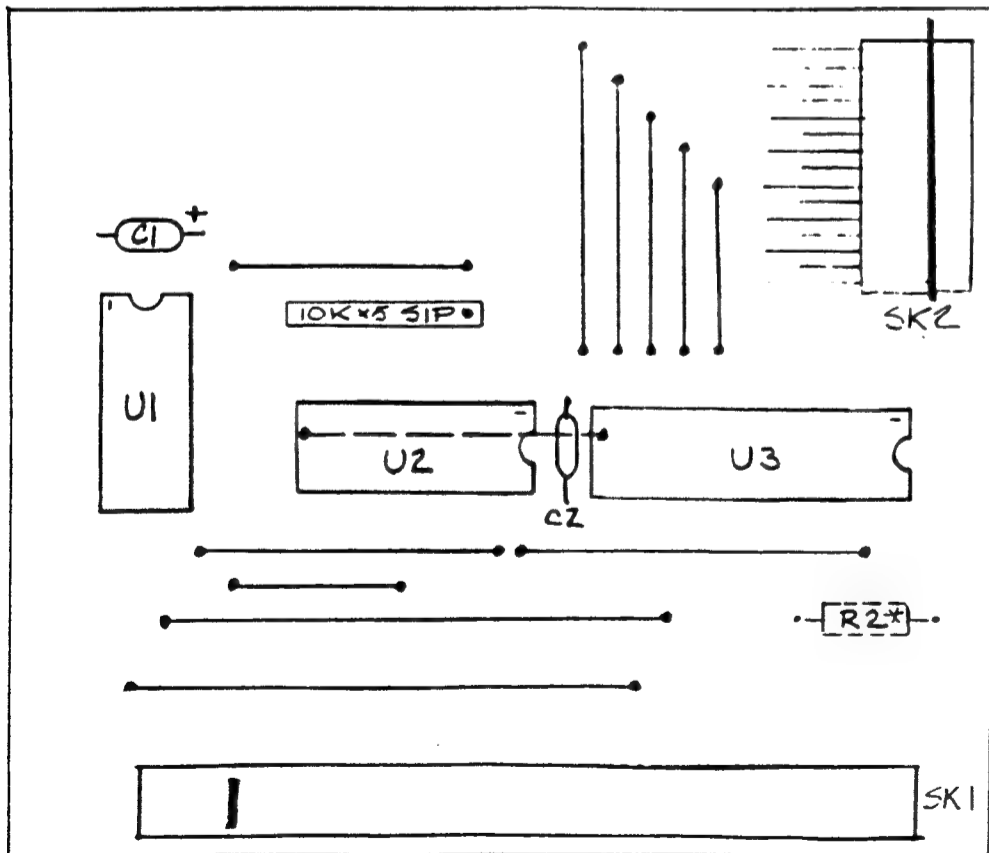
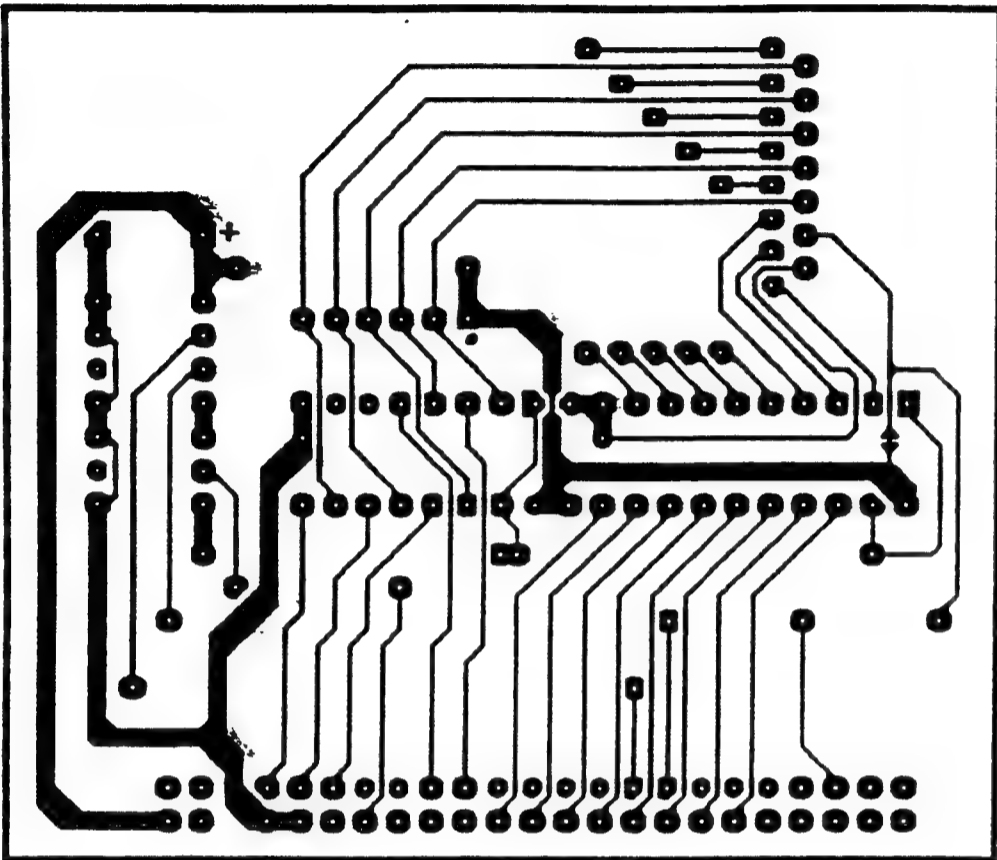
## PARTS LIST

U1	74LS32
U2	74LS365
U3	74LS245 or 74LS541
C1	10uF Capacitor
C2	0.1uF Capacitor
R1	10k*5 SIP or 5-10k Resistors
R2	1k Resistor (RESET option)
SK1	a) 2*23 Edge Connector and Feedthrough Board
	or b) 2*23 Finger Board (Daughter board Option)
SK2	DB-15 Male and Female Socket
Misc.	1-14 pin IC Socket
	1-16 pin IC Socket
	1-20 pin IC Socket
	Insulated wire (fine guage)

## REFERENCES

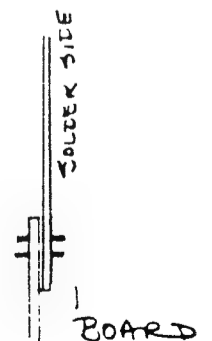
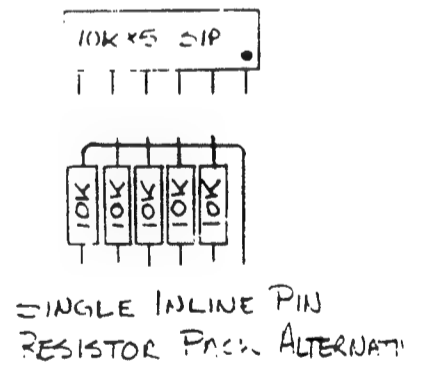
Maplin Magazine  
Sync Magazine  
The Explorers Guild To The ZX-81  
And Timex Sinclair 100 .... Mike Lord

2X artwork 3 Sep 1990 22:53:00  
 key:pcb  
 vi:1 r1 holes: 145 lower layer  
 approximate size: 2.75 by 2.35 inches



- A15 - 00 - KBD 0
- A14 - 000 - KBD 1
- A13 - 0000 - KBD 2
- A12 - 00000 - KBD 3
- A11 - 000000 - KBD 4
- A10 - 0000000 - GND
- A9 - 00000000 - +5V/RESET\*
- A8 - 000000000

DB-15 SOCKET



# The Québec Link

by:  
Réal Gagnon  
8286 St-Hubert  
Montréal (Qué.)  
CANADA H2P 1Z3

## TS 2068

OK this is a QL column but I just can't resist to talk about this because deep inside my heart I'm still a 2068 addict...

In past issues of SINC-LINK there was a discussion about the use of the DEF FN function in 2068 BASIC. I don't use the 2068 a lot these days but I remember one function that I have developed during my 2068's period.

It's not possible to underline text in BASIC without a redefinition of the complete character set or the graphic command DRAW, both are difficult to use. But with my DEF FN, this task is now done with ease.

First we need to define 2 strings, U\$ and S\$. The first one will contain 32 characters "\_" and the other 32 \* CHR\$ 8, which is the control code for CURSOR LEFT. The DEF FN will use S\$ to move to the beginning of the string to be underlined with U\$. The function uses also the control code CHR\$ 21 to enable the OVER effect to print the U\$ without erasing the original string. Let's go with an example.

```
10 LET u$="": FOR i=0 to 31:
  LET u$=u$+"_": NEXT i
20 LET s$="": FOR i=0 to 31:
  LET s$=s$+CHR$ 8: NEXT i
30 DEF FN x$(a$)= a$+s$(TO LEN a$)+
  CHR$ 21 + CHR$ 1 +u$(TO LEN a$)

40 LET t$="THIS A TEST"
50 PRINT FN x$(t$)
```

From this example, we can add a few lines to make the underlining flash.

```
50 PRINT AT 0,10;FN x$(t$)
60 PAUSE 30
70 PRINT AT 0,10;t$
80 GO TO 50
```

## QL PUBLIC DOMAIN & SHAREWARE

A few months ago, I start a small business, called HIC LOGIQUE, distributing IBM public domain software and shareware. Why don't do the same thing for the QL!?! So if you are interested to receive my QL catalog, send a stamp (.39) to:

HIC LOGIQUE, P.O. Box 1393, Place du Parc, Montréal (Qué.), CANADA H2W 2R4.

I distribute the software on diskette only (5.25" or 3.5"), I cannot use microdrive, sorry...

## CLIVE STRIKES BACK

According to PC Magazine (August '90), Clive Sinclair is about to release a new portable computer, MS DOS compatible and weighing less than 3 pounds. It is also written that our Uncle Clive is busy designing a variable speed microprocessor, a 90-bit CPU (or something huge like that!)! Funny because when a journalist asked one year ago why he was using a 8-bit CPU in his new Z88 he replied: "Because I couldn't find a 4-bit chip to I liked."

Speaking of the Z88, my boss gave me one as a Christmas gift last year, he ordered it directly to Cambridge Computer in US. With shipping, duty and exchange this little black thing cost him almost 1000\$ can.! A few months later, he went bankrupt and I lost my job...

## QL PROGRAMMING TIP

When we read DATA values, we can test the last value with the EOF function. We don't need to know how many values we have like other BASIC (e.g. 2068)

```
ex. 10 REPEAT loop
      20 IF EOF : PRINT "\"Done": EXIT loop
      30 READ a : PRINT a
      40 END REPEAT loop
      50 DATA 1,2,3,4,5,6,7,8,9,0
```

note: I received a note from George Chambers saying that "on the 2068 we can test the last variable by putting an additional number in the DATA statement, making it an unusual number (say 280), then using a line READ A: IF A=280 THEN STOP. If the DATA consists of strings variables then the last element could be "STOP", and the line would be :  
READ A\$: IF A\$="STOP" THEN STOP."

## TETRIS for the QL

A QL version of the popular arcade game TETRIS is now available. Written in C, it offers many levels and is very addictive. The author can supply the game on 5.25" diskette for a fee of 10\$. If you want the game on a microdrive, you will have to supply one.

Write to: Francois Lanciault  
11 Place Marcel Dubé  
Blainville (Québec)  
J7C 4W4 tel. (514) 433-9250

Last month we looked at a simple program. This month we will look at how to do input and output in C.

C has no built in input or output commands. Functions are called that perform input and output. Last month we used the function printf. This month we will use the function getchar. Getchar gets one character from the standard input channel, the keyboard. The input from getchar is assigned to an integer variable.

The opposite function is putchar. Putchar puts one character to the standard output channel, the screen. Putchar takes in a single integer variable.

Take a look at program number 2. The program gets a character from the keyboard, then while the character is not a lower case q, the character is put to the screen and another character is read in.

This program takes characters entered from the keyboard and echos them to the screen. Getchar does not echo any characters by itself.

Any assignment can be used within an expression. Look at program number 3. With the assignment statement inside the logic of the while statement, one extra line can be left out. The assignment will be executed before the evaluation on it is performed. This shows you how C can become more compact (and more unreadable).

Since we are on the subject of input/output, let's take a look at string input/output. C does not have a string type. You have to use an array of characters. Since there are no string types, there are no string manipulation commands. Instead there are functions to do this.

Look at program number 4. The variable string is defined as an array of 20 characters. Now a call is made to the function gets. Gets is short for "get string." This function gets a string from the standard input and assigns it to the variable string.

Now in the while statement a comparison is made to see if the string is of length 0. Strlen is a function that will return the length of the string. If the length is greater than 0, the string is sent to the standard output with puts (put string) and another string is inputted.

A lot of necessary functions are included in the standard C library. Most commands in basic have an equal C function. Plus you may write your own functions and add them to the library. There has always been a problem that not all C libraries are equal and some programs may not be ported from compiler to compiler.

Next month we will look at how C handles files.

```
/* Program 2 */  
#include <stdio.h>
```

```

main()
{
    int c;

    c = getchar();
    while ( c != 'q' ) {
        putchar(c);
        c = getchar();
    }
}

```

```

/* Program 3 */
#include <stdio_h>

```

```

main()
{
    int c;

    while ( (c = getchar()) != 'q' ) {
        putchar(c);
    }
}

```

```

/* Prog 4 */
#include <stdio_h>

```

```

main()
{
    char string[20];

    gets(string);

    while (strlen(string) != 0)
        puts(string);
    gets(string);
}

```

## BOB'S NOTEBOOK

```
100 REM LKDOS Printer Exercise
110 RANDOMIZE USR 100: OPEN #4,"dd": PRINT #4:
OPEN #3,"lp"
120 GO SUB 330: PRINT #4: POKE 16094,8: PRINT
#4: POKE 16090,63: LPRINT
130 LPRINT "LPRINT EXERCISE..."
140 LPRINT "DEFAULT SETTING: PICA
ON;"'"CONDENSED AND ELONGATED OFF.'" "LEFT MARGIN
IS SET AT 8."
150 GO TO 180
160 PRINT #4: POKE 16093,32: RETURN
170 PRINT #4: POKE 16093,0: PRINT #4: POKE
16094,m: RETURN
180 REM PICA CONDENSED
190 GO SUB 160: LPRINT CHR$ 27;CHR$ 80: LPRINT
CHR$ 15: LET m=14: GO SUB 170: LPRINT : LPRINT
"PICA CONDENSED": GO SUB 330
200 REM ELITE
210 GO SUB 160: LPRINT CHR$ 27;CHR$ 77: LET
m=10: GO SUB 170: LPRINT : LPRINT "ELITE": GO
SUB 330
220 REM ELITE ELONGATED
230 GO SUB 160: LPRINT CHR$ 27;CHR$ 77: LPRINT
CHR$ 27;CHR$ 87;CHR$ 1: LET m=5: GO SUB 170:
LPRINT : LPRINT "ELITE ELONGATED": GO SUB 330
240 REM PICA..DEFAULT SETTINGS
250 GO SUB 160: LPRINT CHR$ 27;CHR$ 80: LPRINT
CHR$ 18: LPRINT CHR$ 27;CHR$ 87;CHR$ 0: LET m=8:
GO SUB 170: LPRINT : LPRINT "PICA: DEFAULT
SETTINGS": GO SUB 330
260 REM PICA ELONGATED
270 GO SUB 160: LPRINT CHR$ 27;CHR$ 80: LPRINT
CHR$ 27;CHR$ 87;CHR$ 1: LET m=4: GO SUB 170:
LPRINT : LPRINT "PICA ELONGATED": GO SUB 330
280 REM PICA CONDENSED ELONG.
290 GO SUB 160: LPRINT CHR$ 15;CHR$ 27;CHR$ 80:
LPRINT CHR$ 27;CHR$ 87;CHR$ 1: LET m=7: GO SUB
170: LPRINT : LPRINT "PICA CONDENSED ELONGATED":
GO SUB 330
300 REM FORM FEED
310 GO SUB 160: LPRINT CHR$ 12: GO SUB 330:
BEEP 2,40: LET m=8: GO SUB 170: STOP
320 REM RESET SUBROUTINE
330 PRINT #4: POKE 16093,32: PRINT #4: POKE
16094,8: LPRINT : LPRINT CHR$ 27;CHR$ 80: LPRINT
CHR$ 18: LPRINT CHR$ 27;CHR$ 87;CHR$ 0: LET m=8:
GO SUB 170: RETURN
9000 PRINT #4: SAVE "PR_EX.B1" LINE 100
```

### Points to note:

- . If you type in the listing properly and RUN the program, you should get a printout something like the one at the bottom.
- . Two subroutines at lines 160 and 170: The first sends all characters to the printer; the second returns to detokenizing. Read your Larken Instructions.

- . Check the value of variable <m> as it changes for each type style so as to line up (sort of) the left margin for the copy.
- . Subroutine at 330 resets values to default.
- . LPRINT CHR\$ 12 needs an LPRINT to execute; gets it in 330.

=====

LPRINT EXERCISE...

DEFAULT SETTING: PICA ON:  
CONDENSED AND ELONGATED OFF.  
LEFT MARGIN IS SET AT 8.

PICA CONDENSED

ELITE

ELITE ELONGATED

PICA: DEFAULT SETTINGS

P I C A E L O N G A T E D

P I C A C O N D E N S E D E L O N G A T E D

=====

While on the subject of printers, I recently found that my FASTEXT 80 printhead was not returning fully to the left margin on its bidirectional left pass. It gave a very slightly uneven look to the left margin. I examined some printouts from way back and they were OK. Read the printer manual but there was no help there on any kind of maintenance. I dusted off the printhead and the rod then got out the trusty WD40. Sprayed the rod lightly from end to end and tested the printer. Now the left margin was even again. Problem solved.

Regarding re-inking ribbons for this machine. It's no use just reinking the ribbon; the circular pad inside the cassette has to be fully inked. It never comes well inked, it seems. Re-inking the pad takes quite a good amount before it has a soaked look to it. I use some Printer ink from the ABBA Computer Corporation, 21 Amber St, Unit 4, MARKHAM Ont L3R 4Z3. Their phone is 416-477-4033. The ink sells for just under \$20.00 for two bottles.

Bob Mitchell 20 Wild Briarway Willowdale Ont M2J  
2L2 416-494-5260

900708

CHAOS GAME  
by Bob Warner

I don't know who was the first to call the Chaos Game a game; whoever did certainly overrated it, since it would be tedious, and messy to play without using a computer. The playing field is a triangular area on a piece of paper, with the vertices numbered 1, 2, and 3. To play, you mark a point, either inside or outside this area, then throw a 3-sided die (or more likely a 6-sided die, and divide by 2). The number that comes up determines to which vertex your line is to go (i.e. 1, 2, or 3) from your marked point to the vertex having that number. You take the mid-point of that line as your next marked point, and throw the die again, to repeat the process. Anyone using paper and pencil to try this out would probably be pretty discouraged at the end of 25 or 30 throws, with no perceptible pattern. It is a bit surprising that, even if you start outside the triangle, the point quickly gets inside, and by about 1000 throws the final pattern has emerged. Even more surprising is that this pattern is a fractal set (which means that the dimension of the set is a FRACTION, between 1 and 2, in this case). A usual additional requirement for a set to be a fractal is that any piece of it should contain inside it an image (or an approximate image) of the original set, and it does appear that Sierpinski's Gasket has this property; so does the Mandelbrot Set.

You can convince yourself that Sierpinski's Gasket has no area by looking at the amount of area that is removed in the process of arriving at the final set. For simplicity, suppose that the original triangle has an area of one. The middle triangle of area  $1/4$  has been removed from this, leaving 3 triangles, each of an area  $1/4$ . From each of these a middle triangle is removed, of area  $(1/4) \times (1/4)$ , leaving 9 triangles, each of area  $(1/4) \times (1/4) \times (1/4)$ , with  $1/4$  of each of these removed. So far then, we have removed:

$$1/4 + 3 \times (1/4) \times (1/4) + 9 \times (1/4) \times (1/4) \times (1/4) = .578125.$$

At the next stage, we have removed  $(3 \times 3 \times 3) / (4 \times 4 \times 4) = .1054687$  more, which gives .6835937; if this is continued (the next term would be the fraction with four 3's upstairs, and five 4's downstairs, i.e.  $81/1024$ , you can believe that the total amount subtracted would add up to one. (A spreadsheet can make this credible, for example). Since we started with a total area of one, we have no area left. (I realize that this may well be more than you ever wanted to know about fractals, but at least you could skip it if you wished.)

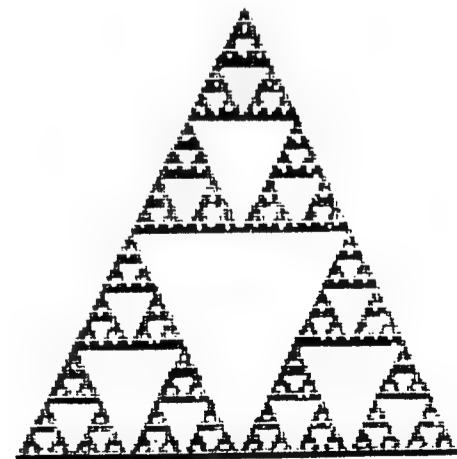
\*\*\*\*\*

```

100 REM The Chaos Game.
105 REM This produces a fractal
figure called "Sierpinski's Gas
ket"
110 REM By Tim Swenson, July 199
0
120 CLEAR 65535: BORDER : LET
n=0
140 PAPER 0: INK 7: CLS
145 PRINT " SIERPINSKI'S GAS
KET"
150 PLOT 10,10
160 PLOT 75,135
170 PLOT 135,10
180 LET x=RND*99
190 LET y=RND*99
210 LET x1=x: LET n=n+1
220 LET y1=y
230 LET roll=INT (.5+RND*3)
240 IF roll=1 THEN LET x2=10:
LET y2=10
250 IF roll=2 THEN LET x2=75:
LET y2=135
260 IF roll=3 THEN LET x2=135:
LET y2=10
270 LET x=(x1+x2)/2
280 LET y=(y1+y2)/2
290 PLOT x,y
300 IF n/250=INT (n/250) THEN
BEEP .1,.1
310 GO TO 210
9000 PRINT USR 100: SAVE "chaos.
B1" LINE 1

```

SIERPINSKI'S GASKET



After 95500 rolls

```

1 REM Morse Code keyboard
2 DIM c(64): LET s=10: FOR i
31 TO 64: READ c(i): NEXT i
3 LET a$="": LET c=0
4 IF PEEK 23560>31 THEN LET
a$=a$+CHR$ PEEK 23560: POKE 23
560,0
5 IF c THEN GO TO 11
6 IF a$="" THEN GO TO 4
7 PRINT a$(1);: LET a=CODE a
$-31-(32 AND a$>"_"): LET a$=a$
(2 TO )
8 IF a>64 THEN GO TO 4
9 LET c=c(a)
10 IF c=0 THEN GO TO 4
11 LET c1=c-2*INT (c/2): LET
c=INT (c/2)
12 LET d=2*c1+1
13 IF c THEN BEEP d/s,0: LET
d=0
14 IF PEEK 23560>31 THEN LET
a$=a$+CHR$ PEEK 23560: POKE 23
560,0
15 LET d=d+1: POKE 23672,2
16 IF PEEK 23672<d/s*60 THEN
GO TO 16
17 GO TO 4
1000 DATA 1,0,BIN 1010010,0
1001 DATA BIN 10010001,BIN 1010
10110,0,BIN 1011110
1002 DATA BIN 1101101,BIN 11011
01,0,0
1003 DATA BIN 1110011,BIN 11000
01,BIN 1101010,BIN 101001
1004 DATA BIN 1111111,BIN 111110
,BIN 1111100,BIN 111000
1005 DATA BIN 110000,BIN 100000
,BIN 100001,BIN 100011
1006 DATA BIN 100111,BIN 101111
,BIN 1000111,BIN 1010101
1007 DATA 0,0,0,BIN 1001100
1010 DATA 0,BIN 110,BIN 10001,B
IN 10101
1011 DATA BIN 1001,BIN 10,BIN 1
0100,BIN 1011
1012 DATA BIN 10000,BIN 100,BIN
11110,BIN 1101
1013 DATA BIN 10010,BIN 111,BIN
101,BIN 1111
1014 DATA BIN 10110,BIN 11011,B
IN 1010,BIN 1000
1015 DATA BIN 11,BIN 1100,BIN 1
1000,BIN 1110
1016 DATA BIN 11001,BIN 11101,B
IN 10011,0
1017 DATA BIN 110001,0,0,BIN 11
01100
8999 STOP
9999 RANDOMIZE USR 100: SAVE "M
orse.B1" LINE 1

```

TS2068-Morse Code Generator  
by Steven Gunhouse  
(from a letter to GFC)

"....I think that is enough for now. How about that, I don't think anything I wrote is worth reprinting in the Sinc-Link. But just so I don't leave you empty-handed, here is a little routine for International Radio Telegraph (Morse) code. Press a key, and it will beep the equivalent code. The variable (s) controls the speed - make it a larger number for faster code. Well, as they say in amateur radio, "73s" (which means regards.

DIRECTORY TO PRINTER

PDS DOC

by

Butch Weinberg

Well, as promised, here is some information on my "pri\_dir" program in the CATUG Public Domain library.

"Pri\_dir" is a simple utility written in QL SuperBASIC that allows you to send a directory of the contents your disks directly to your printer. It is for people like me who are lazy or who can't type and want to have printed directories of their magnetic storage.

```

10 OPEN#3, ser1
20 DIR#3; flp2_
25 PRINT#3
30 PRINT#0;'MORE?'
40 more$=INKEY$(-1)
50 IF more$='y' OR more$='Y'
THEN GO TO 20 :ELSE
60 PRINT#3, CHR$(12);:
CLOSE#3: STOP

```

If you wish to make directories from one of your microdrives, then change the device name in 'Line 20' to "mdv1\_" or "mdv2\_" as appropriate. Of course, you could add a PROCEDURE which allows for more convenient storage device selection.

Feel free to further alter it, but don't sell it!

# Phone inventor never dreamed of Alex

By Alison Cunliffe  
TORONTO STAR

Reach out and touch someone is taking on a whole new meaning.

And the new meaning is as near as your telephone and your home computer or a terminal you can rent from Ma Bell for \$7.95 a month.

So far the service, dubbed Alex after telephone inventor Alexander Graham Bell, is available only in Montreal and Toronto. But Ottawa and Burlington are on the horizon.

And that could be just the beginning if Bell Canada continues to reach out and touch a lot more telecommunications-hungry customers than it ever expected.

You're a shift worker? You'd like to find someone to talk to at 4 a.m.? But you value your life too much to pick up the phone on the off chance any someone would be awake?

Alex, along with other electronic services providing what aficionados usually call "chat lines," may be the answer.

Other insomniacs are already on-line, typing what they want to say, which you "hear" by reading the glowing letters dancing on your computer screen.

## Wide choice

The cost?

Twenty cents a minute for the Action service, aimed at men only, who "love action and encounters." Fifteen cents for AH, where the chat is aimed at those most interested in an easy-to-use electronic conversation. Twenty-five cents for Partyline.

Not only can you find someone to talk to when you want to talk; you also get a broad choice of who you want to talk to, about what, and how much effort you want to devote to learning how to talk this way at all.

Alex is far from being the only service offering this kind of product.

CompuServe is one of the best known and certainly can be cheaper for some services. The price starts at \$6.30 (U.S.) an



hour. With the U.S. buck worth around \$1.18 Canadian, the cost translates into about 12 cents a minute.

But U.S.-based services such as CompuServe don't provide much in the way of local content for Canadians. And that can be important if you're interested in the entertainment or restaurant scene in Toronto or Montreal; if you want to pay your bills from the comfort of your home; if you want Canadian stock prices; or the Canadian rather than American method of calculating mortgages to see what would happen if you spent that windfall from Aunt Sally instead of using it to reduce your debt for the roof over your head.

Ma Bell attributes much of Alex's runaway success since its Metro Toronto launch in May to such home-country and hometown content.

At the end of June, Alex had 10,500 customers in Metro Toronto, who logged almost 1.7 million minutes of connect time during the month.

"We're running way ahead of what we thought would happen in Metro Toronto," says Geoff Matthews, Bell Canada's associate director of public affairs. "We thought we'd have 15,000 by the end of the year, and we're two-thirds of the way there already, even though we've only been available since the first of May."

## 326 services

A big limiting factor, though, is that you must have a Toronto or Montreal telephone number to which Alex connect time can be billed, at least until the service is expanded elsewhere.

The more limited the market, the more brakes you can bet will be put on expansion of services available.

Still, Alex already has 326 services already available, Matthews says.

Personally, I prefer CompuServe, which may be due to familiarity and may be due to the more than 500 services available.

Still, Alex has found a place in the dialling directory of my telecommunications software, if only because the network offers a truly Canadian financial service, one that happens to be provided by The Star.

I was able to read Canadian business news of the day, see graphs and quotes of stocks on the Toronto Stock Exchange, check on home-grown interest rates and mutual funds and find out how much my next U.S. vacation would cost me at current exchange rates.

That done, I "won" \$70 playing Blackjack in five minutes or so. I failed miserably to discover "who killed the drug thug, who poisoned the witch (and) who stole the ruby" in an on-line mystery story.

I tried to look into signing up for an electronically enhanced computer course through the University of Waterloo, only to be told, "sorry," the service is temporarily not available.

So instead I checked on when I can call my long-distance parents at a discount.

Meanwhile, I'm waiting for the household budget to stand some time looking at the on-line encyclopedia, the in-home shopping services, the sports scores, the advice on wines . . .

Free software to access Alex on your own computer can be picked up at Bell phone centres. Or you can phone 350-ALEX to find out whether the software works on your computer, or arrange to rent an Alex terminal.

July/August 1990  
July 11, 1990

Dear Out-of-Town Members,

I was out to B.C. and Manitoba for three weeks in June, and then in the Eastern Townships of Quebec for another week, so you can imagine the computer mail that piled up. Well, I still have not answered it all. So if any of you haven't heard from me, and are wondering if I received your letter, give me another week!!

This month I am going to write just a page; I have typed up a selection of items that I have come across in the past several month's other club newsletters, and shall include them. I hope that that will prove interesting to you.

I picked up a couple of bottles of printer ink for two club members. They are plastic bottles, probably with about 4 ounces of ink in each of them. They cost (well, I've misplaced the bill) about \$17.60 for two bottles, including the sales tax. Using the ink is a snap if you have a printer like the SCM Fasttext 80, where the ink is held in a sponge rubber roller. You just squirt the ink onto the roller and it distributes it onto the ribbon. For those printers which have a long ribbon contained in a large plastic housing you have to ink the ribbon directly. This is harder. I wrote an article some time ago; it was in the newsletter, on how to construct a device to do the job. I can send you a copy of the article if you wish. If you are a bit handy with tools you can build one yourself. You will have to, since a manufactured re-inker costs about \$60-\$80. One member says that this printer ink is hard to find. I'm not sure about that; maybe it is. If you are not able to find it, I could get some for you, and mail it out. You would have to pay the postage as well, of course.

The newsletter excerpts included with this letter contain some accounts of the 1990 SMUG ComputerFest, so I won't comment on it here. Except for one small related item. In the New England QL User Group newsletter, NEQLUG, there is an item which reads as follows: "QL hardware was largely sold by Paul Holmgren and Tom Davis, who were selling all kinds of stuff, much of which came from Tom Bent's attic/basement/garage."..

This will be of interest, I'm sure, to many of our members who were, and still are, owed QL items by Tom Bent. To wit, I shall quote from a member's letter..."I'm afraid I don't have much sympathy with Tom Bent, however messy his divorce may have been. He never dealt with me honestly when I phoned him, and I don't think he had any intention of returning my QL back despite promises to 'put it in the mail on Tuesday'. I was a bit disturbed to hear that there was a booth selling used QL's and parts from Tom Bent. - but I mustn't rush to conclusions."

It has come to my attention that we have not given any coverage to one of our major software suppliers, namely EMSOFT.

I received a catalog from them recently with mention of a address correction request. So I looked through our old newsletters and find that we have not included them among our free adverts. I think we were trying to find something a little more concise than what we had at hand. We'll have something next issue.

In the meantime I should quote from their catalogue..."The most comprehensive list of QL software by North American authors in one catalogue. Math and Engineering utilities, and much more. All for the QL."

...."Distributors of PSION Hardware and Software....Text 87 version 3.00  
... "Agents for ZX/TS Siriusware"

They have an 8-page catalogue. I can send you a copy for the cost of copying, or you could write or phone them at the address below.

EMsoft Division  
Estate Management Services  
P.O. Box 8763  
Boston, MA 02114-8763 tel 617-889-0830

I had a phone call from a non-member who wants to sell his TS2068 and various stuff. There's a TS2068 computer, a 2040 printer, a Joystick, a JIL tape recorder, a 12-inch amber monitor, a 2068 Technical Manual, and some software. He is asking \$150 for the lot.

I told him that there were not many persons who would care to buy the whole lot. He is asking \$150. But if there is enough interest, that is to say, if several persons were interested in parts of it maybe a group purchase would be possible. Any interest? I could act as the go-between. The name of the person is Bill Wilcox, 34 Glenwood Drive, Chatham, Ont. N7L 3X2. His phone number is (519) 351 3534.

The newsletter SINCUS NEWS mentions us this month, saying..."Sink-Link, Toronto UG put out a beautiful issue. Not only GOOD looking but filled with many interesting articles! Can they keep this up?..... Gee, thanks a lot for the vote of confidence!!  
P.S. SINCUS NEWS has gone MSDOS, and ceased publishing. gfc

I have one other dig that I can't help putting into the newsletter! It's at Bill Jones' expense, but since he's a good sport I'll continue. One of our member writes: "Your correspondent from Florida, he of UPDATE MAGAZINE fame, is a most obtuse fellow. Having finally almost apologised for the misnaming of our club, he promptly misnames us again as a Group instead of a club and then, adding insult to injury, mis-spells the name of our newsletter. One can only suppose that both were deliberate."

Well, certainly not deliberately, I'm sure..gfc!!

Shall close off now....George C.

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HAPPENINGS IN THE TIMEX WORLD - July 5, 1990  
by G. Chambers

Mentioned in the M/A 1990 NITE TIME NEWS "The mouse to use with the Larken system is the Commodore 1351. Plug it into the Kempston joystick port and hold down the right button on the mouse while powering up the TS2068.

Elsewhere I have read that a Radio Shack mouse will also work. gfc.

The Chicago Area T/S group have a BBS. It is the C.A.T.U.G.  
BBS. PHONE 708-576-7072. Type at the prompt: LOG SINCLAIR/GUEST.  
BYE to log out.  
Bob Swoger SYSOP.

— This group is also selling to their members, Larken RAMdisk boards, Built and tested, with connectors only, no IC's. Price \$88 US. Contact Bob Swoger at 708-576-8068. Note: they may not sell to non-members. gfc.

CATUG - Bob Swoger, 613 Parkside Circle, Streamwood, IL 60107.

— This issue of the NTN also has a listing for a modified Tasword, which incorporates a number of new features.

— The Jan/Feb 1990 issue of NTN has a short program... a fix which makes disks compatible with older drives which have slow head stepping rate, say 30 ms, versus the current standard of 6 ms.

— There is also a QL listing allow you to send a directory of the contents of your disks directly to your printer. By Butch Weinberg.

The April issue of SMUG bytes (Sinclair Milwaukee UG) describes a problem found with the digitizer boards that were sold by that club. Offers a fix.

INDIANA T/S NEWSLETTER...

The DeskTop Publishing Journal (copy of initial issue was in our Vol 8, No 3 Sinc-Link GC) is going to be carried in the UPDATE Computer Systems...i.e. UPDATE magazine mentioned earlier in this article.

— There's a full page advert in this issue for John McMichael's VIDEO-TEX software. John McMichael, 1710 Palmer Dr., Laramie, WY 82070

— An article by E.P. Wannum on screen saving on the QL.

— Has a report on the SMUG Sinclair ComputerFest. Vendors present were Peter Hale (EMSOFT), Frank Davis and Paul Holmgren (MECHANICAL AFFINITY), Bill Cable (WOOD AND WIND COMPUTING), ZEBRA SYSTEMS INC (manned by members of SMUG). Mike Hammer was doing Sinclair repairs and offering refurbished TS2068's.

— User groups present were... CATS, CATUG, DMA, GCSUG, ISTUG, SMUG, SNUG. There were a number of people doing a flea market of used hardware and software. Paul Holmgren, the QUANTA librarian, was selling library disks. Eric Johnson was to be there, selling refurbished TS2068's and repair parts, had car trouble on the way, and did not make it.

— Al Feng of Platypus software was demoing his software, and Bob Swoger was offering Logical1, a must for Larken owners.

— There is talk of doing the next show in Chicago.

Cedar Rapids T/S User Group (CRAGIST NEWSLETTER)

Reports on the 1990 ComputerFest. Thinks there was an attendance of maybe 120 to 130 for the Saturday. Thinks that a lot came for Saturday only.

— Zebra sent some stuff but the prices were not like at the CATS ComputerFest, and there were no reductions on the last hours of the last day. Still, a lot sold.

— "I did not attend any of the seminars, but there were several. In my case I think I could not sit still that long. Some were running late which caused a little confusion."

From the June 1990 Seattle Area n/l SWYM  
The SINCUS NEWS n/l is ceasing publication in July. They have also switched to MSDOS machines.

— The Timex SIG on Compuserve, Wednesday night, 7pm Pacific Daylight Time (GO CLUB)

— Capitol Area T/S group BBS (tel 301-1588 0579) 8-1-N. 300/1200 baud. News and general information. 24 hours a day.

— Some suggestions that clubs should send their members n/l submissions to the SNUG group, and let them publish a single n/l for all groups/users. That there be no more club newsletters.

— A lengthy review in this issue, of the STAR NX-2410 printer.

— Sir Clives Castle BBS, Ottawa, Ont.  
Now online 24 hours a day at (613) 745 8838. 1200/300 baud  
T/S 2068 U/D's. HiSoft Pascal SIG and Source code listings  
LARKEN SIG: A place to get an answer to your LARKEN disk drive questions from the inventor himself.  
Registry required, but otherwise no charge. CALL SOON!!

CLACKAMAS County T/S Group - THE PLOTTER

Their March meeting had an attendance of nine. The n/l mentions that Commodore has abandoned the Amiga.

— This group has a Special Educational Group in it which is really an SIG (Special Interest Group) for those members who have an MSDOS machine. Eleven of their members have, or work with PCs.

— Jack Dohany is concentrating on the TS2068 this year. He has abandoned the QL in favour of the 2068.  
Jack says he can provide just about every non-game software that has ever been written for the 2068, besides his own works.  
Also many unique 2068 hardware items. By mid-July 1990 Jack will be back at his old address at 390 Rutherford, Redwood City, CA 94067

— RMG Enterprises now have an 800 number for taking orders. Here are some RMG numbers:

- ORDER LINE...1-800-326 7484
- FAX LINE.....1-503-655 4116
- SERVICE/INFO 1-503-655 7484

The order line has an answering machine on it so you can leave an order 24 hours a day. To get customer service or information, use the correct line between NOON and 10PM Pacific time. The FAX line will accept your FAX 24 hours a day.

— This issue has a 2068 program listing to provide a 64 column output on the screen. Called "PARSE64"

— LLISTING with the QL... There is also a program for the QL which will

give better control of a screen listing. Originally in the Sept 1986 issue of ZX COMPUTING mag.

— UPDATE magazine will be taken over by Frank Davis (of the Indiana T/S Group) in August 1990. The subscription for one year (four issues) will be \$18 US. Subscriptions should be mailed to Frank Davis, P.O. Box 1095, Pe IN 46970. If you are a new subscriber, be sure to tell Frank that it is for the next year period. Otherwise you might get a complete set of issues for 1989/1990. i.e. the past subscription year.

— The June '90 issue of THE PLOTTER has a listing to provide the PUT and GET commands for the the TS2068 computer. Program name "GETPUT"  
It also contains a concluding article on a "Hot QL" fix, by Dick Wagner.

Sinclair Computer Users Society SINCUS NEWS

Reports the Boston TS User SIG is closing up and re-forming as the New England Sinclair QL User Group.

Captitol Area T/S UG reports their membership at 70, with close to 25 being the average meeting attendance.

This n/l contains a full page update on SNUG (Sinclair National User Group).

Timex Sinclair User Group of Las Vegas (The HACKER)

...Reports that Nigel Searle, who previously represented the Z-88 group from Cambridge North America, has begun offering a database of mail-order bargains to anyone willing to pay one percent of the price quoted.

His company, The Marketing Clinic, says the philosophy is simple: if you don't save, you don't pay. Searle explains how the service works. "You call me with the product you are seeking. I quote a price, and ask if you are interested. If you say, No thanks, that's the end of the conversation. If you are interested you give me your credit card number and I tell you wh it's available. You can ask additional questions and back out later.

Long Island Sinclair Timex UG (LIST)

... Reports on a new product for the Spectrum. It is based on use of a CD (Compact Disk) system to load programs into the Spectrum. Uses a patch cord with a built-in A/D converter, some software that is loaded into the computer to handle the high speed data transmission, and the disk with the programs on it. Claims to be 8 times faster loading than tape. You provide your own CD player.

NEW ENGLAND QL USER GROUP...Their current newsletter reports on the ComputerFest. I have abbreviated Peter Hales report a bit.  
It goes as follows:

"I travelled with Bill Cable of Wood & Wind Computing to the SMUG Expo in Milwaukee the first weekend in June. We were both vendors....."

"The Sinclair Expo proved that there is life yet in Sinclair computers.

"Preliminary reports gave two day attendance of over 120 separate people, with many coming back for the second day.

"Although down from the attendance at last year's CATS fest in Washington, our business was better than at CATS, indicating that the demand is out there.

"The pinned map of where you came from showed heavy attendance from withing 400 miles of Milwaukee, which suggests that if there had been more people within 400 miles of Milwaukee attendance would have been more.

"The only other QL vendor was Al Feng from Platypus Software.

"Absent was Mark Steuber of Sharp's, and a number of people were very disgruntled about his no-show. Apparently he doesn't think he needs to attend shows for us to be aware of who he is."