

SINC-LINK

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THE CLUB MEETS ON THE FIRST WEDNESDAY OF EACH MONTH AT FOREST HILLS COLLEGIATE INSTITUTE, 730 EGLINTON AVE. W., TORONTO.

SEND CORRESPONDANCE TO:

Attention: SINC-LINK EDITOR
TORONTO TIMEX-SINCLAIR USERS
CLUB, 14 RICHOME COURT,
SCARBOROUGH, ONTARIO,
CANADA M1K 2Y1

ZX80/ZX81
TS1000/1500
PC8380
TS2068
SPECTRUM
QL
LARKIN 1/T



TORONTO TIMEX-SINCLAIR
USERS CLUB

SUPER
FALL
ISSUE

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(Out-of-town members)	SCARBOROUGH, ONTARIO, M1K 2Y1
	(416-751-7559)

TORONTO TIMEX-SINCLAIR USERS CLUB

14 RICHOME COURT, SCARBOROUGH, ONTARIO, CANADA M1K 2Y1

Well, another year has passed and it's time for club Executive nominations and elections. After a year as V.P. and this year as president I think it's time for someone else to assume the reins. Not that I haven't enjoyed my years in office but I feel that some other person should take the position and put forward his ideas to keep this club growing. And growing it is! We have a larger club membership than we've had for years and our bank balance is the biggest it's ever been. Something must be going right.

I feel that I could have done a lot more for the club if I had devoted more time to organizing and prodding. That's what a good president is supposed to do - motivate other people to do the work. I'm afraid I don't motivate as well as I'd like to.

Luckily, the club has some people who are motivated without my help and they are the ones who help to keep this club afloat. Naturally, I would like to thank the current club Executive for donating their time and efforts to their various positions. I would especially like to single out the accomplishments of two Exec members.

First, to George Chambers for almost single-handedly taking care of the day-to-day running of the club, the disk library creation and maintenance, the management of the out-of-town members, the responding to piles of mail and requests for information, the all-hours troubleshooting help and the open-door hospitality. Make no mistake about it. George is the club. Thanks, George, really.

Second, to Hugh Howie for literally bringing the QL section of the club back from the dead. A few choice words spurred him into action and the Qlers are enjoying a liveliness never before seen in the club. Way to go, Hughie.

Now for the bad news. I'm staying on as newsletter editor. I'm sorry, but yes, you'll have to continue to read my prose. Assembling this paper is something I enjoy and is my contribution to keeping this club afloat. Since we continue to enjoy a good influx of articles I must assume that at least I am able to motivate those club members who write.

I can't claim all the glory for making Sinc-Link the publication it is, though. A newsletter is only as good as the articles and programs in it, so I would like to show my appreciation. Thanks to Bill, Bob, George, Hugh, Lou C., Lou L., Renato, Rene and all the the writers from in-town and out who help to make this one of the best Timex-Sinclair newsletters on the continent.

One last note of thanks goes to Bill Jones of *Update* magazine for continually plugging Sinc-Link in his fine missive. We have received many inquiries and new members thanks to his work. *Update* is an excellent source of information for QL, TS2068 and Z88 users and is well worth the subscription price. *Update* is (to my knowledge) the only TS magazine still in production after the demise of *Quantum Levels* and *Syncware News* (*Time Designs* where are you?). Bill's address is on a following page.

TIDBIT

Tom Bent is a leading expert on the QL as well as president of the CATS group and past publisher of *Quantum Levels*. He expects to be in the Toronto area sometime in October and I have asked if he would give a seminar on the QL, which he has consented to do. If you are interested in attending please let us know so we have an idea of how many members plan to attend.

J.T.

BOB'S NOTEBOOK

Have you priced those planning calendars you buy from your local stationer? Well, if you have a wide printer of the dot matrix type, you can make your own personalized calendar and save a bundle.

This program should be typed in carefully, watching the spacing of any stuff inside the quotation marks and DATA statements. Here are some explanatory notes for some of the lines:

Lines	Details
180	As usual you may have to change 237 to suit your TS2068. Find your correct value by using a simple FOR ... NEXT loop to get the IN 127 response from your computer. FOR i = 1 TO 100 PRINT IN 127 NEXT i
230	40 minus signs
260	Enter the four digits of the year, eg, 1990
320-530	Calculates each month's calendar.
550	Sets the printer to print elongated characters. Check your manual for correct commands needed to carry out this function.
720	Turns the elongated characters OFF.
820-860	Handles the DATA for the names of the months. Substitute other languages here, too.

```

=====
100 REM Bob Mitchell 1989
110 REM =====
120 REM MAKE A CALENDAR ON THE
    W I D E   P R I N T E R
    GO TO 210 TO SET
    NEW YEAR.
130 REM =====
140 REM CHANGE LINE 580 TO
    PERSONALIZE THE CALENDAR
150 REM =====
160 BEEP .1,4: BEEP .1,0
170 RETURN
180 IF IN 127<>237 THEN GO TO 180
190 RETURN
200 GO TO 280
210 REM initialize
220 LET f=0
230 LET l$="-----"
240 DIM a$(12,9)
250 GO SUB 820
260 INPUT "year? (yyyy) ";year
270 LET g=280: DIM d(31): DIM d$(31,12,28)
280 CLS
285 LET y=year
290 CLOSE #2
300 PRINT AT 10,4;"Make a Calendar for ";y
310 GO SUB 160
320 INPUT "Enter Month (1 TO 12)";m
330 LET d=1: LET mon=m: LET year=y: LET f=1: DIM a(42)

```

```

340 IF f=0 THEN GO TO 250
350 LET end=30
360 IF m=1 OR m=3 OR m=5 OR m=7 OR m=8 OR m=10 OR m=12 THEN LET
end=31
370 IF m=2 THEN LET end=28
380 LET leap=0
390 IF y/4=INT (y/4) AND y/100<>INT (y/100) THEN LET leap=1
400 IF y/400=INT (y/400) THEN LET leap=1
410 IF m=2 AND leap=1 THEN LET end=29
420 IF m=1 OR m=2 THEN LET m=m+12
430 IF m=13 OR m=14 THEN LET y=y-1
440 LET r=d+2*m+2+INT ((3*m+3)/5)+INT (y/4)+y-INT (y/100)+INT
(y/400)
450 LET num=(r/7-INT (r/7))*7
460 LET num=INT (num+.5)
470 LET start=num
480 IF num=0 THEN LET start=7
490 LET day=1
500 FOR p=start TO 42
510 LET a(p)=day
520 LET day=day+1
530 NEXT p
540 CLS
550 GO SUB 180: OUT 127,27: GO SUB 180: OUT 127,87: GO SUB 180:
OUT 127,49
570 LPRINT " "
580 LPRINT TAB 12;"PLANNING CALENDAR"
590 LPRINT
600 LPRINT TAB 13;a$(mon);" ";year
610 LPRINT 1$ "    SUN MON TUE WED THU FRI SAT"
620 LPRINT 1$
630 FOR r=0 TO 5
640 FOR c=1+r*7 TO 7+r*7
650 LET cc=c-r*7
660 IF a(c)=0 THEN PRINT TAB (5*cc);" ";; GO TO 690
670 IF a(c)>end THEN PRINT TAB (5*cc);" ";; GO TO 690
680 LPRINT TAB (5*cc);a(c);
690 NEXT c
700 LPRINT "'''1$
710 NEXT r
720 GO SUB 180: OUT 127,27: GO SUB 180: OUT 127,87: GO SUB 180:
OUT 127,48
760 PRINT #1;AT 0,0;"more? y/n"
770 GO SUB 160
780 IF INKEY$="" THEN PAUSE 0
790 IF INKEY$="y" THEN GO TO 280
800 IF INKEY$="n" THEN RANDOMIZE USR 100: NEW
810 GO TO 780
820 RESTORE
830 FOR i=1 TO 12
840 READ r$: LET a$(i)=r$: NEXT i
850 RETURN
860 DATA
"JANUARY","FEBRUARY","MARCH","APRIL","MAY","JUNE","JULY","AUGUST
","SEPTEMBER","OCTOBER","NOVEMBER","DECEMBER"
870 RANDOMIZE USR 100: SAVE "calndr.B2" LINE 890
880 STOP
890 RANDOMIZE USR 100: OPEN #3,"1p"
900 RANDOMIZE USR 100: POKE 16094,0
910 GO TO 280

```

PS. Sorry. You'll have to draw in your own vertical lines on the calendar.

Bob Mitchell Willowdale Ontario M2J 2L2
890815

Here is a miniature version made by
entering OUT 127,15 before running the
program.

PLANNING CALENDAR

JANUARY 1990

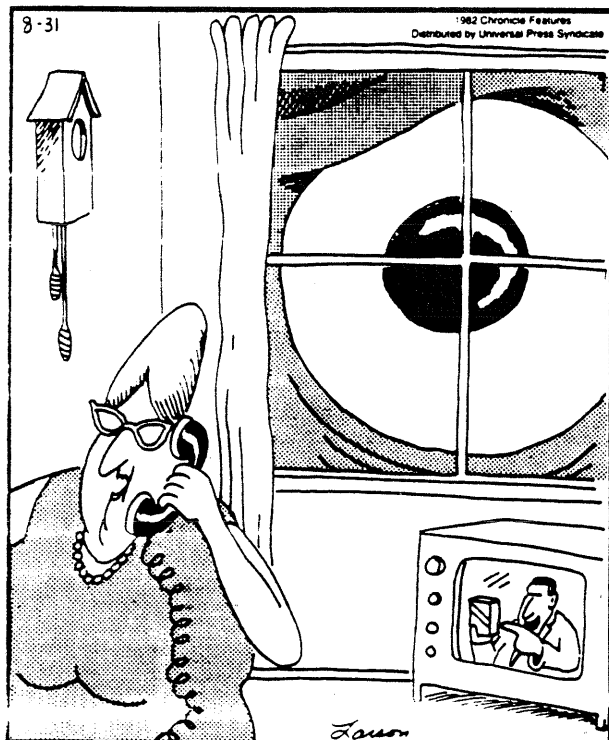
SUN	MON	TUE	WED	THU	FRI	SAT
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

The attached program has been translated by L.Laferriere from a program by R.Gagnon and published in Issue #7 of QL.DOC. The purpose is to display the french characters on the screen. (not the printer , just the screen for now , the printer will follow next.). I will give Hugh Howie a disk with the SuperBasic listing which I called keyboard_bas . Then the resulting exec which is called CLAVIER_EXE to stay with R.Gagnon designation. There is also a modified copy of boot for QUILL. The program CLAVIER_EXE must be loaded on the same disk with QUILL. The procedure to get the accents for the french characters depends on a two key operation.

After the program is running to get the e with the accent you have to press the apostrophe then the e . To get the other accent you enter the pound sign. To get the soft c you enter the upper case of the pound sign.

Remember in most cases you need to enter two characters. e.g. the apostrophe, the quote mark or the little hat, on upper case 6. You can still get the signs , by entering the apostrophe , or quote mark twice.

Confusing ?
L.Laferriere



"Hello, Emily. This is Gladys Murphy up the street. Fine, thanks ... Say, could you go to your window and describe what's in my front yard?"

```

100 REMARK Creating a File CLAVIER_EXE
110 :
120 CLS
130 INPUT "Where to save CLAVIER_EXE (e.g. mdv1_)?",save$
140 IF LEN(save$)=0: save$="flp1_"
150 PRINT " One moment please. "
160 :
170 RESTORE 300:a=RESPR(1000):basr=a
180 count=0
190 REPEAT 1
200   IF EOF:EXIT 1
210   AT 3,0:PRINT "> "
220   READ x: POKE a,x : a=a+1
230   AT 3,0:PRINT " <";
240   count=count+1
250 END REPEAT 1
260 :
270 PRINT "Press any key to save CLAVIER_EXE.": PAUSE
280 SEXEC save$&"CLAVIER_EXE",basr,count,128
290 :
300 DATA 96,12,0,0,0,0,74,251,0,4
310 DATA 67,81,48,53,112,11,114,255,116,1
320 DATA 78,65,67,250,1,22,18,25,12,1
330 DATA 0,42,103,0,0,10,97,0,0,200
340 DATA 96,0,255,240,22,57,0,2,128,139
350 DATA 12,3,0,39,103,0,0,38,12,3
360 DATA 0,34,103,0,0,46,12,3,0,94
370 DATA 103,0,0,54,12,3,0,96,103,0
380 DATA 0,92,12,3,0,126,103,0,0,100
390 DATA 96,0,0,160,97,0,0,124,97,0
400 DATA 0,104,67,250,0,162,96,0,0,34
410 DATA 97,0,0,108,97,0,0,88,67,250
420 DATA 0,156,96,0,0,18,97,0,0,92
430 DATA 97,0,0,72,67,250,0,152,96,0
440 DATA 0,2,16,25,176,60,0,42,103,0
450 DATA 255,150,176,3,102,0,255,242,97,0
460 DATA 0,60,18,17,97,0,0,72,96,0
470 DATA 255,130,97,0,0,46,18,60,0,131
480 DATA 97,0,0,56,96,0,255,114,97,0
490 DATA 0,30,18,60,0,136,97,0,0,40
500 DATA 96,0,255,98,22,57,0,2,128,139
510 DATA 12,3,0,0,103,0,255,244,78,117
520 DATA 19,252,0,0,0,2,128,139,18,60
530 DATA 0,194,97,0,0,4,78,117,36,121
540 DATA 0,2,128,76,48,120,0,224,78,144
550 DATA 78,117,112,8,114,255,118,5,147,201
560 DATA 78,65,96,0,255,36,101,144,97,141
570 DATA 117,154,39,39,42,42,101,143,105,146
580 DATA 117,135,111,132,34,34,42,42,101,145
590 DATA 97,142,117,155,105,149,111,152,94,94
600 DATA 42,42,82,69,77,97,114,107,32,62
610 DATA 62,32,67,108,97,118,105,101,114,32
620 DATA 81,117,131,98,131,99,111,105,115,32
630 DATA 97,99,116,105,102,32,118,101,114,115
640 DATA 105,111,110,32,48,46,53,32,32,131
650 DATA 99,114,105,116,32,112,97,114,32,82
660 DATA 131,97,108,32,71,97,103,110,111,110
670 DATA 44,32,77,111,110,116,114,131,97,108
680 DATA 32,56,56,10,42,0,0,0

```

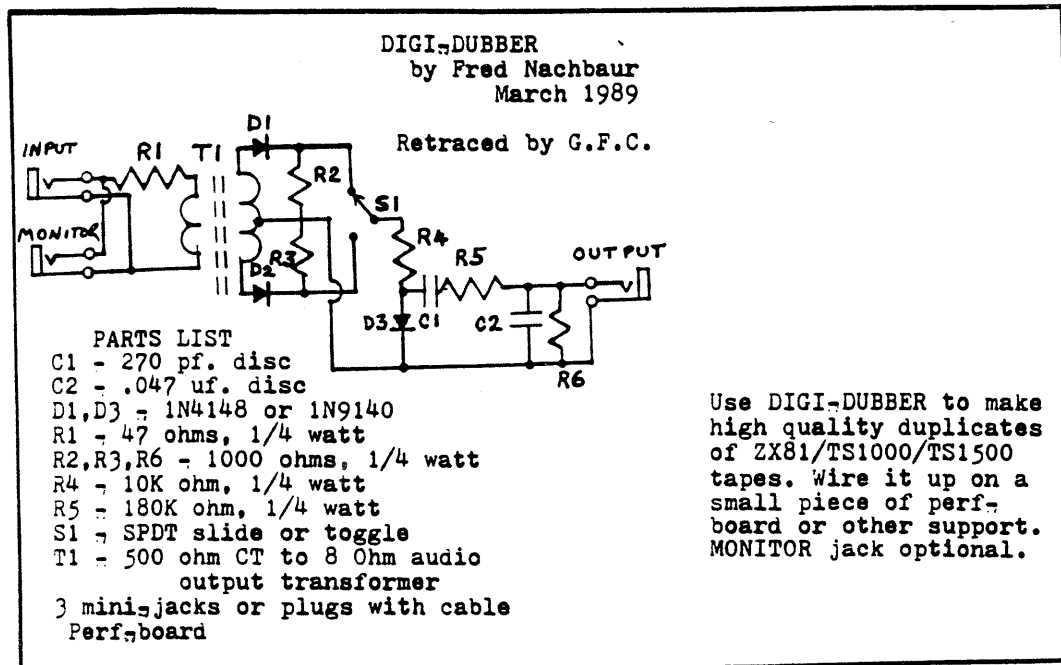
Don't Make a monkey out



of TIM Wizard, before you have the chance to
look around... Supporting TI and IBM.
Featuring Graphics. (916) 793-6703
300/1200/2400 baud. 24 hours a day!

SINC-LINK

Here is a revised schematic of the DIGI-DUBBER that was in the last issue of SINC-LINK. This one includes 3 diodes that were inadvertently left out of the last tracing. Sorry about that.



2068

```

1 REM Super Scroll by Steven V. Gunhouse
2 CLEAR 64767: LET x=64768
4 PRINT AT 10,5:"Loading M/L..."
5 LET a=10: LET b=11: LET c=12: LET d=13: LET e=14: LET f=15
10 READ a$: IF a$="END" THEN GO TO 70
20 FOR n=1 TO 15 STEP 2
30 LET w=16*VAL a$(n)+VAL a$(n+1)
40 POKE x,w: LET x=x+1
50 NEXT n
60 GO TO 10
70 CLEAR: LET scroll=64820: LET right=64768: LET top=64769: LET left=64770:
  T bottom=64771: LET xdir=64772: LET ydir=64773
80 PRINT "Window Micro-scroll routine"
90 FOR i=100 TO 103: PLOT 1,4: DRAW 0,151: NEXT i: FOR i=152 TO 155: PLOT 1,4
  DRAW 0,151: NEXT i: FOR i=4 TO 7: PLOT 100,i: DRAW 55,0: NEXT i: FOR i=152 TO
  5: PLOT 100,i: DRAW 55,0: NEXT i: REM Frame
100 FOR i=105 TO 108: PLOT 1,9: DRAW 0,141: NEXT i: FOR i=125 TO 129: PLOT 1,9
  DRAW 0,141: NEXT i: FOR i=147 TO 150: PLOT 1,9: DRAW 0,141: NEXT i
105 FOR i=9 TO 12: PLOT 105,i: DRAW 45,0: NEXT i: FOR i=147 TO 150: PLOT 105,i
  DRAW 45,0: NEXT i: FOR i=79 TO 82: PLOT 105,i: DRAW 45,0: NEXT i
110 POKE left,104: POKE right,151: POKE xdir,0: POKE ydir,1: FOR i=8 TO 76: PO
  top,i+74: POKE bottom,i: RANDOMIZE USR scroll: NEXT i
120 POKE xdir,1: POKE ydir,0: POKE bottom,8: POKE top,151: FOR i=1 TO 48: RAND
  IZE USR scroll: NEXT i
130 POKE left,0: POKE right,159: POKE top,159: POKE bottom,0: POKE xdir,255: P
  E ydir,255: FOR i=1 TO 160: RANDOMIZE USR scroll: NEXT i
140 REM This routine will scroll any section of screen any direction.
150 REM Variable names for POKEs should be self-explanatory.
160 REM Use POKE xdir,255 to scroll left, POKE xdir,1 to scroll right.
175 REM Or POKE xdir,0 for no horizontal scrolling.
180 REM Use POKE ydir,255 to scroll up, POKE ydir,1 to scroll down,
185 REM or POKE ydir,0 for no vertical scrolling.
190 REM These can be combined for diagonal scrolls.
213 DATA "FFAF000001FF3A05"
214 DATA "FD47545DFEFF3E07"
215 DATA "281424A4200A7DC6"
216 DATA "206F38047CD80867"
217 DATA "AFB8C0545DC9A425"
218 DATA "A7C07DD6206FD87C"
219 DATA "C60867C9ED5B00FD"
220 DATA "2A02FD7A94477BF6"
221 DATA "07951F1F1FE61F3C"
222 DATA "4F04C5ED4B04FD3E"
223 DATA "FFB8280162B82001"
224 DATA "6BCB3DCB3DCB3D3E"
225 DATA "AF9467E6380707B5"
226 DATA "6F7CCB3FCB3FCB3F"
227 DATA "ACE6F8ACF6406754"
2988 DATA "5D78A7C1280605C5"
2989 DATA "CD06FDC13A04FDFE"
2990 DATA "FF281CA72832C5E5"
2991 DATA "41A77E1F12132310"
2992 DATA "F9E1CD06FDC110EE"
2993 DATA "AF41121310FCC9C5"
2994 DATA "E541A77E17121B2B"
2995 DATA "10F9E1CD06FDC110"
2996 DATA "EEAF41121B10FCC9"
2997 DATA "C5E50600EDB0E1CD"
2998 DATA "06FDC110F3C90000"
2999 DATA "END"

```

PROGRAM
DEMO

FROM MEMBERS LETTERS

Here are some excerpts from a letter from member Richard Hurd, about a 3 1/2 inch drive that he has been installing. Might be of interest to some of our other members. G.F.C.

To Quote:

I have the new NEC FD1035 working, a nice addition. But there were a few problems I had to deal with in getting it up and going. You've added a 3.5" drive to your system haven't you? Well both the fd connector and the power connectors were different than the Tandon's or the AMSTRAD's. The fd connector is a IDC type, a IDS 34 (socket). The power supply connection is made with a 4 POSITION SINGLE ROW MODU housing and 4 contacts. The contacts do not come with the housing, they need to be ordered separate. Now here I got lucky, I looked in the junk box and found a 10 position MODU connector with wires ready to go! I just pulled the 5th pin and trimmed off the excess. Although I would have worked something out without going with the MODU type connector. I clipped off the connector of a power supply "Y" connector and spliced in the new connector. The power supply pins were not defined in the included documentation or on the drive, so a toll-free call to TIMELINE and I received the power supply pin definitions. They are left to right, looking at the rear of the drive, right side up. +5, +5 return, +12 return, and +12. The power supply I am using has both +5 return and +12 return on the same line with no problems.

I ordered the IDS 34 from JDR Microdevices (ad in Computer Shopper). The MODU connector is available from DIGI-KEY, 701 Brooks Ave South, P.O. Box 677, Thief River Falls, MN 56701-0677.

RADIO SHACK
has the IDS 34
276-1525

I've enclosed an updated utility disk with my RAM-DISK utility removed and Q2D added.

Something I would like to see is a modification of the LKDOS cartridge where the SPECTRUM ROM could be replaced with 16K of RAM and then a person could just load in the SPECTRUM code or any other code. I have articles on how to do it without the LKDOS cartridge, but am not sure how to modify the cartridge. Do you know of anyone doing anything like this?

Here's a tip I picked up quite some time ago and only recently put to use. Full size printer ribbons can dry out. I am using a Smith-Corona D-100, and the last new ribbons I purchased were pretty dried out when I received them. Then I remembered that WD-40 will restore them. Use very little to start with and place the ribbon in a sealed plastic bag for a few days. The first one I sprayed well, I'll probably have to wait about six months for it to dry out enough to use. It works great.

TSMON

by Chuck Kerseluck

A popular modification for the TS1000 computer has been the direct video output circuit. There are various ways of doing this, with varying degrees of complexity. Basically it bypasses the RF modulator to yield sharper, crisper displays. Trouble is, a real, live "monitor" must now be purchased. The easiest way around this dilemma is to go "composite-monochrome." All video and sync signals are multiplexed into a single wire. Leave it to the monitor's guts to sort them all out. By doing that, we are left with the simplest of interfaces to the computer: A single bipolar transistor stage. Figure 1 tells the story.

DIRECT VIDEO for the TS1000

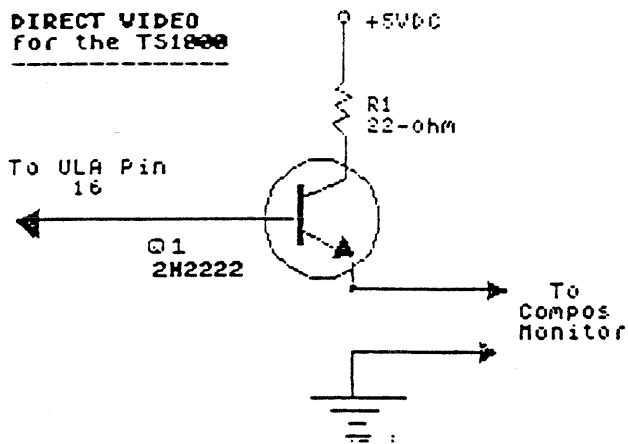


FIG 1

As you can see, all it takes is an NPN transistor and a single current-limiting resistor all available at your local Radio Shack. Other needed items include a phono jack, a short length of shielded cable or "twisted pair", solder, etc. The easy parts consist of finding a suitable ground and +5VDC connections. The tricky part is to find the ULA chip connection to pin 16. Luckily, all these spots are huddled next to the modulator. See the pictorial diagram of Fig. 2. This applies for both "ISSUE ONE" and "ISSUE THREE."

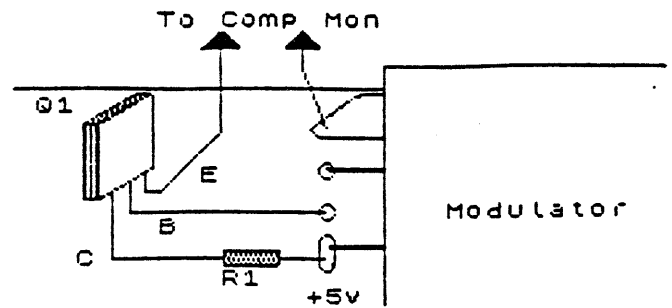


Fig 2

Any 2N2222 or equivalent can be used here. Because of the fact that the "equivalents" can have different TO- configurations, a strictly 'generic' drawing of Q1 has been provided, not conforming to any particular type. The heavy lines are those wires that connect the modulator into the computer. Please note that while there are three modulator wires, only the "top two" are being shown. This should help things when you try to match up the diagram with the real thing.

You may decide, as I have, to totally remove the modulator for a single, improved output. This idea came to me when mine bit the big one, one day. You can position a pc-mount phono jack right on a large foil area left vacant beneath the old unit. Or, if you prefer, leave it in and drive your monitor and a TV set at the same time! I opted for this on my other 1000 and it works great. Stereo video on the TS1000! Is there no end??

If you go this route, you'll need to run that short-length, small-diameter coax or "twisted-pair" from Q1 to a suitable connector outside the computer. Now you have to think about strain relief for the cable, so the ends don't twist off. When I got to this point, the decision was made to put everything in a brand new case with a brand new keyboard and all wild cables were taped down. Maybe you want to yank out that old modulator, after all.

By the way, this article was brought to you by Tech Draw Jr., Pixel Sketch and Graphics Editor and Pixel Print Plus! The TSMON schematic can be downloaded from the Challenger BBS under the file name, "tsmon" or "tsmon.cod".

It's basically a SCREEN\$ file, so you can treat it as such. The second one has additional RLE encoding in it, however.

Have fun!



RAMBLINGS OF A CLUB MEMBER

3 = QL

1 = MODEM

For a number of months I had been dilly dallying about my modems. The first one, the 2050, didn't seem sophisticated enough, so I got the 212 from George/CNIB/BELL. Of course it had 2 speeds, 300/1200. But to no avail, it might as well have been infinite speed, no luck. I was ready to throw in the towel when Bob Michell suggested we might want to try again. So I agreed and hooked up the old reliable, read myriad instructions, and we tried our hands at "modeming". After some bumbling on my part, we were able to make contact and exchange some greetings on the screen. Bob wasn't satisfied until he was able to send me a program, which I received O.K. and saved it to disk. But when it came time for me to send him the same program back, I was all thumbs and speechless. Everything I tried did not work. However it was a partial success, we had "TALKED" to one another. Needless to say I was exhausted after that experience. So I went back to all the manuals, read countless instructions, each different from the previous one, and then took my courage in both hands and called Bob again, and lo and behold, GREAT BALLS OF FIRE, we were successful. We could send and receive programs both ways.

I really felt great !!!!

2 = ASSISTANCE

Another benefit of being a club member is all the assistance that is out there just waiting to be asked. As I was trying to connect my Star NX 1000 printer to my QL, the interface (serial to parallel) would not function properly. Yet the printer worked fine off-line, what to do? The people that I knew had a QL and ser/par interface were all away. So eventually I called Ian Robertson to help me solve the problem by substitution, sure enough the trouble was in the interface and with his wide experience and knowledge had the problem fixed in no time at all. Thanks Ian.

Did you know that if you have a SuperBasic program in your QL and a printer connected to SER1, that you can get a listing of your program, I entering, with your printer ON naturally! SAVE SER1.

That's all, and you get a listing of your program.

4 = QL_DOC

After trying for some months to obtain the club copies of the QL_DOC without any luck, I finally decided to purchase the back issues from Real Gagnon, as well as getting a personal subscription to the magazine. Well worth it.

5 = Wealth of Information

There is a vast amount of information available to us in the various libraries of the club. For instance, ZX 81 paper as well as program libraries. 2068/SPECTRUM again paper as well as cassette libraries. And now with the QL another rich source of material is accumulating. Why not follow the example of the large suppliers of software, who sell catalog disks of their wares for \$4 or \$5 per disk.

They are usually only listings of the various programs with a short description of the goods. I know it means a lot of work to start the process but once the disks are done it only means regular updates and the benefits are unlimited.

Think about it !!!!

Louis Laferriere

15 July 1989

FOR SALE! FOR SALE! FOR SALE!

- 1 - 3" AMDISK Dual Drive with P/S and 20 3" disks - \$120
- 1 - Tasman Printer I/F - \$40
- 1 - Zenith Green Monitor \$80
- 1 - Sanyo B&W Monitor - \$80

Contact: Greg Lloyd
127 Mammoth Hall Road,
Scarborough, Ont. M1B 1P8
(416) 292-0348

LKDOS DISK UTILITY DOUBLE TO QUAD

by Richard Hurd

Here is a little LKDOS utility for those who have 5.25" quad density (QD) drives but not the standard 5.25" double density (DD) drives, which most software is distributed on. D2Q will convert a DD disk using your QD drive.

I started out with a pair of AMDEK 3" single sided (SS) DD drives then got around to adding a Tandon 5.25" double sided (DS) QD drive (TM 101-4A). Which worked great for converting 5.25" SS DD disks. And now that I have the problem of converting DD disks taken care of, I have added a 3.5" DS QD drive (NEC FD1035). Which makes the conversion a snap.

PROGRAM INSTRUCTIONS

The utility is easy to use. Upon loading, the 118 bytes of code are placed in upper memory. Then you are prompted for which drives to use for source and destination. Two drives are highly recommended but the program will allow you to use one QD drive as the source and destination drive and prompt you when to swap disks. To convert DS disks you will need a DS QD drive(s). The destination disk should be pre-formatted for the destination drive.

As D2Q is presented it is set up to convert all 80 tracks of a DD DS or SS disk. The value 79 in line 590 handles this. If you were to know which is the last used track on the DD disk, you could change the 79 to what the last used track is. This is recommended no matter what setup you use. It will put less wear and tear on the drives, and if you are using one QD drive, less hassle. In order to find which is the last used track you could use George Chambers' DISK DOCTOR or Larry Kenny's LARKEN DISK EDITOR and select the tracks used option. I may get around to working this into a revision of the program.

PROGRAM LOGIC

D2Q uses the LKDOS TRACK routine (trk) to set the drives head to a particular track which does put a strain on the drives.

D2Q uses trk to double step the QD drives head to the appropriate track of the DD disk. The variable g handles this. Note that the value of g is doubled for side 0 but incremented by 1 for side 1. Ex. g=8 the QD drives head is moved to track 4 of the DD disk. G=9 the QD drives head is moved to track 5 of the DD disk. The variable ct is sent to the drive via Treg. After calling the trk routine and before calling ldbuf. This is like a track counter. It is 0 for track 0, 0 for track 1, then incremented for track 2 and 3 to 1. For tracks 78 and 79 ct would be 39. This is all on the DD disk.

I have also been able to move tracks from a QD disk to a pre-formatted DD disk. I haven't worked out how to format a DD disk using a QD drive.

Q2D can be found on my LKDOS utilities disk version 2 in the groups LARKEN DISK LIBRARY.

PROGRAM LISTING

```

10 REM LKDOS DISK UTILITY
DOUBLE TO QUAD DISK CONVERSION
    by R.H.

20 LET trk=40001
30 LET ldbuf=40108
40 LET trak=40000
50 LET Treg=18
60 LET write=40015
70 LET tomem=40050
80 LET mem=40119
90 DIM x$(23):CLS
100 PRINT "Double To Quad
Disk Conversion"
110 INPUT "Source Drive? (0-3)"
;org: IF org<0 OR org>3 THEN GO
TO 110
120 INPUT "Destination Drive? (
0-3)";dest: IF dest<0 OR dest>3
THEN GO TO 120
130 PRINT "TAB 5;"Press ENTER
To Convert"
140 IF INKEY$<>"" THEN GO TO 14
0
150 IF INKEY$="" THEN GO TO 150
160 REM move directory
165 GO SUB 610
170 RANDOMIZE USR 100: GO TO or
9
180 POKE trak,0: RANDOMIZE USR
trk
190 RANDOMIZE USR ldbuf
200 RANDOMIZE USR tomem
205 LET sid=PEEK (mem+20)
210 IF dest=org THEN GO SUB 620
220 RANDOMIZE USR 100: GO TO de
st
230 POKE trak,0
240 RANDOMIZE USR write
250 IF sid=1 THEN GO TO 350
260 IF dest=org THEN GO SUB 610
270 RANDOMIZE USR 100: GO TO or
9
280 POKE trak,1: RANDOMIZE USR

```

```

trk
290 RANDOMIZE USR ldbuf
300 RANDOMIZE USR tomem
310 IF dest=org THEN GO SUB 620
320 RANDOMIZE USR 100: GO TO de
st
330 POKE trak,1: RANDOMIZE USR
write
340 REM move tracks
350 LET ct=1: LET g=2
360 IF dest=org THEN GO SUB 610
370 RANDOMIZE USR 100: GO TO or
9
380 POKE trak,2+g: RANDOMIZE US
R trk
390 OUT Treg,ct
400 RANDOMIZE USR ldbuf
410 RANDOMIZE USR tomem
420 IF dest=org THEN GO SUB 620
430 PRINT AT 0,0;" ";AT
0,0;g;" ok!"
440 RANDOMIZE USR 100: GO TO de
st
450 POKE trak,g
460 RANDOMIZE USR write
470 IF sid=1 THEN LET ct=ct+1:
GO TO 590
480 IF dest=org THEN GO SUB 610
490 RANDOMIZE USR 100: GO TO or
9
500 POKE trak,((2+g)+1): RANDOM
IZE USR trk
510 OUT Treg,ct: LET ct=ct+1
520 RANDOMIZE USR ldbuf
530 RANDOMIZE USR tomem
540 PRINT AT 0,0;" ";
AT 0,0;g+1;" ok!"
550 IF dest=org THEN GO SUB 620
560 RANDOMIZE USR 100: GO TO de
st
570 POKE trak,(g+1)
580 RANDOMIZE USR write
590 LET g=g+2: IF g>79 THEN ST
OP
600 GO TO 360
610 PRINT AT 12,6;"Insert Sourc
e Disk""TAB 4;"Press ENTER To C
ontinue": PAUSE 0: PRINT AT 12,4
;x$;AT 14,4;x$: RETURN
620 PRINT AT 12,4;"Insert Desti
nation Disk""TAB 4;"Press ENTER
To Continue": PAUSE 0: PRINT AT
12,4;x$;AT 14,4;x$: RETURN
900 REM code loader
910 CLEAR 39999
920 FOR f=40000 TO 40117
930 READ c: POKE f,c
940 NEXT f
950 RUN
960 DATA 0,205,99,156,58,64
970 DATA 156,50,29,32,205,126
980 DATA 0,24,30,205,99,156
990 DATA 58,64,156,50,29,32
1000 DATA 205,126,0,205,150,156
1010 DATA 205,120,0,24,10,243
1020 DATA 205,98,0,62,11,50
1030 DATA 2,32,201,58,100,0
1040 DATA 251,201,205,99,156,33
1050 DATA 112,32,17,183,156,1
1060 DATA 0,20,237,176,205,109
1070 DATA 156,201,205,99,156,33
1080 DATA 183,156,17,112,32,1
1090 DATA 0,20,237,176,205,109
1100 DATA 156,201,33,183,156,17
1110 DATA 112,32,1,0,20,237
1120 DATA 176,201,205,99,156,205
1130 DATA 129,0,205,109,156,201
1140 DATA 205,99,156,205,123,0
1150 DATA 205,109,156,201
9999 RANDOMIZE USR 100: SAVE "d2
q.b2" LINE 900

```

MODIFYING THE 2068 LARKEN DISK TITLE by G. Chambers

The disk title that is seen on the screen when doing a TS2068 LKDOS CAT command is established at the time of formatting a disk. Often a different disk title is desired once the disk application has been established. The following paragraphs will detail how a disk title can be modified.

These instructions make use of the "doctor.B1" program written by G.Chambers. This program is in the public domain and can be obtained from the Toronto Timex Sinclair Users Club.

Load the "doctor.B1" program into the computer, then install the disk to be modified into drive 0. Using "doctor.B1", call up track 0 of this disk by pressing the key 4, and when a track number is requested, press the 0 key.

A copy of track 0 contents (5120 bytes) will be moved into the computer buffer starting at address 50000. The buffer will also be displayed on the screen, starting at address 0 of the track.

Assuming some experience with "doctor.B1", we shall not dwell on it's functions except as necessary for the task at hand. Press the D key. This moves the screen display up to buffer address 54500, where the disk title starts. Now the work begins.

Press the A key to Alter. You will be presented with a "Characters or Numbers?" query. Press the C key, to select Characters. Then, per instructions, press the Q and A keys to position the cursor opposite the address where the title change is to start. Actually, since we are going to be starting at the beginning of the disk title the cursor need not be moved. Experiment with this a bit, but then return the cursor to the top, and press the ENTER key. You will then be asked to enter a string of characters, i.e. in our case the new disk title.

If the title is to be a short one, changing it is not particularly difficult. The entry cursor in the "doctor.B1" program has been positioned such that the first line of the entered string will contain 20 characters, corresponding to the way that LKDOS positions the title during a CAT function.

Simply type the complete title in a single go; the layout of the character string that you see on the screen is the same as will appear with a CAT of the disk.

When you have prepared the title to your satisfaction, press the ENTER key. After a short pause for POKEing the string into the buffer the screen will be re-written to show the just-entered character string. If your string was less than 17 characters it will be complete on the screen. If greater, then press the C key momentarily to move the screen along by 17 addresses. Continue this process until you see the last few characters of your string.

When the title is to your satisfaction you must save it from the buffer, where the modification has taken place, to the track "0"

of your disk. Press the S key. You will be asked "Same or New track". Press the S key again. A "Remove Write Protect" warning will appear on screen. Press the ENTER key to SAVE. You may then Break out of "doctor.B1", and do a CLS, then a disk CAT to check the results. If not happy, then press the C key (CONTINUE) momentarily, followed by the ENTER key. You should be back in the "doctor.B1" program. Press the D key to display the start of the directory title, and start again.

There may be occasions when a more elaborate title or instructions are wanted in the directory title. This may be too difficult to do as described above. To cope with this we can enter the title a line, or a few lines, at a time. Here's how.

Enter the first string. It can be as long as is handy, one or more lines. Remember, the first line has 20 characters, maximum. In any event, after entering this string we shall be starting a fresh line, so it should terminate neatly.

After it is entered look for the end of the entered string. Observe that there is a 0 in the address immediately following this. We are going to change this 0 to a 13. We shall do this by breaking out of the "doctor.B1" program, and POKEing a 13 into this address, Then immediately re-enter the program.

To do this press the SPACE and BREAK keys to break out of the program; ENTER "POKE 54521 (or whatever address the 0 is in), 13. When this has been done, press the C key (you should get the word CONTINUE on the screen), and then the ENTER key. Although nothing will seem to have changed you are now back into the "doctor.B1" program (If you don't believe it, press the C key again, and the display will move forward 17 addresses. You will have lost the bottom line menu, but no matter).

The function of the 13 which you POKEd, is this. The computer, when it encounters a value of 13, understands this to be the end of a line. It immediately terminates printing on that line and moves to the start of the next line.

You are now ready to enter the next segment of title text. In a repeat process, press the A key, the C key, and the Q and A keys to position the cursor opposite the address immediately after the one now displaying the value of 13 you just POKEd in. With the cursor properly positioned, press the ENTER key. Enter next text, and repeat as before.

When you have entered the last of the title elements, you need not enter a 13. The 0 which we observed earlier is used by LKDOS as an end-of-title marker. Caution: if the LKDOS encounters a 0 anywhere along the directory text, it terminates the title display at that point.

Save the buffer to disk as described earlier. your disk title has been modified. Break out of "doctor.B1", and do a disk CAT to check.

PROGRAMMING the TS2068
Opening Larken files

QLIPS

Bill Jones, in a program listing on LKDOS utilities in the July '89 issue of TS UPDATE (pp 45&46), has a routine to selectively OPEN (and CLOSE) several Sequential files.

The method used was to name a series of files thusly; Dta1.A\$, Dta2.A\$, Dta3.A\$, etc. Then one would INPUT a number 1, 2, 3, etc., to select the file containing the same numerical. Bill used a series of separate LINES (9971, 9972, 9973, etc., to OPEN (and CLOSE) each file, and jumped to the appropriate line with an instruction like this:

```
INPUT "Enter a number(1-5)";zz: GOSUB 9970 + zz
```

He comments that: "...I couldn't find a key to concatenate the titles with a number for either the OUT titles or the IN titles. This leaves the door open for someone to feed back the solution."

Now, if you don't have a copy of TS UPDATE this may not be clear, and it will take too much space to explain it here. But for all you TS UPDATE subscribers here is the word from one of our member contributors, Steven Gunhouse, to Bill Jones' invitation.

To quote from Steve's letter:
"...First a note relative to Bill Jones article. He asks how to concatenate a string and a number in his output sections. If someone has not beat me to it, here it is.

"First, since we won't need his computed GOSUB's any more, change every GOSUB 9970+zz to GOSUB 9970, and similarly change GOSUB 9980+zz to GOSUB 9980. Or change them to the appropriate contents of the two lines below - I didn't check yet to see whether he uses these more than once.

"You may as well delete everything after 9970 with a DELETE 9970, Then type the following two lines:

```
9970 RANDOMIZE USR 100: OPEN #5,"Dta"+ STR$
zz + "A$ OUT ": RETURN
9980 RANDOMIZE USR 100: OPEN #5,"Dta"+ STR$
zz + "A$ IN ": RETURN
```

"For those that have trouble seeing that, recall that zz names a number, and we cannot concatenate a number to anything. But STR\$ converts a number to a string, so it looks exactly like a number would be printed. This string can then be concatenated, sliced, or otherwise handled like any other string." End of quote.

Websters...concatenate...to link together in a series or string

If any Larken owner member wants more details I can send you a copy of the relevant article. G.F.C.

I don't know exactly how it happens, but it would appear that the Psion Four are very greedy when first loaded.

I first noted this when I was working with QL_SS, the Spreadsheet, (or ABACUS)programme as supplied with the QL.

Now, I use a 512 Expansion on the QL, and after a period of time, entering data into Abacus, it was noted that the available memory was 52k. Now who is going to believe that. I spend an hour entering data, and I am told that there is practically no room left for any more. This I am not going to believe. I have worked for an hour at my slow pace and I have exhausted 640 K. (Typing speed 1000 wpm plus?) I should be so lucky.

After a lot of trial and error, the loss of some work, the frustration of having to enter everything all over again, head scratching and all that entails, I solved the problem.

As I said at the beginning, it would appear that Abacus is very greedy, same as Quill is. And when you reach the point where there is not much room for any more info, SAVE that which is already entered, ZAP it, and of course LOAD the same data, and what do you know ? instead of haveing only 52 K left, I now have in the region of 460 K ! ! !

Obviously the entries demand a lot of breathing space, and after they get it, they are satisfied, and when told that that is more than enough, they are willing to accept the dictates of Momma, and settle for a little less.

Try it, and see what happens. Like me, you will probably be surprised.

Now out there somewhere, someone has an answer for me, and for others who have observed this, so now is the time for all good folks to enlighten those who don't know, but would like to. So git that printer going and HELP. HELP. (Going down for the umpteenth time)

H.H.H.

FROM MEMBERS' LETTERS

Here are three pages of data that one of our members, Steven Gunhouse, has been able to glean from his AERCO LKDOS system. It could prove useful to other members interested in working up Larken routines. G.F.C.

For reference purposes, I will send you some information I have been able to determine about the CALLs in LKDOS. The area from 0078 to 00D1 (in my version, possibly more in yours) is dedicated to function calls. Since this device is normally used to keep several versions compatible, I feel safe in saying that probably none of the purposes have changed from one version to any other, and presumably none have been dropped either, though as per the discussion of the routine at 0096, the actual operation may be different.

LKDOS Function Calls

CALL	Purpose (as near as I can determine)
0062	Enable Cartridge
0064	BASIC commands (USR 100)
0066	NMI routine (USR 102)
006A	Used by channels "lp", "w0", "w1", and "w2"
006C	Used by channel "dd"
0078	Write track
007B	Read track
007E	Select drive and Seek track
0081	Next track
0084	Find name in directory
0087	Copy directory entry to 203A hex
008A	Pop String and Check as valid filename
008D	Find BASIC terminator (: or ENTER)
0090	Evaluate Unsigned 2-byte integer (in BC on return)
0093	Error Message - Error T
0096	Test Write Protect
0099	De-Allocate name and find free tracks
009C	Evaluate String and copy to 2022 hex
009F	Call a routine in Spectrum or 2068 ROM
00A2	Add a name to the directory
00A5	Print 3 digit decimal number (000 to 255)
00A8	End of save routine (remove F5s from tracklist, allocate)
00AB	Open stream as "dd"
00AE	Print a message
00B1	Erase block header
00B4	Set-up block header
00B7	Find a variable
00BA	Disable cartridge and turn off drive
00BD	CALL MAKE_ROOM (in Spectrum or 2068)
00C0	CALL DELREC (delete line/variable in Spectrum or 2068)
00C3	Print Error Message - Error X
00C6	LOAD File command (sort of)
00C9	something to do with loading a sector in the right place
00CC	SAVE File command (sort of)
00CF	SAVE File (everything already set up - as used by NMI)

As noted elsewhere, there may be a few other function calls in some different version of LKDOS, but these are all I could clearly identify in the low part of the AERCO V2 cartridge.

Cartridge RAM utilization: (for AERCO V2)

DEC	HEX	Size	Usage
8192	2000	2	Length remaining in SAVE?
8194	2002	1	NMI flag (0=BASIC, 1=NMI/AUTOSTART, B=Machine Code, ???)
Others?)			
8195	2003	1	Current Drive
8196	2004	2	Total Length of Save
8198	2006	2	Start (temporary pointer
8200	2008	2	Total Length (temporary pointer)
8202	200A	1	(see 033D, 0DE6)
8203	200B	?	unused?
8206	200E	1	(see 03B2)
8207	200F	?	unused?
8214	2016	2	User Address - Defined command or NMI
8216	2018	2	Printer Driver
8218	201A	2	CHARS - for windows
8220	201C	1	?
8221	201D	1	Track
8222	201E	1	?
	201F	1	attempts counter
8224	2020	1	File Not Found flag
8225	2021	1	(see 0FAA)
8226	2022	A	File Name
8236	202C	2	Start Address of save
8238	202E	2	Length of block/(see 135D)
8240	2030	1	Keybyte/flag?
8241	2031	2	Address of directory entry/track pointer
8243	2033	2	Start of block
8245	2035	2	Pointer to track number
8247	2037	1	Flag - last block in save
8249	2038	1	(see 0A11)
8249	2039	1	Track number SEEKing
8250	203A	22	Directory Entry copied here
	2045	18	Track list in Directory entry
8284	205C	?	Extra space for compressing track list?
8304	2070	1400	Track Buffer
	2070	1	FF (hex - marks start of data block)
	2071	1	Track number
	2072	A	Name
	207C	2	Block Start
	207E	2	Block Length
	2080	1	(see 101A, 1043 - used by RAMDISK routines)
	2081	2	LINE number-1
	2083	1	unused?
	2084	2	VARs / Sides&Tracks
	2086	2	File Length (Total)
	2088	13E2	Data block
	3204	???	Start of disk name (track 0 only)
	346A	6	unused bytes of block
13424	3470	???	MERGE Buffer?
	347A	1	
	347B	1	
	347C	2	These bytes used by window routines?
	347E	1	
	347F	?	
	3482	1	

3483	1	
3484	?	
13500	3520	578 MERGE Buffer
14900	3A98	? unused? (more of MERGE Buffer?)
15200	3B60	300 Character Set for windows (AERCO default)
15968	3E60	? unused?
	3E7A	1 (see 1769)
	3E7B	?
	3E7C	2 (see 176C)
	3E7E	? unused?
16000	3E80	14 Window 0 info
16020	3E94	14 Window 1 info
16040	3EA8	14 Window 2 info
16060	3EBC	14 Current Window info:
w+0		1 Left of Window
w+1		1 Top of Window
w+2		1 Right of Window
w+3		1 Bottom of Window
w+4		1 Scroll Count
w+5		1 X position
w+6		1 Y position
w+7		1 (see 1613)
w+8		2 Screen address of character position
w+10		1 character width
w+11		1 Window Number?
w+12		2?(see 18D0)
w+14		1 Window Attributes
w+15		1 not used?
w+16		1 (see 169C)
w+17		2?(see 1691)
w+19		1 (see 1680)
16080	3ED0	8 Character bit pattern?
16088	3ED8	2 unused?
16090	3EDA	1 Printer Width (not counting margin)
16091	3EDB	1 empty
16092	3EDC	1 Line Feed Character (0=none)
16093	3EDD	1 printer detokenize flag
16094	3EDE	1 left margin
16095	3EDF	1 empty
16096	3EE0	1 Printer Interface type
16097	3EE1	1 empty
16098	3EE2	1 sequential file detokenize flag
16099	3EE3	1 empty
16100	3EE4	11C FREE SPACE
16383	3FFF	END OF CARTRIDGE RAM

Please note: lengths given are hexadecimal
Locations marked "(see address)" are the address of a reference
to that location as it appears in the AERCO V2 Cartridge.
Therefore, these numbers may not be helpful in figuring out the
intent of a location.

A Full Window Directory for the Sinclair QL by Mike Ferris

Hello fellow QL users. I am new to the club and this is my first contribution. I hope you find it helpful.

I'm sure most of you have found it frustrating to take a directory of a microdrive or floppy and have it scroll up when it reaches the bottom of the screen. Even if you have the TOOLKIT II, which stops the window from scrolling until you hit a key, wouldn't it be nice to be able to see the whole directory at once (or at least a good portion of it)?

This little program lets you do this. It will display a directory in four columns on the screen and lets you print the directory to a printer the same way. (Isn't it annoying when you print a directory and it uses up loads of paper by printing only down the left side?)

The program is designed to work in MONITOR or WTV mode 4 with window #1 defined as: WINDOW 450,190,25,15. It will print the directory in four columns of sixteen lines each. If you are using a domestic TV and don't have WTV (found on TOOLKIT II), you will need to alter some of the variables. See the section on Program Details.

The procedure PRINTIT (lines 350 to 570) prints the directory. It assumes your printer is connected to SER1 and is able to print 80 columns of characters. If your printer is connected to SER2, change line 360 to read OPEN #3,ser2.

Program Details

Lines 120 to 140 open a file on the device specified called 'directory'. For example, if you enter mdv1_ when asked for the device in line 110, then a file will be opened called mdv1_directory and will be on mdv1_. Keep this in mind since you will need enough empty space on the device for this file. Once you have done this the first time, the file will always be present. If you need to use this program on a device without enough space, change line 120 to open a file on another device. For example, if mdv1_ is full then 'OPEN_OVER #4,mdv2_directory_for_mdv1'.

Line 170 opens the newly created directory file for input.

Lines 180 and 190 initialize the variables. 'a' and 'b' are the y and x co-ordinates used in line 230 for the PRINT position. 'x' is the index for the array line\$() in line 180. This array is used primarily in the PRINTIT procedure. Note that this array truncates strings to 15 chars. and is only large enough for 128 strings. If you have more than 126 files on a device you will have to increase the size of this array .

Lines 200 to 320 inputs a string from the directory file into the array and prints the string on the screen at position a,b until the end-of-file is reached. If you have a different sized window #1 than I do, then take a look at line 310. You will see that if 'a' is greater than 16 then 'b' is increased by 18 and 'a' is set back to 1. If your window is not large enough to hold 16 lines, then change 'a>16' to 'a>no1' where 'no1' is the number of lines you want. Also, if your screen is not wide enough to handle the four columns, you can change 'b=b+18' to 'b=b+no2' where 'no2' is the number of spaces between the first character of one column and the first character of the next. If you chose 'no2' to be less than 16, you may want to redefine the array line\$() to truncate strings to less than 15 characters. Eg. DIM line\$(128,10) will truncate strings to 10 characters. As it stands, the program requires a window wide enough to display 71 characters.

Lines 350 to 570 will print the directory. After running the program to display the directory on the screen, type in PRINTIT to have it print. What this procedure does is to take four elements in the array line\$() and make a string, text\$. It then prints text\$ to the ser1 and then takes the next four elements in the array and so on. If you want to alter the number of columns, you can modify line 470. This line checks to see if 't' is a multiple of 4 where 't' is the number of files in the directory to that point. If 't' is a multiple of four then text\$ is printed, creating four columns. If you wish to have 5 columns, change 'MOD 4' to 'MOD 5' or any other number depending on the number columns you want.

You can also move the columns closer together by modifying line 450. The variable 'fil' is the number of blank spaces required to fill in text\$ to the start of the next column. You will notice that 'fil' is 20 minus the 'length' of line\$(t). This makes the columns left hand side of the columns on the printer 20 spaces apart. You can change 20 to any number you wish. Eg, making line 450 'fil=15-length' will make the columns on the printer 15 spaces apart.

Note that the program fills the screen by columns (ie. fills column 1 first and then starts the next) where as the PRINTIT procedure fills in by rows (fills the top row first and then starts the next).

Program Listing

```

10 REMark ** A full window directory **
20 REMark ***** by Mike Ferris *****
30 REMark *****
100 CLS
110 INPUT 'Enter device:!'a$
120 OPEN_OVER #4,a$&'directory'
130 DIR #4,a$
140 CLOSE #4
150 CLS
160 AT 0,2:PRINT a$
170 OPEN_IN #4,a$&'directory'
180 DIM line$(128,15)

```

```

190 x=0:a=2:b=2
200 REPEAT getline
210   IF EOF(#4) THEN EXIT getline
220   INPUT #4,line$(x)
230   AT a,b:PRINT line$(x)
240   IF a=16 and b=56
250     PRINT #0,'PRESS ANY KEY FOR MORE...'
260     z$=INKEY$(-1)
270     CLS
280     a=2:b=2
290   ENDIF
300   a=a+1:x=x+1
310   IF a>16 THEN b=b+18:a=3
320 END REPEAT getline
330 CLOSE #4
340 STOP
350 DEFine PROCedure printit
360   OPEN #3,ser1
370   t=1
380   FOR i=0 to 1
390     PRINT #3,line$(i)
400   NEXT i
410   PRINT #3
420   text$=''
430   FOR i=2 to x
440     length=LEN(line$(x))
450     fil=20-length
460     text$=text$&line$(i)
470     IF (t MOD 4)=0
480       PRINT #3,text$
490       text$=''
500     ELSE
510       FOR k=1 to fil:text$=text$&' ':NEXT k
520     ENDIF
530     t=t+1
540   NEXT i
550   PRINT #3,text$
560   CLOSE #3
570 END DEFine

```

Well, that's all for now.

If anyone out there is having problems writing a program or if anyone has an idea of a program but are not sure how to go about it, feel free to contact me and I'll be happy to try to help.

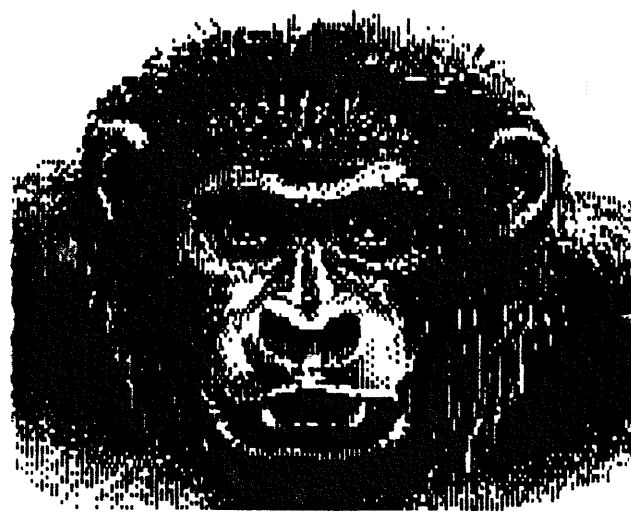
Mike Ferris
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BOB'S Notebook

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The intent of this article is to exercise the program **PIXEL PRINT PLUS** which has been put on three Larken Disks by our Club Secretary, George Chambers. He has taken this utility for **DESKTOP PUBLISHING** released to to Public Domain by Stan Lemke and converted it to the **Larken DOS system** and has also included a host of graphics which have also been turned over to the Public Domain by Steve Spalding.

Also on the disks are Icons. Now my dictionary tells me that icons are "images" from the Greek "eikon". These were originally of a religious nature. *however*, my computer dictionary defines them as symbols appearing on a display that serve as a replacement for typing a command that accomplishes its purpose. Thus a computer user pointing to an ICON with a "mouse" that moves an arrow on the screen avoids typing a command.

So, Icons are little images that you can load into your screen as you use Pixel Print Plus. Or to use the jargon, they are **imported** from a disk as I have just done for this paragraph.

Here is the same font in BOLD. Back to Times font. The permutations and combinations are virtually endless.

There is also a collection of borders that can be used to frame a section of text.

Here are two more borders:

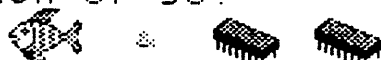
Borders are really fonts and each side and corner has a specific character to be pressed to put each element on the screen.

So each border can be tailored to size and to suit your particular needs. There are three separate collections of borders to choose from.

In the frames above, after I had loaded the small letters, I had to adjust the Kern. I never heard of this word before but it means the space between each character. Pixel Print Plus lets you do that.

I've barely touched on the features of this Desk Top Publishing program; if this is something that interests you, ask to borrow the three disk set. It'll keep you at your keyboard for hours.

To end this column, I'll load in an icon or so:



That's right: Fish and Chips!

Bob Mitchell Willowdale Ont.

This fella is the mascot of Ray Dyer's TIBB Wizard BBS in Toronto. This BBS supports a Timex-Sinclair message and file area for ZX81, TS2068 and QL users. Recent uploaders include Bob Mitchell, Rene Bruneau, Me and the Boisvert brothers of **BYTE POWER MAGAZINE**. So get on that modem and start up and downloading! The number is: (416) 743-6703 and runs 24 hours a day. Hope to see you there! J.T.

UPDATE Magazine

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the Z88, the TS2068
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GOT IT? GET IT!

(Original article from ZX Computing for the Spectrum, adapted for the ZX81)

This is a small machine code routine that can be added to the Extended Hi-Rez Basic Core program developed by Fred Nachbaur and Gregory Harder for the ZX81/TS1000 with static RAM in the 8-16K block of memory. The routine resides in a REM statement that is placed between the Hi-Rez Core program and your Basic program.

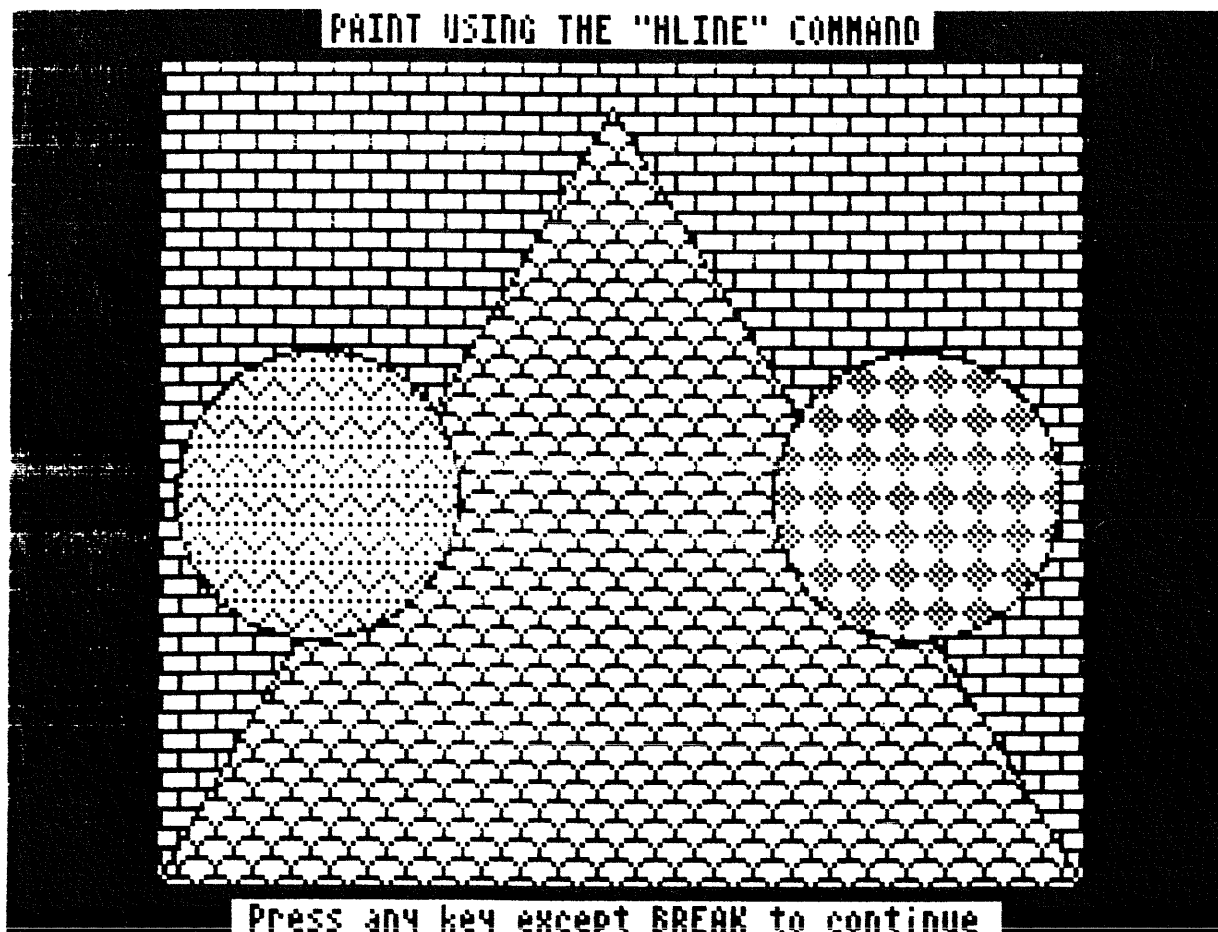
The machine code is not relocateable (that is, it has fixed addresses and calls) and therefore the 64 column and fast load routines (line 2 & 3) must remain. If time permits we will see if the m/c can be made relocateable or provide a loader program to do the relocation.

Start by entering a Line 4 REM statement with at least 160 bytes in it. Check that the REM statement is in the correct address by PEEKing address 21023. You should read a value of 234 which stands for the character "REM". Use a hex loader and input data from addresses 21024 to 21173.

The m/c is called by RAND USR 21098 from within your program or you can BREAK and call it up directly.

The program as shown is configured for the Smith-Corona Fastext 80 and Tasman interface but is easily set up for any dot-matrix printer that allows graphics printing.

Graphic set-up codes are located in addresses 21139 to 21146. Please refer to Fred Nachbaur's "Universal Printer Driver" program and Stan Lemke's series of articles on bit image graphics for more info.



TORONTO TIMEX-SINCLAIR USERS CLUB
August 23, 1987

14 Richome Court
Scarborough, Ont.
M1K 2Y1

Les Cottrell
108 River Heights Drive
Cocoa, FL 32922

Dear Les,

Received your letter a couple of days ago. Thank you for the \$21 for membership, and postage. I saw our treasurer yesterday, so I am able to include you membership card with this letter.

You ask about data on the Spectrum ROM. I have a couple of items that will fill the bill. I have the book on the Spectrum ROM, which was written by Dr Logan. The ultimate ROM disassembly!! Now I also happen to have Xerox copy of that manual. I didn't do it myself; I think I loaned the book to a former club member to copy, and I ultimately inherited his Xeroxed copy! I could run off a copy of that if you like (for for about 5 cents a page. There are about 120 xerox sheets.

I see in your letter you refer to Spectrum system variables. Do you really mean that or do you mean the Spectrum ROM. The system variable are essentially the same for both the Spectrum and the 2068 computers.

I am including a copy of the Larken disk library.

Thank you for the large keyboard circuits.

Shall close now,
Sincerely,

George Chambers

*P.S. Thank you for the prompt return of the disks. They
have gone out again, already. GFC.*

JUL/AUG 1989

July 11, 1989

Dear Out-Of-Town Members,

I find this writing a newsletter supplement while on trips, etc., to be a bit difficult. Not enough computer stuff comes across my mind to fill up a couple of pages. I think it will have to be a single sheet with some adverts on the reverse side.

The Larken cartridge can hold and bank, switch a Spectrum ROM or other chips such as the OS64 operating system. The modification requires use of a 74HCT32 chip. Odd how hard they are to find. I see them advertised in magazines, but they want you to order, say, \$20 worth of items. The major electronics store here in Toronto does not carry them. Oh, they carry the 74HC32 alright, but that does not seem to be the same thing. Any comments.

When I was in England I saw and bought a small book called the Newnes Computer Engineer's Pocket Book. It's about 4" by 8", and has about 200 pages of fine print. It is a reference book and has a marvellous amount of data on just about every computer hardware and software item you can think of. In it I see a 74HCTLS32N is defined as follows:

- 74 - The most common series of TTL devices.
- HCT - High speed CMOS version (with TTL-compatible inputs).
- LS - Low power Schottky.
- 32 - Quad 2-input OR.
- N - Plastic Dual-in-line (DIL) package

The book says the HC is the same except it has CMOS-compatible inputs.

Computer Engineer's Pocket Book by Michael Tooley. Published by Heinemann Professional Publishing Ltd., 22 Bedford Square, London, WC1B 3HH. It was published in 1987, so it is up-to-date. It cost me 9 Pounds. (Made me pause for a moment, before I shelled out the money!, but it is very good.)

When I got back from England I found 20 letters from club members, awaiting my attention! Most of them in response to items in the previous newsletter. I managed to get them all off before I went on a 5-day camp with Scout cubs. Pretty busy there, you can believe. I had 20 boys ages 7 1/2 to 9 in hard-roof-and-floor tents. Well, I'm now recovering from a bit of poison ivy, and going on a week trip to Montreal in a couple of days. Luckily there have only been a few letters come in this week!

As a followup to the Stan Lemke PIXEL PRINT PLUS software that I mentioned in the last letter, Steve Spalding has sent me a copy of several software programs he has written and been selling, which tie in with PPP. Steve has released these into the public domain, and I shall be placing them into our tape library and into the Larken disk library. The programs consist essentially of Icons and Mastheads to be used with the PPP programs.

When I looked through this issue of the newsletter I was puzzled by LINE 20 of the listing on page 3. I called Bob Mitchell to see if it was an error. No, it was not an error, just a bit of elegant Larken programming. I said to Bob, "It may be elegant,

but it is also obscure, and maybe you should explain it a little more fully". He will, next issue, I'm sure. But for now I'll just say that it makes use of the Larken double-POKE facility. Look in your Larken v3 LKDOS manual, and look under the heading EXTENDED BASIC COMMANDS for PRINT #4: POKE a,b for an explanation.

How many of you have seen the game Technician Ted? While the game is loading, the screen is occupied with about 6 small figures walking at different speeds, back and forth across the screen. There is also a countdown clock. It always puzzled me how this could be. Well, the way it is done is explained in one of the current Spectrum magazines. Seems that in the loading code in the ROM there is a very short pause interval that comes up every few micro-seconds. What the programmer did was to do an Interrupt at that point, jump to a bit of code that moved the onscreen figures, then jump back into the Load routine before the pause interval had expired. This in-and-out interrupt routine would continue until the game was loaded.

Bill Harmer has sent me another revised copy of his ZX81 Larken manual. It is now about 65 pages long. I can send you a copy if you care to critique it for input to Bill for the final draft. Otherwise, I suggest that I hold off filling requests from Larken ZX81 users until the final version is out.

The Larken utility that I wrote, "tapsav.B1" is designed to copy a disk to tape. I found that the way it was constructed exercised the drive unduly. That is, the drive head went back to track 0 for every track that was saved. I decided that this was unnecessary, and that the drive should simply step from track to track without a reference to track 0 each time. I found I had a problem when I tried this. Seems that in the save to tape the drive had time to stop spinning, and when I tried to read the next track I would get track errors. Anyway, to make a long story short I found that I could get the drives to start spinning by using the command OUT 16, 148. So I inserted this command along with a PAUSE 10, and now things are working as they should.

This ties in with the short piece in the newsletter about the Larken library, and using tapes instead of disks. I shall proceed slowly with this.

I shall take a crack at Richard Hurd's ODDBALL program on Libr. Disk #3 later, since it suffers from the same excessive drive activity.

Incidentally Richard says in a letter to me that the CDC quad drives mentioned in the last newsletter have some sort of a reputation for unreliability. So be aware.

We have a pretty good newsletter this issue, don't you think? It comes about because members are writing for it. Do keep it up!!

Am I up-to-date with all club members requests? I think I am. If you don't agree, do let me know. Things do slip down the crack, sometimes, and I'll never know about it if you don't mention it (again and again, if necessary!).

Sincerely George Chambers



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SOFTWARE? - Currently, there are utilities for interactive and auto transfer of SCREEN\$ to the 1520, for making banners & calendars, plotting deas incl. fractals, & a patch kit allowing CHScript V5/5.2 files to be printed and/or plotted on the 1520. The software is priced @ \$8.95 (post paid) each and comes with complete user notes.

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====> See TIME DESIGNS 4/2 & S.W.N. 5/4 for reviews. (<====
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TORONTO TIMEX-SINCLAIR USERS CLUB

June 24, 1989

14 Richome Court
Scarborough, Ont.
M1K 2Y1

Les Cottrell
108 River Heights Drive
Cocoa, FL 32922

Dear Les,

Recieved your letter when I got back from vacation, along with 20 other letters! Thanks for the return of games tape "A", the DUTCHMAN map, and your program catalog.

I am sending you a version 3 EPROM. (See below for explanation). Also I enclose a copy of the games tape "F".

I have not enclosed a copy of PIXELPRINT PLUS, partly becasue it will not pack well in this letter. But also because another club member, Steve Spalding, tells me that he is releasing into the public domain some programming he has written which consists of related icons for the program. He is going to send them to me in a few weeks. So I shall be redoing that library disk to include that material as well. Ask for it again, just in case that I lose sight of your request.

I made up my copy of the DUTCHMANS MINE map the evening that I sent it to you, so I am not at all sure that I recorded all the subtleties. I think that now I would not find it so hard to convert as I did back then in my beginning days. One tip that I cam across just a few days ago which seems like a good idea is to keep track of GOSUB originating lines. Reserve a variable for the purpose, then at each GOSUB enter the statement "LET (your variable) = (the line number of that particular GOSUB)". Then at any point when you want the address of the last GOSUB you ask for the value of the variable. (This seems good enough to put into the newsletter!)

I am sending you a spare v3 EPROM. Use it until you get the yours from Larry Kenny. Then RETURN IT PROMPTLY to me so that I can send it to another member who is in the same position as you, waiting for one from Larken. I just received it back from another club member. The chip is a spare; it was an early version of the v3 EPROM that was sent to Bob Mitchell and myself to try out. It has a small programming bug in it which will not give any trouble. It defaults to a printer line length of 65 instead of 64. Thus, with Tasword II it messes up the printout. The solution is to enter manually, PRINT USR 100: POKE 16090,63. Then it will print out 64 column lines. Do this only if the need arises. Most of the time it is not necessary.

*you already
sent me one!*

Now to address some points in your letter:

Glad that you were able to make the changes to your copy of the index program. I think that what I wrote to you about it will

LERM TCG
Tape "A"
" 46 *

OMNI 2
Tape 48
" 51

also make a good article for the newsletter!

You ask how I make tape copies. Well, if I am making up my MASTER tape, I use a proper copying program. My favorite is PIRATE 7B, however I have a collection of about 10 copy programs. Which one I use depends on the program I am trying to copy. Some of the programs have very tricky (copy protection) loaders and I have to use a copier called LERM, or OMNI, or TF COPY, etc. From the MASTER I then make copies simply using two tape recorders and a dubbing cord from Radio Shack.

Recently, from the ZX APPEAL newsletter I came across a tape copier written by Chris Boisvert (of BYTEPOWER magazine) which uses the computer as an intermediary, much like Larry Kenny's program. This one by Chris does seem to be much superior. He claims it will make a copy that is better than a poor original. That may be so. But I have found that it cannot recognise Spectrum programs where the SAVE is in double speed.

I'm glad that you are going to get the RAMDISK kit from Larry Kenny. It is a great item. I think that we have not uncovered all the different ways that it could be used. It is a tricky kit to put together, though. Some very careful soldering is necessary. Another club member has written to say that he got his to run properly on the first go. Maybe because Larry Kenny said to him that it was unlikely that he would succeed in the first attempt!! This club member mentioned that he paid \$24 per SRAM chip. HORRORS!!

In working up the GRAPHICS disk, I did as you suggested and went through the library, pulling out everything that had a graphics connotations. Quite a lot of stuff there.

Well, I shall close this off now and get on to the next letter! You seem to be current in the postage department (you asked).

Sincerely,

George Chambers