MEMORY MAP

ROUTINES

T/SNUG Information

We wish to support the following platforms : ZX-80/81, TS-1000, Spectrum, TS-2068, Z88 and QL. If you have any questions about any of these fine Sinclairs, contact the:

Chairman
Chief Motivator
Donald S. Lambert (ISTUG)

Vice-Chairmen

Tape & JLO PD Library
D. G. Smith
415 Stone St.
Johnstown, PA 15906
814 535-6998

Z88 Library
Dave Bennett (HATSUG)
1275 Timber View Dr.
Mechanicsburg, PA 17055-9146
717 732-4374

ZX-81 PD Tape Library
Ed Snow
2136 Churchill Downs Cir.
Orlando, FL 32825
407 380-5124

RMG Enterprises
Rod Gowen (CCATS)
14784 S. Quail Grove Cir.
Oregon City, OR 97045
503 655-7484   FAX 503 655-4116

TS-2068
Rod Humphreys (VSUG)
10984 Collins Pl.
Delta, BC V4C 7E6 Canada
604 583-2819

QL PD Library
John Donaldson (CATUG)
835 Foxwood Cir.
Geneva, IL 60134-1631
630 232-6147

AERCO & Z80 Emulator
Keith Watson
41634 Amberly Dr.
Mt. Clemens, MI 48038

BBS --==GATOR==--
Bob Swoger (CATUG)
613 Parkside Cir.
Streamwood, IL 60107-1647
630 837-7957 Work 847 576-8068
Any of the above can also be reached by e-mail through the **MMCC BBS 847 632-5558**

ZXir QLive ALive!

Is the newsletter of T/SNUG, the Timex/Sinclair North American User Groups, providing news and software support to the T/S community in a **VOLUME** of four newsletters per year; beginning with the Spring (March) issue.

> **T/SNUG's main goal is to preserve and encourage the use of Sinclair computers by providing an open forum for the exchange of knowledge, building and maintaining of software libraries. Providing vendors, repair service and members with free ad space.**

It is the user groups and individual subscribers, rather than the vendors, that provide the pecuniary support for this newsletter. Vendors and developers receive this newsletter free of charge, though contribution from vendors and user groups is gratefully accepted. Please support our vendors and service providers whenever possible.

If you have a problem or you have solved a problem, please share it with the rest of us. No problem will be considered unimportant.

Editor/Treasurer
LarKen PD Library

You can keep T/SNUG alive by an annual contribution of $12 for one **VOLUME** made payable to Abed Kahale. Send check to:-

ABED KAHALE
3343 S FLAT ROCK CT
SIERRA VISTA AZ 85635-6874
520 378-3424
Back copies are available for $0.75 each postpaid.

Trea$ury Note$

As of September 10, 1997, we have a balance of $833.29

Article Contributions

Send in your articles by tape or disk and your inputs to:—
DONALD S LAMBERT
1301 KIBLINGER PL
AUBURN IN 46706-3010
Phone 219 925-1372
By hardcopy, MSDOS or modem (.3-28.8) to:
Abed Kahale
E-mail: AKahale@compuserve.com

GATOR's
TWISTED PAIR

To better inform the Sinclair Community, four 24-hour a day BBSs are now provided to serve you. You are encouraged to exchange mail and use the files sections of these boards. Bulletins and ads are available to all.

Q-Box BBS   810 254-9878
Utica, Michigan
SCC Sever   Jose Moreno
http://members.tripod.com/~helpme/
SOL BBS   520 882-0388
Tucson, Arizona
MMCC BBS   847 632-5558
Arlington Heights, Illinois

If you know the Internet E-Mail address of a Sinclair user, but do not have access to Internet, simply address your E-Mail to GATOR Sinclair on the 24-hour **MMCC BBS** and include the name and E-Mail address of the user you wish to reach. Then check the MMCC BBS from time to time if you expect a reply.

We encourage you to exchange mail and contribute to the UPLOAD section. Call and *register* using your first, last name and phone number along with a password you won't forget. *Write It Down!* Do not try to do anything else at this time.

When you call-in the next time, you will have Level 5 security and be able to enjoy full user privileges. The BBS has smaller sections called conferences. Select "J " for "Join a Conference". Select "TIMEX" to get into the Sinclair Section. The mail you then read will only be from other T/S users. Use extension .ART for articles, .ADS for ads and .NWS for news when UPLOADing.

For help, contact the SYSOP, Bob Swoger, by leaving a message, mail, E-Mail or phone.
Bob_ Swoger-CENG108@email.mot.com

Input/Output

by Abed Kahale

I have been informed that Jack Dohany was offering a Spectrum ROM which could be installed inside the case of a TS-2068 computer, in such a way that the resident Sinclair ROM would be switch-selectable.

I wrote Jack Dohany, but my letter was never answered. Is this his correct mailing address?

827 Vera Ave
Redwood City, CA 94061

This is the address I have for Jack Dohany. Do you have his E-mail address?

I don't have an E-mail address for Jack.

Another question: Is there a source in America for Spectrum software on cassette tape, usable in TS-2068 computers? I am thinking of such utilities as assemblers, not particularly interested in games.

Seymour Miller
109-14 Ascan Ave 1L
Forest hills, NY 11375
718 544-4508
seymil@delphi.com

I do have the dual ROM with a switch to select either the TS-2068 or Spectrum ROMs. I am afraid this ROM is no longer available.

One solution for you would be to get a Spectrum ROM Game Port plug-in from FWD or RMG. Of course it will work with other than game programs.

The second solution is to get a LarKen Disk System. The LarKen DOS board has a open socket for a ROM. This ROM can be a LarKen Spectrum V2, Dohany corrected Spectrum or Dohany corrected TS-2068. Rod Gowen and Frank Davis may have them all as well as Spectrum software.

... It just keeps getting better!

You and the others responsible for publishing the newsletter continue to do a fantastic job. Many thanks for the professional quality of your work.

Hugh W. Scriven Jr.
Chula Vista, CA

Thank you for the kind words, that is what keeps us going.

Sender: Edk4@aol.com

Greetings. I am the former editor of the NESQLUG News and a long-time QL'er.

I am presently the Librarian of NESQLUG, and was reading the recent issue of ZXIR, which arrived today when, just as I got to the most interesting part of Bob Hartung's QPC article - *it disappeared* - arrggghhhh !!!! I hate when that happens .....

I am VERY interested in the QPC, (which Bill Cable is going to demonstrate at our next meeting), and would greatly appreciate your sending me the remainder of that article so that I might share it with the other members. If you could Email it to me, I would be most indebted to you.

Y'all are doing a great job. Keep it up, and keep it going. Thanks.

Ed Kingsley

OOPS!!! *Sorry for the inconvenience I caused you and other members. I didn't catch the mistake till it was too late after I ran all of the copies.*

Pages 19 and 20 are out of order; page 20 is there on the back of page 19.

Glad to hear from you, I wish it was on a more pleasant subject.

Subject: Oops, sorry

That's what I get for trying to think before I've had at least three cups of coffee.

My apologies. I did look thru the issue, but the "Nose is part of the body" filler must have confused me, more than usual.

Thank you for pointing this out without making me feel like an imbicile. I've made a number of such "re-arrangements" in the "NEWS", but nobody ever mentioned them to me. I guess they didn't notice or they didn't read the newsletter. At least you know I read your newsletter - and good it is, too.

Ed Kingsley
Edk4@aol.com

You think our age has something to do with it?!!

Here is a correction from Robert Hartung:-

For any who did a double-take at a line in my first article which stated "similar to what 13I REN users have reported with sons: keyboards . . . ," it was an example of what a text scanning device, OCR (Optical Character Recognition), and a spell-checker can conspire together to do when they get devious. The scanner gets an unclear image of adjoining characters, the OCR decides something in its memory matches that, and by coincidence a new word or character-sequence is created which just happens to be in the spell-checker dictionary. The result is computer-generated text that makes it sound like somebody's sons are up to something!

Anyway, the original phrase was: "similar to what DI REN users have reported with some keyboards. . . ." Also, some critical punctuation marks were dropped in the DO definition command-line, which should have read:

OPEN_NEW #7,KEYS:PRINT #7,"HOT_GO": PRINT #7,"ALTKEY '#',CHR$(92)":PRINT #7, "ALTKEY CHR$(39),CHR$(34)":PRINT #7,"ALTKEY '3', '#'":CLOSE

Dear Abed :

We have noticed, that the use of LYNX to search the net need not require typing http:// in front of every Universal Resource Locator (URL.)

That is, instead of ENTERing

lynx http://cnn.com

in order to access the CNN web site, it is now only necessary to ENTER

lynx cnn.com

and we get the same result!

Now, this is when using lynx *only* and when accessing our Internet Service Provider (ISP), so your results may vary, but it is worth TRYing out, since http:// is difficult for us to constantly have to type in before every URL. !!!!!!!!!!!! K E E P O N T I M E X 'n !!!!!!!!!!!!!!!!!!!!

Abed, if you can, would you please reflect that message back to me?

Please, let your readers know, that use of LYNX to surf the net need not always require those annoying, repeated key strokes of

http://

Also, we do not all have access to the net at only $9.95 per month!!

Does that help?>**Dave Lassov**

Abed ·

Thanks again. We tried installing QPC on my 486 Laptop, Sunday, to see how fast it would run, and 1) It DIDN'T and 2) It messed up my display something terrible. Everything is hi-contrast/lo-resolution and I can't figure out how to get it back the way it was .... Sigh ...

Since Bill Cable is much younger than I am, maybe age didn't play a part in this one (?)

Ed Kingsley

Sorry to hear about the problem with the laptop. The video display driver software must not be compatible with the laptop. I had a similar experience and as a last resort, I delete everything and started from scratch, very aggravating indeed.

One of the many wonderful things about the TS2068 is that there has been so much written to inform the user how to use all the features and capabilities. The manual for it is more informative than manuals I've seen for other brands. The way the memory is mapped makes programming a pleasure. The system ROM is located between 0 to 16383. The rest of space up to 65535 is RAM.

Moving RAMTOP down to hide machine code is done by simply giving the command CLEAR followed by the address of the last byte of RAM you wish the computer to know about.

The TS2068 manual tells us that if we want to display something on the screen, we just POKE something into the RAM space between address 16384 (16 X 1024) and 23296 (16384 + 6912) or print something to one of 768 screen locations.

Because TASWORD II is more like a line editor than a word processor, every character and space displayed on the screen is stored in predictable RAM locations. With the use of HEADER.B1 by Nazir Pashtoon for tape and Disk Doctor by George Chambers we find that the start address for TASWORD documents 33280. This is the address of the first character on the top left most position on the screen.

If we do not enter printer controls into a TASWORD II document, the location of each character printed on paper and screen is easily located in RAM. If we want to see the text just entered into TASWORD II, we know to look for as much as 300 lines of 64 characters per line starting at address 33280 in RAM. Since 300 lines of 64 characters is 19200 bytes (300 * 64), the last character would be at address 52479 (33279 + 19200). The sixth character on the fifth line would be at location 33541 found by:

$$33279 + (4*64) + 6 = 33541$$

The following short program will display the first 10 lines of a TASWORD II document named wpfile.Ct to the screen just as it appeared on the screen when you typed it into TASWORD in the 32 column mode:

```
10 RANDOMIZE USR
100:LOAD
"wpfile.Ct" CODE
33280
20 FOR I=33280 to
(33279+(10*64))
30 PRINT CHR$ PEEK I,
40 NEXT I
```
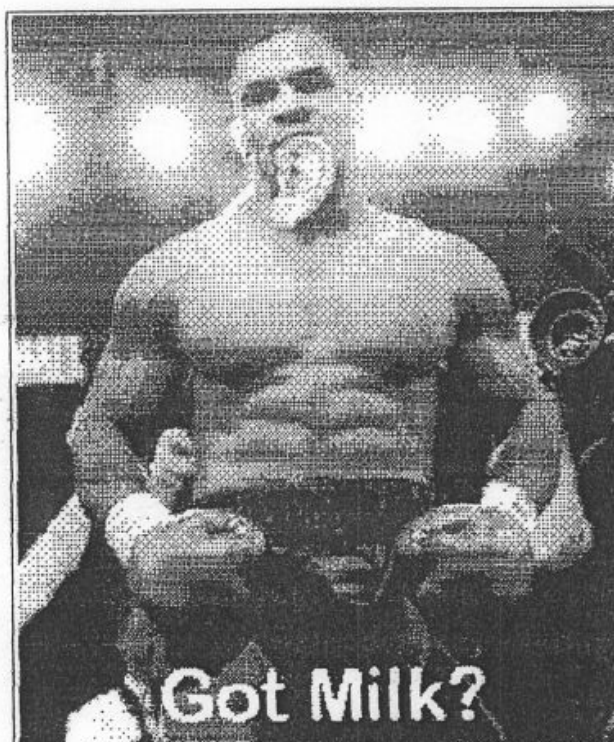
This won't work very well with mscript because MSCRIPT lines are of indeterminate length.

Now suppose you wanted to print out a portion of a VU-CALC spreadsheet to a large printer. Each VU-CALC cell is seven characters wide. There are 50 cells across. The address of the first character in the first cell is 34567. The

Got Milk?

"Friends, Romans and country men, lend me your ear."

𝔚𝔦𝔩𝔩𝔦𝔞𝔪 𝔖𝔥𝔞𝔨𝔢𝔰𝔭𝔢𝔞𝔯𝔢

Willie didn't really mean it, take heart. Oh!! No ..... Not my heart ... you don't.

Editor

address of the last character in the last cell in the first row is (34567 + (50 X 7)) or 34567 + 350. Since there are 50 rows, the last byte in the VU-CALC file is 50 * 350 or 17500 + 34567 or 52067.

As you can see, we can use simple calculations to locate where each byte of a VU-CALC file and each byte of a TASWORD II file resides in RAM. Armed with this knowledge, we can write a program to move VU-CALC cell information directly to a Large Printer or into a TASWORD II file for further formatting.

Since the large printer can print only 10 columns with reasonable left and right margins rather than all 50 columns across the page, VC2LP.B1 asks you to choose the left most column to be printed. It then prints that and the next 9 columns and all 50 rows below.

TASWORD, being capable of 64 characters in a row, allows us to load 9 VU-CALC columns (9 X 7 = 63) into a TASWORD II file using VC2TAS.B1. The added advantage of doing this before printing is that the file can now be modified further for better readability of the spreadsheet. Since many of our spreadsheet applications don't require all nine columns there is usually room to improve the appearance of the printout by moving the columns apart and using complete words for headings rather than being limited to 7 characters.

The two programs, VC2LP.B1 and VC2TAS.B1, are both provided as part of the LogiCall ensemble of programs available from Mechanical Affinity and RMG for $15.

Thanks to Marie Kendall for alerting this author of a bug in an earlier version of VC2LP.B1.

<center>−−== GATOR ==−−</center>

To: Swoger-CENG108 Bob
From: fdavis@iquest.net@INTERNET
Subject: Re: SinclairFEST

Bob, it has been a long time since I have heard from you. I trust all is well.

Carol came through her operation okay and will be back to normal in 3-4 more weeks.

When is your picnic? I have about 13 boexes of TS and QL stuff on its way to me. some of this I would like to take up there. The guys from Michigan told me they wanted to go. any word on the SMUG people? I need to know times and where exactly, so as not to conflict with other events.   Frank

Thanks for reminding me. None of the CATUG group plan to go to Dayton this year. We probably should stay off that date because the SMUG and Q-BOX group and probably you may go to Dayton. Glenside usually has the picnic a week or three after Dayton, August is too uncomfortable. I shall put it to the membership for a solid date. THe stuff your getting, it isn't from RMG, is it? Our best to Carol for a speedy and comfortable recovery.
        Bob_Swoger-CENG108@email.mot.com

Today, we shot off another article for ZQA, entitled TeleCOMM MAIN MENU.

It refers to the menu, the listing of the menu, the CATalog of RAMdisc, and the CATalog of disc drive #3.

Well, the first was printed on the BROTHER M1109 in draft quality ONLY, since the NLQ was interfering with the 2068's second display file. SORRY !!

The other four items are in BOTH NLQ by the M1109 AND images by the 2040, since you can then pick and choose which version of the SCREENS to publish.

But, please, each screen should appear in one form or the other!!

KEEP ON TIMEX'n   Dave
        emanon@azstarnet.com

Dear Abed,

Thanx much to you and Don for going to the trouble of getting my letter to you into the Summer Issue of ZQA. I hope it may help excite some interest among readers who may feel they don't want to invest in the full shot of upgrading to some of the recent developments in QL-ing, like new hardware that enables use of a hard drive, mouse, SVGA monitor, IBM-type KBD, etc.

Some readers may have been puzzled by the line in the article which came out: "... appears similar to what 131 REN users have reported with sons: keyboards. That, of course, should have read: "DI REN ... some keyboards.". I am familiar with quirky things like this that OCR can do with text from a scanner, especially with words the spell-checker fails to catch because they happen to match something else in its dictionary. Sometimes they can be hilarious.

To clarify this line, and also a couple critical punctuation marks that were dropped in the DO file definition, I thought I would start with these corrections and then go on to some other observations about QPC in a follow-up article. A hard copy is enclosed, and a disk file in DOS ASCII format. I also have Windows 95, WordPerfect 7.0, as well as DOS versions of Word 6.0, WordStar 6.0, PFS:Write, and of course QUILL in DOS and QDOS, if you can use a file in any of these formats.

<div align="right">Robert Hartung
Huntertown, IN</div>

Dear Abed :

Just mailed you another short article for inclusion in the next issue of ZQA.

It is entitled SEQUENTIAL PARAGRAPHS and refers to **both** the TeleComm Main Menu and the Word Processor Main Menu. Also, it mentions some lines from its listing.

Last week, we sent you two versions of the TeleComm Main Menu, and next week we'll send you two versions of the Word Processor Main Menu. So, this week, we sent only two versions of a short listing for SeqPar.B6 ......

I send two versions of these listings, **both** large printer and small printer, in order to offer you more flexibility in the formatting effort for the magazine.

So, next week's article on the Word Processor Main Menu should complete my article submissions for this summer's issue of ZXir QLive Alive!

KEEP ON TIMEX'n⟹>>>>>Dave

LarKen Graphic Adventure Games for the Spectrum

The following are the Spectrum graphic adventures I have downloaded from the Internet and think are worth sharing with anyone interested in this type of game:

KINGKP.BN Kings Keep - The little walking character can switch directions when jumping. Must recharge "burnt wand" to solve adventure. (Only one I have solved.) 4 stars!

SPLBND.BN Spell Bound - Third Magic Knight. Has instructions and looks promising. 4 stars!

STORMB.BN Stormbringer - Fourth Magic Knight. Has instructions and looks promising. 4 stars!

KNHTYM.BN Knight-Tyme - Second Magic Knight has new character and looks similar to Kings Keep. Still a touch of arcade but has instructions and looks promising. 3 stars

ARTHUR.BN Arthur - The view is as you would see it. Simple graphics, a little slow, but a true graphic adventure. 3 stars.

MEGABK.BN Megabucks - Walking character type. Shows map (73 rooms) after failure which should be helpful. 2 stars.

FRSKPS.BN Finders Keepers - First Magic Knight - more arcade style than others in this series. Comes with instructions. Many objects to dodge (not my thing). 1 star

I will share these with any readers interested. Specify 5¼ 400K or 3½ 840K disk. Some others will be added to fill out bigger disks. (If you want 5¼ 840K, send a formatted disk.) Contact:

Les Cottrell
108 River Heights Drive
Cocoa, FL 32922-6630
JACOTTRELL@JUNO.COM

Dear Abed :

Just mailed you another short article for inclusion in the next issue of ZQA.

It is entitled Sequencial Paragraphs and refers to BOTH the TeleCom Main Menu AND the Word Processor Main Menu. Also, it mentions some lines from its listing.

Last week, we sent you two versions of the TeleCOMM Main Menu, and next week we'll send you two versions of the Word Processor Main Menu. So, this week, we sent only two versions of a short listing for SeqPar.B6

I send two versions of these listings, BOTH large printer AND small printer, in order to offer you more flexibility in the formatting effort for the magazine.

So, next week's article on the Word Processor Main Menu should complete my article submissions for this summer's issue of ZIR QLive Alive

KEEP ON TIMEX 'n═>>>>>Dave

Dear Abed,

In re-reading the last message I sent you on disk and hard copy, I thought perhaps there might be need for clarification on the use of compressed media with QPC files. The users manual emphasizes that the QPC program itself must not be installed in a compressed partition or drive. If you decide to use this material, perhaps this clarification should be inserted as in the second paragraph below.

The first REM line is where a ZIP drive would be activated if you have one. Mine is the parallel port Epson version made by Iomega, for which this line call its universal GUEST driver, which is in the d:\EPSON directory. If you are using a removable hard drive that auto-installs on system start-up, then include the appropriate lines to do this in CONFIG.SYS and AUTOEXEC.BAT.

If you have Stacker 4.0 installed on your system hard drive, be sure to include its DEVICE command in CONFIG.SYS, the necessary check-lines at the start of AUTOEXEC.BAT, and include d:\STACKER in the PATH line. Note that, while QL programs find their data may be stored in a Stacker-compressed partition., QPC itself must be installed in a non-compressed drive partition

A Stacker-compressed disk or cartridge may also be activated independently by using the command in the second REM line, where d: is the drive-name for the medium with a Stacker Anywhere file.

If no Stacker Anywhere file exists on the current cartridge, Then QPC will install normally, with access to the WINn cartridge if there is one. However, the batch file processing will halt if Stacker Anywhere activation occurs, so QPC -R -W:n -P:1 must then be keyed in manually. Interestingly, after QPC emulation is terminated and EXIT is entered to end Stacker Anywhere, the batch file will try to start QPC again. It stops harmlessly with an error report.

With best regards,

Bob Hartung
2416 N. County Line Rd.
Huntertown, IN 46748

How To Download Document Files From The SOL BBS

TS2068 users have noted the problem of downloading files from the SOL BBS in Tucson Arizona. I have found a way to get

downloads of the files. The problem is that MaxCom will not send the final block of the file if a FULL last block of data isn't there to send. XMODEM routines are supposed to fill out the last block with CONTROL Z's as fillers for the last block. MaxCom's routine doesn't do this. I remember that other TS2068 XMODEM routines of the past also had this problem and the men of Canada fixed them.

As the receiving computer is still waiting for the last block to store and therefore know when to store the file and exit the XMODEM routine properly, the receiving end times out and erases the file as the files is presumed to be corrupt.

When you are waiting for the last block to be sent, (and you realize it won't be coming) turn off the TS2068. Use Chambers Disk Doctor to examine the disk you were writing to. Follow the instructions for disk doctor to restore the file. You will now be able to read the whole file save the last block.

Does anyone out there have a fix for MaxCom's problem at the MaxCom end? Until then, maybe those document files could be filled out with some character at the end to be long enough for MaxCom to send the last block.

Bob Swoger-CENG108@email.mot.com

Abed,

I found this while surfing the Net the other day. I thought that

ZEBRA

had gone out of business.

A few die-hard ZX-81ers may want to try their hands at building a ZX-81 kit. $40 seems a little steep, but the kit is pretty much impossible to get anywhere else.

Tim Swenson
Fremont, CA
[See the Unclassified Ads]

We have had some cool weather again. Of course that is what it is going to be very shortly......

This is the big weekend for Auburn with the ACD FESTIVAL (*Antique / Classic cars*). The Kruse auction grounds is getting filled up with vehicles and people. We go past it an our trips to Ft. Wayne so we see that action.

Auburn is the only city that I know of where I can easily get run over by a car older than I am.

Timex/Sinclair Still Lives.

Sinclairly yours,

Donald S. Lambert

Sinclair E-Mail List

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Washington, Barry	mf0002@epfl2.epflbalto.org
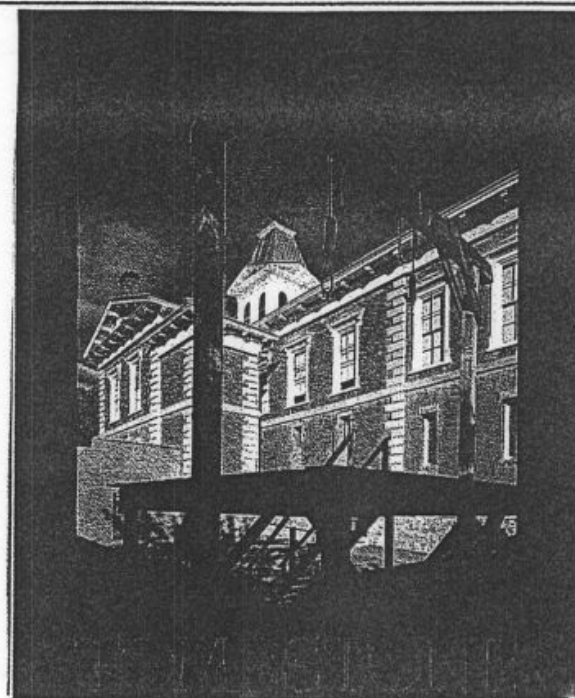
FROM THE CHAIRMAN'S DISK 🖬

Donald S. Lambert

The older you get the faster time flies by; this has been an unusual summer. The month of July had a low of 38 to a high of 98 and then Saturday August 16th was a late afternoon storm with 2 inches of rain in an hour and a half and a total of 4.3 inches in about 7 hours. No problems at my house but there were quite a few with water in their basements.

Monday evening Masako, my non-technical wife, got uptight thinking the VCR had died when it failed to run a borrowed tape recorded in Japan. What Had happened was that the batteries in the remote control had become exhausted. I got it going with the controls on the front of the VCR. I then checked an AAA battery I had and while it wasn't a new one it still had some voltage left. I used it with the battery with the highest voltage and it worked until I bought two new AAA batteries for the remote control. The Japanese run their TV programs differently. For the most part they will run all the advertisements for the program in one block of time. Another is that the soap operas only run for one year and then they start a new story line.

All my moaning about what to store in the EPROMs for the Z88 was solved when I was at a garage sale last weekend. There were these plastic boxes with a black foam insert for a nickel each, the boxes will hold two EPROMs and the foam cut to keep the EPROMs from sliding around in the box. I think that the boxes that are used to store trading (*business*) cards are about the right size to hold two EPROMs stacked on the other. That would be neater and cleaner to transport the EPROMs or to store them on a shelf.

It is summertime and there has been little activity with the T/S in my household. Between honey-do projects and the trips to shop for Masako's trip to Japan in September, I had less time to play with my T/S stuff. Of course I did do some things with the Z88 and the power requirements. I did take a look at some of the stuff stored in the garage which generated the list of stuff I have to get out of the garage and the house.

About Masako's trip to her home land: It is surprising how much can be saved by changing departure dates. By going 15 days later, a savings of $365 is made. Of course the travel agents and the airlines will not tell you these things but if you know you can get the information.

I have harped about there being no stepping stone to get started in computing like the T/S computers but the little board computer called STAMP just might be one. But it looks like the programming is too much like IBM. Microsoft is trying to get all the market, there is no easy way to get started with IBM.

How long will the T/S computers be used? Well, if the automobiles are an indication it is possible for them to be in use by a very few a hundred years from now. This is automobile country and specifically those made in Indiana. On the streets here you occasionally see a Model T Ford being driven. So if you are working with a T/S computer and feel maybe that you are alone, yes maybe so but not that alone! It is just that a lot are not advertising their presence. For some of us it is just a matter of the T/S computers doing what we want them to do and not wanting to LEARN a new operating system and/or paying out that much money for the new system. So I plan to keep on with my trusty TS-2068 for as long as I can. 0/0

Z88 Revisited
by Donald Lambert

Once again my Z88 with the internal RAM installed came up with BAT LOW. But the other one still had batteries that did not come up with the BAT LOW. Was there something wrong with the computer or was it because I might have used batteries with less life left And how much current did the Z88 draw under normal use? I had questions and no answers.

So I built a break out box so that I could put meters on the current and the voltage. So after visualizing the break out box I found a little box to mount the connectors on and went to Radio Shack. By the time I got the breakout box built I realized that was only half the answer. On the internal battery/power supply how would I measure the battery voltage and current draw to get the difference between the operating mode and the sleep mode? And that was a puzzle, at first I thought of a metal strip taped to the batteries to get the leads out of the computer but then that would only allow the voltage to be measured. So I came up with an idea and I took a smaller diameter dowel and made a battery emulator connector.

I carefully measured the length of four AA batteries and subtracted the amount the solder lug and flat head screw would take up and cut the dowel and then made one more cut in the middle. I then wound masking tape around the dowel near the end that was the contact end until it was slightly less in diameter than an AA battery. When I mounted the solder lug and the wire to bring the contacts outside the computer I then cut a grove in the masking tape to seat the wire in and put a turn of Scotch tape around the masking tape and the wire to hold in place. At the end of the two wires on the outside is a jack to plug in a power supply or battery box with a standard Z88 type plug. To keep the polarity correct I used **red** for positive and **black** for negative for ground.

I had a HeathKit training unit that had a variable ±15 volts DC so I had an easy way to get the proper

voltages. I had my newly purchased digital multimeter to monitor the voltages. I used an analog multimeter set for milliampers to read the current drawn by the Z88 under test.

On the Z88 with the internal 528K RAM and no internal batteries and using the HeathKit to supply the power by way of the battery compartment (internal batteries) I set the HeathKit power supply to as near 6 Volts as I could. First I checked the current draw and with the computer turned on the current draw was 80 MA. But in the sleep mode it was .8 MA. So back to the computer on mode and I slowly decreased the input voltage until the BAT LOW came on at 4.40 volts.

I next checked the external battery jack and with the power supply set for 6 volts it drew 100 MA when turned on and .5 MA in the sleep mode. The BAT LOW came on at 5.10 volts.

So next I installed batteries internally and their unloaded voltage was 6.19 volts and I applied 7.5 volts DC through the external jack and the computer drew 50 MA from that and stopped supplying current at 5.87 volts. I found four batteries that gave a total of 5.01 volts and with the external jack supplying 6 Volts the current draw from the external jack was 90 MA, it stopped supplying current when the external battery voltage reached 4.85 volts.

I have one other Z88 and it is set up with 128K RAMPAK and drew 60 MA from the power supply and at 5.2 Volts it reverted back to internal batteries. I suspect that the batteries are an their last legs from that since the other computer with low batteries cut out at 4.85 volts. That is why NiCad batteries do not supply very long running time. A NiCad should supply 1.25 volts right after being charged and they self discharge quite rapidly. In fact in about 20 days they are so far discharged that we would call them discharged. That is why if you use NiCad batteries you should use 6 and get 7.5 volts to start with. I know, I know that they are sold as 7.2 volts when in battery packs but they use the same logic in stating battery voltage as the auto industry does with the lead acid battery in automobiles. That battery fully charged is 6 times 2.2 or 13.2 volts.

I junked out a 2/3 height disk drive in a case. The case and the drive was all one piece. When I got to the bottom of the case there was this battery pack of ten AA NiCad batteries. I don't know how long the batteries had been laying around but they had a little charge left in them. The unit had a power supply requirement of 18 VDC. But I had a Commodore power supply that put out 15VDC without a load. I found the proper polarity and plugged it in and the batteries charged up nicely to almost 13 volts. But since I had heard that NiCad batteries will self discharge I check them every few days and sure

enough after a couple of days the voltage started to drop. It would be far safer for the Z88 to retain data if alkaline dry cells are used and the battery voltage is checked often. One other alternative is to use the RENEWAL batteries by RAY-O-VAC which are rechargeable alkaline batteries and if you don't discharge then too much like only using them for 20% of their life you can recharge them (according to the company literature) for up to 100 times. However, they are more expensive than regular alkaline batteries and they use a special charger that is not cheap. The charge lasts like the shelf life of the battery and that is a long time.

I use AA RENEWAL batteries in our clocks and they seem to last a long time. However, I recharge the batteries every few months so as not to discharge the batteries too much.

On the Z88 the books report that the most current demanding action is when you SAVE to an EPROM. So that is something that I will have to test out and I will report when I do it. While an the subject of EPROMs I have a Z88 EPROM eraser and it is designed to be plugged into 220 VAC. Of course since it was designed for use in the UK they would go with the standard voltage of that country. There several ways to go to 220 volts but the easiest and most expensive is to get a 110 to 220 VAC transformer.

SINCLAIR ZX 81 SPECTRUM

Deutsche

I saw several and Radio Shack has one too but they are heavy and bulky and run from $35.00 to $45.00 each. But there is another way without tearing into the eraser and that is to use two transformers. One to drop the voltage to 12.6 VAC and then connect that output to a transformer that has a 6.3 VAC secondary to the 6.3 volt windings and then the formerly 110 VAC will have 220 VAC. But in prowling the transformers and wall outlet power supplies I found a unit that supplies 18 VAC but the primary is 220 VAC. The other day I found a plug-in deal that supplies 18 VAC and will carry the load of an EPROM eraser then I have that problem solved. I connected them up temporarily and I got 216 VAC on the output. Close enough I think. More later on that.

If you have any suggestions or questions let me know. For my part I have thought of a battery box for the Z88 that includes 5 D cells to give a total voltage of 7.75 with fresh batteries. I have thought of putting a IN4000 diode in series with the power until the voltage drops below 7.2 without the diode if that is a problem with the Z88. BUT! and external battery really needs a means of testing for when the voltage gets below 6 VDC. That way you would never inadvertently deplete the internal batteries. 0/0.

by Al Feng
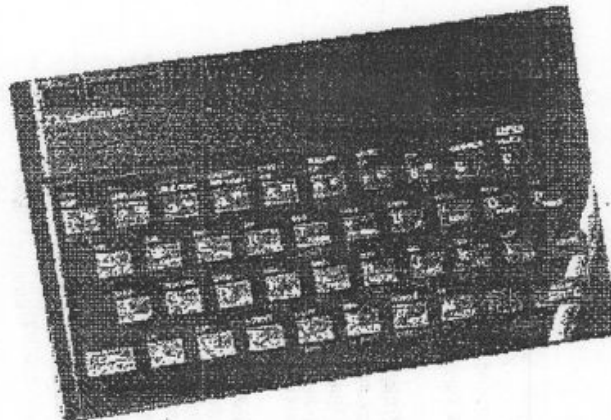
After much kicking and screaming, I reluctantly succumbed to utilizing electronic mail (e-mail). Mind you, this is after years of people giving me their e-mail addresses, asking me if I had one, and then telling me that they would write more often if I had an e-mail address, *et cetera*.

Well, I finally found an occasion while I was at my local branch of the Albuquerque Public Library where e-mail is *verboten* when I wanted to e-mail someone to comment on their *Etruscan* web site. Mind you, I *lost* that e-mail address, and I will have to return to the library to get it sometime in the future ... but, that can wait.

Being from the Chicago-school of Sinclair computing where cheaper is better, when I heard that there was at least one free e-mail service exclusive of other Internet features, I figured that it was the one for me. The first one that I had heard of and the one that I am currently signed up with is JUNO.COM.

Surf's Up

The first thing you have to do to access a free e-mail service is to locate them. This is most easily done by *surfing* the WEB. Of course, if you have WEB access then you probably have e-mail unless you are using a friend's access (their computer), the local library, or whiling-away your hours at a cyber-cafe.

Well, I knew the service was called JUNO.COM, so the presumption was that the Internet address would be the same. It is. Using almost any Web browser (I don't know if QMOSAIC will work, however) you can read the necessary information that tells you that you can either down-load the software for free (I think they estimated a half hour download using a 28.8K modem), or have them send you a disk ($8.82) if you call them at 1-800-378-5866 and give them your credit card number. I'm sure they take checks, but the process is obviously delayed.

Juno would appear to always be releasing upgrades of its software. I do know that the version which I received (1.38) is not the one I read about in May (1.23).

Newer isn't always better. There is an annoying flaw in the version that I received whereby the "dial-up" sequence is apparently corrupted by the "incoming data upgrade." This took me several days to figure out, and I suspect that many people who receive the Juno software never do. What it means is that each time I want to send or receive e-mail I have to re-initialize the dial-up sequence. This only takes a couple of minutes, but it is a nuisance.

Auto-Spam?

While Juno's e-mail service is monetarily free, the price you pay is having ads "tossed" at you in a small window near the upper right hand corner.

This is not visually intrusive, but you will quickly understand why the minimum hardware recommendation is a 486 level PC since the speed of typing in e-mail reminded me of using any Windows-based word processor on my 20MHz 386. There is often a noticeable time lag between keyboard input and screen display.

The problem (?) with the ads is that information about the products is sparse. When you "click here" to find out more, you are given a minimal amount of information about the product and/or an order form. Advertisers would be wise to have an e-mail address so more information could be requested prior to ordering a product. I have not ordered anything, yet, though I have been tempted.

The Pluses ...

I don't know what the standard text editing features are like for CompuServe and AOL users, but I can tell you that Juno's input box (for want of a better term) is actually a pretty good, but limited, word processor. *[So is CompuServe's. Ed.]*

Editing is pretty much like on the few Windows word processors that I have used.

What you cannot do with Juno's "word processor" is indicate fonts or font size. Considering the nature of e-mail, this makes sense to me. What is available is an easy to use Spell Checker which has the facility for a user's dictionary.

E-mail addresses and recipient's names are stored in an easy to use Address Book.

E-mail files can be stored in different, user-named folders or as ".txt" files. Similarly, ".txt" files can be imported into Juno's software (with some limitations).

The Juno software has "help" files; but, I haven't used them other than to try and resolve the "dial-up" problem.

Juno also has on-line, automated Tech help which you can e-mail and request "docs" that may-or-may-not help. This is an automated system and so using it is problematical. I only received one of the several "docs" that I requested ... and finally, gave up and wrote a hard-copy letter indicating my problem and requesting a new copy of the software be sent "without charge" (we'll see) since the one I was sent was flawed.

Requirements

You will need a PC running Windows 3.1 (or, later) and at least a 9600 BAUD modem.

Although I upgraded to a 33.6K BAUD modem, I received an automatic e-mail message on two separate occasions indicating that my transmission was at 2400 BAUD or slower ... and, therefore unprocessed. The two times I received the message occurred after mid-day connections and apparently was the result of poor, local US West transmission which is only capable of a maximum 28.8K rate of transmission when everything is working properly. Check with your local phone company before buying a too-fast modem (i.e., 56.6K).

You will need about 10 Meg. of free space on your

hard drive. I didn't have this back in May; and, I had to wait until I bought a larger hard drive before acquiring-and-installing the software.

Limitations

Apparently, there is a maximum number of e-mail messages you can send or receive in a given period. I am basing this observation on a **Returned Message** which I had attempted to send to "abqplondke@juno.com" (Jeff DeCourtney). I don't know what the limit is or if it is documented somewhere. I do know that I unexpectedly got the "unable to process" message which has previously come with a failed dial-up sequence in the past despite a connection "this" morning. Could I have exceeded my limit in just two weeks?

The speed of your PC may not matter. If you have a great deal of patience, then you can probably get by with a 386 level PC. If you don't want to notice the intrusion of the ads, then you will probably want a 200 MHz 686! I am using a REV(ed)-TO-486 running at a theoretical (?!?) 64 MHz when the wind is blowing from the right direction.

Of course, you cannot e-mail FAXes, nor to that telephone e-mail thing with the current Juno software; and, you cannot use NETSCAPE's software, EUDORA, or anything other than the software Juno provides when accessing **juno.com** (they do want to show you the underwriting ads, after all).

After being auto-SPAMmed, I don't know what the complaint is about SPAMming. Oh sure, the download time is a little longer. And sure, there is the expectation of getting messages from friends or associates which you really want to read. But, with the Juno software it is easy enough to see from whom messages are sent, and messages are easily deleted. I would presume that the same is true with other e-mail software; and so, I (you will remember, I'm the critical one) would have to say that all those PC/MAC users are a bunch of whinny ninnies who pretentiously believe that their time away from game playing or their chat room sessions (which is apparently where SPAMmers pick up most of their "victims'" addresses) is diminished. Give me a break. There is no "real" equation between SPAMming and junk FAXes or tele-marketing calls at dinner time (which is what the poor, delusionally oppressed SPAMmees feel) ... only a very weak analogy.

So, while the jury should probably stay out a little longer, I would hazard to suggest that if you can live with the fore-mentioned limitations and flaws, then JUNO.COM is an acceptable e-mail provider for those who do not already have an Internet service provider or feel a need to go WEB surfing every day.

HAPPY TRAILS,
AND COMPUTING, TO YOU ....

Early Conclusion

by Robert Hartung

For any who did a double-take at a line in my first article which stated "similar to what 13l REN users have reported with sons: keyboards . . . ," it was an example of what a text scanning device, OCR (Optical Character Recognition), and a spell-checker can conspire together to do when they get devious. The scanner gets an unclear image of adjoining characters, the OCR decides something in its memory matches that, and by coincidence a new word or character-sequence is created which just happens to be in the spell-checker dictionary. The result is computer-generated text that makes it sound like somebody's sons are up to something!

Anyway, the original phrase was: "similar to what DI REN users have reported with some keyboards. . . ." Also, some critical punctuation marks were dropped in the DO definition command-line, which should have read:

```
    OPEN_NEW #7,KEYS:PRINT #7, "HOT_GO":
PRINT #7, "ALTKEY'#',CHR$(92)" :PRINT
#7, "ALTKEY CHR$(39), CHR$(34)" :PRINT
#7, "ALTKEY '3','#'":CLOSE
```

A line editor might also be used to create a file with an unnumbered series of commands such as these, although one type of QL editor I tried that has a TSR mode of operation (Terminate and Stay Resident in memory) does not work in QPC for me. Apparently there is a conflict between the memory address it uses and the one required by QPC. Neither can the Toolkit 2 ED be used to directly create a DO file, but it can be used as follows to make a listing of numbered statements which create the above KEYS file when RUN:

```
10 OPEN_NEW #7,KEYS
20 PRINT #7,"HOT_GO"
30 PRINT #7,"ALTKEY '#',CHR$(92)"
40 PRINT #7,"ALTKEY
CHR$(39),CHR$(34)"
50 PRINT #7,"ALTKEY '3','#'"
60 PRINT #7,"LRUN BOOT"
70 CLOSE
```

available o$(n) definitions are shown here as examples, but the actual listing may include definitions in lines 1 through 36 as shown in line 2.

```
    1 CLS: CLS #0: DIM o$(36,14): o$(1)=
"QUILL23"
    2 o$(2)-"XCHANGE"
    3 o$(3)="DOkeys"
   37 FOR j=1 TO 36
   38 AT j-1-18*(j>18),20*(j>18): PRINT
CHR$(j+47+39*(j>10));"=";o$(j)
   39 END FOR j
   40 AT #0,0,0: PRINT #0; " Key: 0-9
or a-z to LOAD"
   41 slc=CODE(INKEY$): AT #0;1,15:
PRINT #0;DATE$; "   ";DAY$:IF slc=0
THEN GO TO 41
   42 sls=slc-47-39*(slc>57)
   43 IF o$(slc)="" THEN RUN
   44 IF o$(slc)="DOkeys" THEN DO
WIN5_KEYS: REMark KEYS in WIN5_
   45 LD$="WIN5_" & o$(slc) & "_BOOT":
LRUN LD$
   46 DEFine PROCedure sv: SAVE
WIN5_BOOT: RUN: END DEFine sv
```

Once your o$ definitions are entered, the above BOOT routine requires only a single keystroke to load the desired program boot routine in the specified directory. Note that the directory names must be exactly the same as those in the o$ array. The boot listing below is the one I use in the XCHANGE directory to load the XCHANGE program:

```
    1 CLS: CLS #2
    2 AT #2,0,0: PRINT "1 - QUILL use
DOC1"
    3 PRINT "2 - QUILL use DOC2"
    4 PRINT "3 - ABAcus use ABA"
    5 PRINT "4 - ARCHIVE use DBF"
    6 PRINT "5 - EASEL use GRF"
    7 n=CODE(INKEY$)-48: IF n<1 OR n>5
THEN GO TO 7
    8 DEV_USE 1,WIN5_DOC1_
    9 DEV_USE 2,WIN5_DOC2_
   10 DEV_USE 3,WIN5_ABA_
   11 DEV_USE 4,WIN5_DBF_
   12 DEV_USE 5,WIN5_GRF_
   13 SELect ON n
   14 =1: DATA_USE WIN5_DOC1_
   15 =2: DATA_USE WIN5_DOC2_
   16 =3: DATA_USE WIN5_ABA_
   17 =4: DATA_USE WIN5_DBF_
   18 =5: DATA_USE WIN5_GRF_
   19 END SELect
   20 PROG_USE WIN5_XCHANGE_
   21 PAR_USE SER
   22 EX "WIN5_XCHANGE_XCHANGE_EXE"
   23 STOP
   24 DEFine PROCedure sv: SAVE
WIN5_XCHANGE_BOOT: END DEFine sv
```

The apparent redundancy of repeating DEV_USE definitions in DATA_USE allows the default data directory to be pre-set, for example, to the primary program of QUILL, while at the same time allowing the WIN5_ABA_ directory to be used for ABACUS by prefixing any data file name with just DEV3_. An alternative would be to key F6 and return to the XCHANGE SET option to change the default data directory. For other BOOT routines that involve a single program, such as QUILL 2.30, DEV1_ and DEV2_ definitions allow selecting as the default either the library directory DOC1_ or the current files directory DOC2_. These definitions remain active after an exit from the program that used them, so doing a RESET is usually advisable. The little sv procedure is included to make it easier to save a copy of the listing while testing it just by typing sv.

CLARIFICATION

If you have Stacker 4.0 installed on your system hard drive, be sure to include its DEVICE command in CONFIG.SYS, the necessary check-lines at the start of AUTOEXEC.BAT, and include d:\STACKER in the PATH line. Note that, while QL programs find their data may be stored in a Stacker-compressed partition., QPC itself must be installed in a non-compressed drive partition.

by Al Feng

The QPC, a 68xxx emulator which runs a version of SMSQ, has certainly captured my imagination; but, some of the general information about it remains vague. Unlike the QXL ISA card which is limited to the on-card, 68040 processor and memory resources, the QPC commandeers the resources of the 486-or-better host PC and the speed of your virtual QL is only limited by the host PC's clock speed (some say that a 386 will suffice; but, the processor's clock speed will undoubtedly be slower). However, what would appear to be missing is a natural NETwork link between a QPC'd computer and earlier QDOS devices.

I don't know if NETworking a QPC has already been discussed in European newsletters such as QUANTA and QL TODAY since I don't subscribe to either. Perhaps, a "commercial" cable is already available. Perhaps the information for NETworking a QPC comes with the software -- perhaps it doesn't. The point is, the information hasn't been made generally available, yet; and, the ability or inability to NETwork a QPC'd computer to existing QLs is a possible limitation of the QPC as an alternative to the QXL or a (SUPER) GOLD CARD for many looking to upgrade.

If you are not interested in NETworking, then the point is moot; but, I feel that the potential to NETwork a QPC to another QDOS device will be important to me if-and-when I eventually get a copy at some point down the road.

If you are concerned with the potential NETworking a QPC, then you might be interested in the following

observations which I have made about the potential of cobbling up your own QPC-to-QL NETwork cable (NOTE: this should also work for SMSQ'd ATARIs which I presume lack a hardware NETwork port).

This Is Only Theoretical ...

Working on the presumption that the QL's NETwork communications is RS-232 based, I took my VOM (Volt Ohm Meter) and started to check for possible continuity between the QL's NETwork ports and my QL's SERial ports.

After less than a minute of "testing" I managed to ascertain that you should be able to connect PIN_1 (signal ground) and PIN_6 (+12V) of a female 9-PIN D-CONNECTOR [or, 25-PIN if your PC's SERial port is so sized] to (apparently) either the tip or stem of a mini-phono plug since there appears to be unimpeded continuity in the QL's NETwork socket.

I haven't made a cable to test this, so I can't tell you if you can be indifferent about whether the tip or stem is hooked up as the signal ground. Of course, you will lose one of your PC's SERial ports to the NETwork, and the speed of communication will be limited to the speed you assign via DOS's MODE command [for example: MODE COM1:96,N,8,,,].

While it should be possible to use the host PC's SERial ports for NETworking, we will have to wait until an actual QPC user fabricates a cable in the aforementioned manner and reports back to all of us.

SMSQ Goats

The 1997 version of the QL GET TOGETHER sponsored by NESQLUG has come and gone and my two complaints against the SMSQ operating system apparently remain unresolved:

1) diminished screen size; and,
2) inability to use the TURBO compiler.

The two problems may never be resolved. If they are "fixed" for the QXL, they will be for the QPC, and vice-versa. Since I have not received an OS upgrade for my QXL since receiving SMSQ v2.76b over half a year ago, I presume the problems persist.

Based on direct correspondence between myself and Stuart Honeyball it would appear that Tony Tebby remains reluctant to correct the two, aforementioned problems. In so many words, I was informed that I could expect the SECOND COMING before any effort was made to correct SMSQ's two glaring flaws that remain.

To Tony Tebby's credit, he did write the DrvLink program which eliminated the apparent high ratio of overhead vs. usable space on WIN()_ partitions.

A Kluge By Any Name

Due to diminishing hard disk space on my host PC, I finally decided to move my QXL card to another PC that I cobbled together from spare (!) parts. The only monitor that I had available was a 15" vertical, monochrome monitor whose approximate vertical height is equal to that of a normal 20" monitor (that is, if you happened to consider a 20" monitor to be "normal").

Using the 15" monitor is a mixed blessing. The 15" monitor has a toggle which allows for either "normal" (but, reduced) ratio so that the viewed display is equivalent to about a 13" monitor or expanded height so that the equivalent would be a 20" monitor; but, the expansion results in a display that resembles a composite monitor with visible scan lines.

When the 15" is toggled to maximize the display height, the resultant SMSQ display is almost the same as viewed on my 14" VGA monitor. The problem is that the characters generated are now only 3/4 the normal width.

In other words, to get an SMSQ display that appears "normal" you will need to acquire a 20" monitor. This means that laptops need not apply for every day QPC emulation at the current time.

Having said that, I have repeatedly heard that a QXL card has been installed in a TOSHIBA laptop and that it was possible to toggle the display between the diminished and a non-diminished size. Until someone sends me the specific details of the observed TOSHIBA phenomenon, I have to presume that the capability is proprietary to the TOSHIBA.

Regardless, the TOSHIBA portables with ISA expansion slots are old, still very expensive and definitely very heavy. I have to presume that the owner of the TOSHIBA-QXL combination either does not read ZQA! or chooses to keep knowledge of how to expand the SMSQ's display to himself. Maybe this can be resolved via QBOX by one of ZQA!'s readers who telecommunicates, and s/he can report back to all of us as to how the keyboard prestidigitation was accomplished on aforementioned TOSHIBA.

For The Record ...

While I am grateful to still be using a QDOS compatible computer, I think that too many QDOS/SMSQ (computer) users (in general?) are too passive (i.e., "grateful" for getting anything new) to complain; and, almost any "bone" will do. If I had known that SMSQ's display would remain crippled, then I would never have gotten a QXL card, and currently that is what is keeping me from buying a copy of the QPC software.

I suppose that if keep complaining about SMSQ long enough then I suppose I should consider migrating permanently to the DOS and (dare I say it?) WINDOWS environment ... after all, QuickBASIC can't be that different from SuperBASIC ...

Happy Trails,
And Computing, To You ...

From Internet to LarKen-2068 *Les Cottrell*

There is a large number of Spectrum programs on the Internet. One site is address ftp://ftp.nvg.unit.no/pub /sinclair I have cataloged over 4000 programs on that site so far. They are in a format that can be read with the Z80 Spectrum Emulator(for the PC) after being decompressed. They are mostly games. I find the adventure games interesting so I have downloaded just over 200 from the adventure category. My all time favorite game is Kings Keep, a graphic adventure. There are over 50 in the graphic category, but so far I have found most to be mislabeled arcade style games. I am about half way through and have only found half a dozen that I would call graphic adventures. The 150 or so text adventures appear to be labeled properly.

Now that I have found a few good ones the next step is to try to move them over to my 2068. At first I thought it might not be possible. Persistence has finally paid off. There may be an easier way, but at least I can now do the job.

First, the file is downloaded from the Internet to PC in compressed format (zipped). Then the file is unzipped as an emulator file with either a .Z80 or **.sna** extension (both are similar to the LarKen NMI snapshot.

The **.sna** files must be loaded into the emulator and then SAVEd in the .Z80 format.

The emulator came with a set of conversion files that will convert .Z80 in to a simulated tape file with a .tap extension. If you have the emulator the file is Z802TAP and is used like a DOS command such as Z802TAP KNIGHTYM.Z80 A:\KNIGHTYM.TAP. Also I discovered that the emulator utilities also contained a conversion file that would save a .tap file straight to tape. This file is TAP2TAPE and the syntax for this example is TAP2TAPE A:\KNIGHTYM.TAP The utility TAP2TAPE needs to be in the same directory as Z80.exe in order to work.

The next step was a hardware project to allow for an old fashioned tape save from the PC. I spent a good while trying to adjust the adapter to save files TO the PC before I realized that it didn't need any adjustment to save files FROM the PC. At this point the PC emulator would save a basic program to tape just like the 2068. The adapter connects to the parallel printer output on the PC with jacks for tape in and out.

After bumbling around with the tape level controls (remember that?) I was able to get a program into the 2068. And of course all that was left was to do a LarKen NMI-save and I had a program I could run on the 2068.

"STRANGE NETWORK!"

A trick for moving files between two 2068s with different disk systems is to do a tape LOAD " " on one computer and a SAVE " " on the other going thru a signal booster. This same trick works going from the PC to the 2068 using the TAP2TAPE utility. So I only have to wait for the tape load routine once as it loads into the 2068. My sons laugh at my strange "network". The biggest difficulty with this process is one of logistics. The PC being used is

made from spare parts and is mounted on the side of my 2068 computer desk. The monitors are side by side on top. The PC keyboard is on a slide out tray just under the 2068 keyboard, and there's the rub. It seems impossible for me to remember which keyboard to use next. ☺

Now that I have accomplished this, how do I make it available to the 2068 community?

I talked to David Lassov about the SOL bulletin board. The number of programs available is larger than the available disk space. He suggested that I send him disks that can be made available on request. I will send disks as they are filled and he can advise users when they are available.
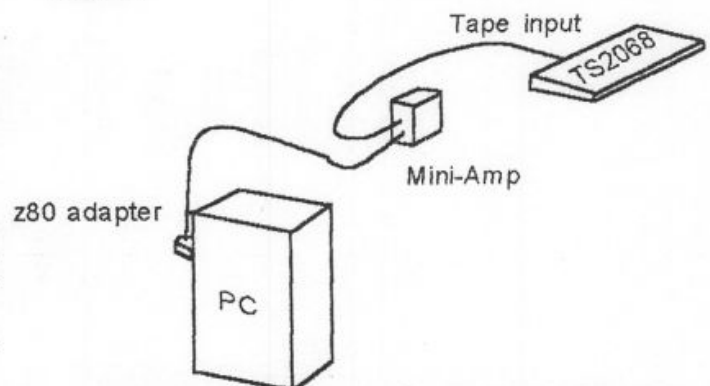
Abed suggested that I send a list to ZXir QLive for publication and offer to send LarKen users programs on request. As soon as a couple of disks are filled, the list will be forwarded to Abed and if anyone is interested they can contact me.

And even if no one else cares I am still having fun with my 2068! jacottrell@juno.com
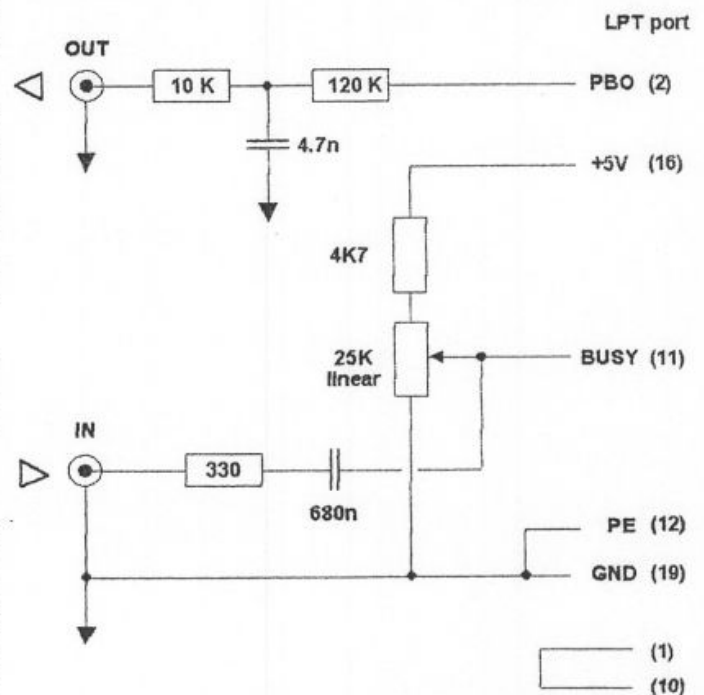
Simple tape adapter for PC's

by David Lassov

Sequential Paragraph

Here we are going to discuss program SeqPar.B6, which SOL BBS uses in order to compose messages, to be uploaded to The Net or to other BBSs.

It is accessed, by a PRESS of "6" at the TeleCom Main Menu or by a **press** of "a" at the Word Processing Main Menu.

We refer to it as "messageWRITER" in the TeleCom menu. But, SeqPar is **really** the heart of Bill Jones' BASIC CODE for implementing sequential paragraph files in Udbm.B6, his suite of **all** data base managers for the 2068.

We have so selected SeqPar.B6 for two reasons:

1. SPEED of textual entry
2. LACK of control codes

As can be seen from the enclosed listing, the 2068 does most of its work inside "cat.Cl", machine **code** at 24355 or rapidly building a character string out of our keyboard entries. Please see line #150! That's why SeqPar is so fast. The only control code, left in the resulting text file, is a CHR$ 13 (ENTER, according to the User Manual.) ENTER is used as a record separator, where the record is a paragraph, in this case, and the paragraph is of variable length and contains sentences.

So. *what's with* sequential paragraph files and SOL BPS, *anyway*?

Well, the software we use is a glorification of Larry Kenny's MaxCom, and it has difficulties, telecommunication with modem equipment and/or software, especially as control codes frequently cause MaxCom to leave its rapid MC for special servicing by slower BASIC **code**.

We have included a simple menu of SeqPar options, **coded inline** so as not to require a separate screen string of perhaps two disc blocks. You can see it as the second command of line 1094. Also, the machine **code**, cal.Cl, is already on RAMDISK for use with the Daisy routines. After all, RAMDISK allows 48 tracks/blocks, **at most**!

```
2467 ON ERR RESET : RANDOMIZE US
R CODE "d": CLOSE #VAL "5": LET
m$="": GO TO VAL "1093"
4000 CLS : GO SUB VAL "520": RAN
DOMIZE USR CODE "d": CAT "", : IN
PUT "Sqp File # to Read ? "; LIN
E z$: BEEP VAL "0.2",VAL "24": I
NPUT "The File will be read into
Chr Files having a single ⊟.A$

    START File # for SAVING ?
"; LINE m$: LET y$=m$+".A$": CL
S : LET z$="Sqp"+z$+".A$ IN ": R
ANDOMIZE USR CODE "d": OPEN #VAL
"5",z$
4002 LET x=CODE "": ON ERR GO TO
VAL "4006": FOR n=1 TO 40000: I
NPUT #5; LINE n$: IF x<LEN n$ TH
EN LET x=LEN n$
4004 NEXT n
4006 ON ERR RESET : DIM h$(VAL "
7",x): RANDOMIZE USR CODE "d": C
LOSE #VAL "5": LET last=CODE "":
LET rn=CODE ""
4008 RANDOMIZE USR CODE "d": OPE
N #VAL "5",z$
4010 ON ERR GO TO VAL "4020": FO
R n=1 TO 7: INPUT #5; LINE h$(n)
: LET rn=rn+1: NEXT n: ON ERR RE
SET
4012 RANDOMIZE USR CODE "d": CLO
SE #VAL "5": PRINT #RND; "SAVING
"; y$: RANDOMIZE USR CODE "d": SA
VE y$ DATA h$(): IF NOT last THE
N LET m$=STR$ (VAL m$+VAL "1"):
LET y$=m$+".A$": RANDOMIZE USR C
ODE "d": OPEN #VAL "5",z$: FOR n
=1 TO rn: INPUT #5; LINE n$: NEX
T n: LET n$="": DIM h$(VAL "7",x
): GO TO VAL "4010"
4015 RANDOMIZE USR CODE "d": CLO
SE #VAL "5": GO TO VAL "1093"
4020 ON ERR RESET : LET last=NOT
last: GO TO (h$(1)<>" ")*VAL "4
012"+(h$(1)=" ")*VAL "4016"
9997 CLS : PRINT #RND; "NEW Progr
am Disc, DD# ? "; : GO SUB 600: R
ETURN
9998 CLS : RANDOMIZE USR CODE "d
": POKE VAL "8200",VAL "8195": L
ET z=USR CODE "n": LET z=INT (VA
L "1"/VAL "2"+LN z/LN VAL "2")-V
AL "1": LET pd=(z AND z<(PI)+((VAL
"4" AND PI<z): GO TO VAL "1092"
9999 CLEAR : GO SUB VAL "9997":
RANDOMIZE USR CODE "d": SAVE "Se
```

The ZX-Team in Ebersberg, Germany
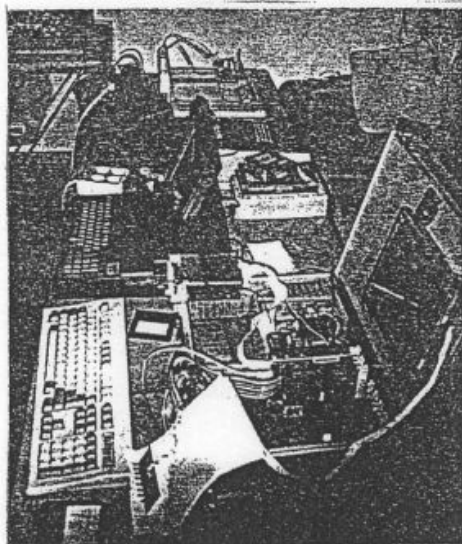
< ZX-81 with the LCD screen among others

ZX-81 running a plotter >

by David Lassov

Speaking with George Chambers has always seemed INSTRUCTIVE to me. Guess it's the facility of the BRITS and the CANUCKS with the Queen's English, that gives them their entertaining TAKE on the concerns of us provincials.

Anyway, considering the prospects of the Timex-Sinclair, Model 2068, always leads George into a diskussion of **menus**. Thus, it seems that, after thoroughly plumbing the depths of the machine's text and graphic capabilities in **both** basic **and** code, serious diskussions of system capabilities resolve themselves into comparisons between different menus.

Of course, George and his Toronto Timex-Sinclair User's Club were **long** in the supply of **outstanding menus**. Compare the TTSUC LarKen Disk Library, available from Abed Kahale, our esteemed Editor/Treasurer.

As an early example of eight-bit computer technology *on a personal scale*, the 2068 is ideal for the manipulation of character strings and word processing. Character strings are convenient for storage and retrieval of text.

Processing of **graphical** data proves to be a problem for the 2068, in terms of **not only** time **but also** space, since it takes only a single byte to specify most characters, whereas 64 pixels are needed to specify the same information **graphically**.

Hence, the utility of Mega-Hertz cycle times, modem

This is our most heavily used menu, since it supports SOL BBS, and SOL BBS is on-line **all the time**. Notice, that a PRESS of "2", "3", "4", or "S" READs one of the versions of MaxCom into the Home Bank from Disk Drive A, as can be seen from line #170 on. MaxCom BBS Software is available from RMG at 503-655-7484.

```
            TeleCom Main Menu
************************************************
    CATlogs        0
    Drives         1
                   2   BBS -- autonomous
                   3   BBS -- clocked
                   4   TERM -- autonomous
                   5   TERM -- clocked
MessageWritter     6
    MSCRIPT        7
                   8   Disk Manager
                   9   Quit COPY
                   a   MOVE ramdisk
                   b   Recover CAT
                   c   Steal disk name
                   d   Create/Chng name
    Set clock      e
```

A **press** of "0" generates a CATalog of any Disk Drive, from #0 to #4 as desired. From line #60 can be seen, that we select the desired drive, by executing the routine at line #1000. Then, line #2000 gives us the CAT.

As can be seen from line #70, a PRESS of "1" generates a NEW of any Disk Drive from #0 to #4, as chosen by the routine at line #1000, again. Of course, any

speeds in the scores of Kilo-BAUDs, and Mega-Bytes of RAM.

Notable exceptions and extensions include Bill McKelvey's fax facility and Stan Lemke's Pixel Print Professional. Pixel Print is on disks by TTSUC entitled L-10, L-28, and L-37. We are almost through with acceptance testing of ASAPfax hardware/software. And, Interbank Data Base by Larry Crawford on Disk #30 by TTSUC is *utterly amazing*. Surely, there are others, but that's about the best, that are available to us, here in Tucson, Arizona. Also, **note well**, that these excellent extensions of 2068 capabilities to **graphical applications** incorporate the RAMDISK for **both** speed **and** storage.

So, *our* menus for spreadsheet/modeling/simulation and for telecommunications are *either* rather static *or* little used.

We bring this up, because **we** wish to diskuss several of our other menus, which have seen **heavy** use during the decade of the 90's.

We have spent **a lot** of time and effort on our Word Processing Menu, several years in fact !! It selects from among Bill Jones' suite of word processors, in support of his Daisy. We *will* return to the Word Processing menu, since much of it has already been considered over the past three years of ZQA! magazine. But, we start with the TeleCOMM Main Menu.

AUTOSTART file on the selected drive is thus automatically LOADed.

TeleCom Menu

A PRESS of "7" LOADs Bob Mitchell's version of Jack Dohany's MSCRIPT, customized and extended for Larry Kenny's DOS. Also included are modifications for Bill McKelvey's ASAPfax facility. So. it's *really loaded!* Disk #51 out of the TTSUC LarKen Disk Library contains several versions of MSCRIPT, ready for LKDOS and available from our esteemed Editor/Treasurer, Abed Kahale.

The best way to get ASAPfax for your 2068 is to contact Bill McKelvey via QBOX BBS at 810-254-9878 or SOL BBS at 520-882-0388.

A PRESS of "8" brings up JFORM by Jack, which enables **convenient** access to his DFM. We thus gain a

```
  10 CLEAR 65535
  20 PAPER 0: BORDER 0: INK 8: C
LS : PRINT PAPER 1; INK 7;"
TeleCOMM  Main Menu        ## #
**************************************
  30 PRINT 'TAB 5; PAPER 2; INK
7;"CATalogs 0"; PAPER 0;TAB 7; P
APER 2;"Drive 1"; PAPER 0'TAB
14; PAPER 3;2,"BBS--autonomous";
 PAPER 0'TAB 14; PAPER 3;3,"BBS-
-clocked"; PAPER 0'TAB 14; PAPER
 3;4,"TERM--autonomous"; PAPER 0
'TAB 14; PAPER 3;5,"TERM--clocke
d"; PAPER 4; INK 8;'"messageWRIT
ER 6"; PAPER 0'TAB 5; PAPER 4;"M
Script 7"; PAPER 0'TAB 14; PAPE
R 5;8,"DISC managers"; PAPER 0'T
AB 14; PAPER 5;9,"quik COPY"; PA
PER 0'TAB 14; PAPER 5;"a","MOVE
ramdisc"; PAPER 0'TAB 14; PAPER
5;"b","recover CAT"; PAPER 0'TAB
 14; PAPER 5;"c","STEAL disc NAM
E"; PAPER 0'TAB 14; PAPER 5;"d",
"CREATE/CHNG NAME"; PAPER 0'TAB
4; PAPER 6;"SET clock e"
  40 PRINT #RND;TAB VAL "10"; FL
ASH SGN PI;"PRESS 0-e"
  50 PAUSE 0: LET a$=INKEY$: RAN
DOMIZE USR CODE "d": GO TO VAL "
4": PAPER 7
  60 IF a$="0" THEN GO SUB VAL "
1000": CLS : GO SUB VAL "2000":
GO TO VAL "20"
  70 IF a$="1" THEN GO SUB VAL "
1000": RANDOMIZE USR CODE "d": N
EW
  80 IF a$="a" THEN RANDOMIZE US
R CODE "d": LOAD "rdbkup.B1"
  90 IF a$="6" THEN RANDOMIZE US
R CODE "d": LOAD "SeqPar.B6"
 100 IF a$="9" THEN RANDOMIZE US
R CODE "d": LOAD "lk2cy.BL"
 110 IF a$="7" THEN RANDOMIZE US
R CODE "d": LOAD "ms5d.BT"
 120 IF a$="8" THEN RANDOMIZE US
R CODE "d": LOAD "JFORM.BL"
 130 IF a$="b" THEN RANDOMIZE US
R CODE "d": LOAD "RECCAT.B1"
 140 IF a$="c" THEN RANDOMIZE US
R CODE "d": LOAD "THIEF.B1"
 150 IF a$="d" THEN RANDOMIZE US
R CODE "d": LOAD "DSKNAM.B1"
 160 IF a$="e" THEN RANDOMIZE US
R CODE "d": LOAD "SETCLK.CD"CODE
: RANDOMIZE USR VAL "64000": GO
TO VAL "20"
 170 RANDOMIZE USR CODE "d": GO
TO PI
 180 IF a$="2" THEN RANDOMIZE US
R CODE "d": LOAD "MaxCOM.BX"
 190 IF a$="3" THEN RANDOMIZE US
R CODE "d": LOAD "MaxCOM.BT"
 200 IF a$="4" THEN RANDOMIZE US
R CODE "d": LOAD "TERMax.BX"
 210 IF a$="5" THEN RANDOMIZE US
R CODE "d": LOAD "TERMax.BT"
 500 GO TO VAL "50"
1000 CLS : PRINT AT VAL "10",VAL
 "8";"Which Drive ??": PRINT #RN
D;AT SGN PI,VAL "4";"PRESS 0, 1,
 2, 3, or 4 !": PAUSE NOT PI: LE
T d=CODE INKEY$-CODE "0": RANDOM
IZE USR CODE "d": GO TO d: RETUR
N
2000 RANDOMIZE USR CODE "d": CAT
 "",: PAUSE NOT PI: RETURN
9998 CLEAR 30000: RANDOMIZE USR
CODE "f": RUN
9999 CLEAR 30000: RANDOMIZE USR
CODE "d": SAVE "Menu.B1" LINE PI
```

vast array of commonly used LKDOS utilities : NAME a disk, FORMAT a disk, CATalog a disk, FULLCAT a disk, BACKUP JFORM, LOAD a file, RENAME a file, ERASE a file, BATCH ERASE, MOVE a file, BATCH MOVE, and BACKUP DFM. You can get JFORM and DFM from RMG at 503-655-7484.

A PRESS of "9" brings up Richard Hurd's lk2cy, for hyperrapid disk copies among drives 0, 1, 2, and 3. Routine lk2cy is up from TTSUC Disk #2 by George Chambers, available from Abed. We note, that hyperrapid disk copy facilities are completed amongst ALL the Disk Drives #0, #1, #2, #3, and #4, by PRESSing "a", as follows:

A PRESS of "a" brings up rdbkup by Richard Hurd, for hyperrapid backup and/or restoring between RAMDISK and Disk Drives #0, #1, #2, or #3. Now, rdbkup is ONLY from Disk #33 by Chambers & Mitchell of the TTSUC LarKen Disk Library, available from Abed.

A PRESS of "b" brings up RECCAT from out of the DUS ensemble of LKDOS utilities by Kris Boisvert. It performs a hyperrapid recovery of a corrupted CATalog, by READing what's still on the rest of the disk. The drives go from #0 to #3, and one can easily corrupt the entire disk, in the case of the attempted recovery of a badly contaminated disk. So, be careful when using RECCAT at the very first sign of CATalog problems! The DUS disk is available from F. W. Computing.

A PRESS of "c" brings on Thief out of DUS, which enables one to COPY the name field of one disk onto that of another disk. This is useful, when the name field is long and the source disk is bad, for but one example.

A PRESS of "d" brings up DSKNAM, another of Kris's routines out of DUS, to permit the modification and/or update of an existing name field on disks in drives from #0 to #3.

Lastly, a PRESS of "e" READs Jack's on-line clock, by LOADing software from RAMDISK. This also permits resetting and/or reformatting the clock. Call Jack Dohany at 415-367-7781, and ask about the Dallas SmartWatch for 2068/Spectrum!

As a tradeoff between speed at the keyboard and limited storage space on RAMDISK, we CODEd the menu image INLINE at lines #20, #30. and #40 along with options #0 and #1 at lines #60 and #70, respectively; we READ options #2, #3, #4, and #5 from Disk Drive A; and. everything else is LOADed from RAMDISK. A review of the CATalogs for RAMDISK and for DD#3 show how the software is stored.

Again, get in touch with Frank Davis for DUS.

TELECOMM PROGRAMS

AUTOSTART	002	LISTfl.B1	001
MaxCOM.BT	004	MaxCOM.BX	004
MaxCOM.C1	002	MaxXXX.BT	004
Maxbbs.C1	002	TERMax.BT	004
TERMax.BX	004	TERMxx.BT	004
SETCLK.CD	001	Comand.CT	001
Files.CT	002	NewUsr.CT	001
NotUsr.CT	001	LogonA.CT	001
ADVA.A$	002	FILES.A$	002
AUTOSTART	002	GENER.A$	002
USER.CT	001	rdbkup.B1	001
Name.CT	001	sysop.A$	002
ms5d.BT	001	ms5d.CT	002
DFM.B2	001	DFMCD.C2	001
email.CT	001	MaxCOM.C1	002
testr.A$	002	Helpme.CT	001
story.A$	002	Header.CT	001
GAMES.CT	003	RECCAT.CL	001
cat.C1	001	lk2cy.BL	001
Hcode.C1	001	JFORM.BL	001
RECCAT.B1	001	THIEF.B1	001
DSKNAM.B1	001	SeqPar.B6	001

```
150 RANDOMIZE USR 24355
158 LET a=PEEK 24314: LET b=PEE
K 24313: LET c=PEEK 23660: LET a
1=PEEK 24311+256*PEEK 24312
160 ON ERR GO TO CODE " DRAW "
164 GO SUB 365
170 IF c=12 THEN GO TO 370
175 IF c=8 THEN GO TO 290
180 IF c=9 THEN GO TO 275
185 IF c=10 THEN GO TO 265
190 IF c=11 THEN GO TO 255
215 IF c=7 THEN GO TO 310
220 IF c=96 THEN GO TO 385
225 IF c=13 THEN GO TO 150
230 IF c<7 OR c=14 THEN GO TO 3
98
235 POKE 23611,220
236 IF PEEK 23611<=220 THEN GO
TO 236
240 LET c=PEEK 23560: POKE 2361
1,220: IF 32<=c AND c<>96 THEN G
O TO 300
250 GO TO 186
252 ON ERR RESET : GO TO 150
255 LET a=a-1: LET a1=a1-32: IF
a<0 THEN LET a=0: IF a1<b THEN
LET a1=b
256 GO TO 301
265 LET a=a+1: LET a1=a1+32: IF
LEN u$<a1+64 THEN BEEP 0.2,14:
RANDOMIZE USR 24355
266 IF 14<=a THEN LET a=14:
267 IF LEN u$<a1-b+1-a*32+481 T
HEN PRINT AT 0,0;u$(a1-b+1-a*32
TO )
268 IF a<14 AND a1-b+1-a*32+480
<LEN u$ THEN PRINT AT 0,0;u$(a1+
1-b-a*32 TO a1+1-b-a*32+480)
269 IF 14<=a AND a1-b+1-a*32+48
0+64<LEN u$ THEN PRINT AT 0,0;u$
(a1+1-b-a*32 TO a1+1-b-a*32+480+
64)
270 GO TO 305
275 LET a1=a1+1: LET b=b+1: IF
b=32 THEN LET b=0: LET a=a+1: IF
a>21 THEN LET a=a-1: LET b=31:
LET a1=a1-1
280 IF LEN u$<a1 THEN LET a1=a1
-1: LET b=b-1: IF b=-1 THEN LET
b=31: LET a=a-1
285 GO TO 305
290 LET b=b-1: LET a1=a1-1: IF
b=-1 THEN LET b=31: LET a=a-1: I
F a=-1 THEN LET b=0: LET a=0: LE
T a1=a1+1
295 GO TO 305
300 PRINT AT a,b;CHR$ c;: LET u
$=u$( TO a1)+CHR$ c+u$(a1+1 TO )
: LET b=b+1: LET a1=a1+1: IF b=3
2 THEN LET b=0: LET a=a+1
301 IF LEN u$<a1-b+1-a*32+481 T
HEN PRINT AT 0,0;u$(a1-b+1-a*32
TO )
302 IF a1-b+1-a*32+480<LEN u$ T
HEN PRINT AT 0,0;u$(a1-b+1-a*32
TO a1-b+1-a*32+480)
305 PRINT AT a,b; OVER 1;"_";:
GO TO CODE " FOR "
310 LET d1=(1 AND d1<=0)+(2 AND
0<d1): LET d2=(a1 AND d1<=1)+(a
1 AND 1<d1): IF d1=2 AND d2<a1 T
HEN LET u$=u$(d2+1 TO d1): LET
u$=u$( TO d2)+u$(a1+2 TO ): LET
d2=0: LET d1=0: LET a4=1: GO TO
390
312 IF d1=2 AND d2<a1 THEN LET
d1=0: LET a4=1: LET d2=0: GO TO
390
335 IF d1=1 THEN PRINT #RND;AT
0,0; INVERSE 1;"Position Cursor
to BLOCK END, Then EDIT": PRIN
T AT a,b; OVER 1; FLASH 1;"_";:
BEEP 0.2,15: GO TO CODE " FOR "
340 IF d1=2 THEN LET z4=1: GO T
O 390
365 PRINT #RND;AT 0,0;"ENTER to
Resume - CAPS+SYM=0, ...
... SYM+SPACE= ... "; RETU
RN
370 PRINT AT a,b-1;"_";:
371 IF 0<a1 THEN LET u$=u$( TO
a1-1)+u$(a1+1 TO ): IF LEN u$<a1
THEN GO TO 150
372 LET b=b-1: LET a1=a1-1: IF
b<0 THEN LET a=a-1: LET b=31: IF
a<0 THEN LET a=0
373 GO TO 301
385 PRINT INVERSE 1; OVER 1;AT
a,b;" "; OVER 0;#RND;AT 0,0;"BL
```

```
OCK INSERT"; INVERSE 0;" <1> To
Insert L$            <2> Ins
ert Typing": PAUSE 0: LET z=CODE
INKEY$-CODE "0": LET a3=z: LET
a4=z: IF a4<1 OR 2<a4 THEN GO TO
386
389 IF a4=1 THEN LET u$=u$( TO
a1)+l$+u$(a1+1 TO )
390 IF a4=1 THEN PRINT #RND;AT
0,0;"
                 ": GO SUB 366: GO TO 301
391 PRINT AT 18,0;"Type the Ins
ert, OR ERASE Quotesand enter St
ring name to insert.": INPUT m$:
LET u$=u$( TO a1)+m$+u$(a1+1 TO
): PRINT AT 18,0;"
                 ": PRINT #RND
;AT 0,0;"
                 ": GO TO 301
392 GO TO 396
393 PRINT #5;u$: LET u$="": PRI
NT AT 20,0;"<1> More TEXT -or- <
2> QUIT": PAUSE 0: LET qs=CODE I
NKEY$-CODE "0": IF qs<1 OR 2<qs
THEN INPUT ;: GO TO 393
394 IF qs=1 THEN GO TO 150
395 RANDOMIZE USR CODE "d": CLO
SE #5: CLS : GO TO 1092
396 GO TO 393
520 CLS : PRINT #RND;"Data Disc
, DD# ? "; GO SUB 600: RETURN
530 RANDOMIZE USR CODE "d": GO
TO pd: RETURN
600 PAUSE CODE "": LET d=CODE I
NKEY$-CODE "0": PRINT #RND;d: RA
NDOMIZE USR CODE "d": GO TO d. R
ETURN
610 PAUSE CODE "": LET z=CODE I
NKEY$-CODE "0": PRINT #RND;z: RE
TURN
1000 RANDOMIZE USR CODE "d": GO
TO VAL "4": RANDOMIZE USR CODE "
d": NEW
1092 INK VAL "0": BORDER VAL "1"
: PAPER VAL "7"
1093 ON ERR RESET : CLS : GO SUB
VAL "530": LET gg=CODE "": LET
ck=CODE "": LET xy=CODE "": LET
cr=CODE ""
1094 CLS : PRINT '"ENTER SEQUENC
IAL PARAGRAPH FILES"''''''"<0>
input/edit"''"<1> view/NOEDIT "
''"<2> QUIT": GO SUB VAL "610":
GO TO (z<VAL "0" OR VAL "2"<z)*V
AL "1094"+(z=VAL "0")*VAL "1096"
+(z=VAL "1")*VAL "2464"+(z=VAL
"2")*VAL "1000"
1096 LET d1=CODE "": LET d2=CODE
"": LET xy=CODE "": RANDOMIZE U
SR CODE "d": LOAD "cat.C1"CODE :
LET u$="": GO SUB VAL "520": RA
NDOMIZE USR CODE "d": CAT "sqp†"
;: INPUT "Sqp F. a s Seq."
LINE s$: LET u$="Sqp"+s$+".A$ OU
T ": RANDOMIZE USR CODE "d": OPE
N #VAL "5",u$: GO TO VAL "150"
2464 GO SUB VAL "520": RANDOMIZE
USR CODE "d": CAT "sqp†";: INPU
T "Sqp F. s e v s"      LINE
w$: CLS : LET u$="Sqp"+w$+".A$ I
N ": RANDOMIZE USR CODE "d": OPE
N #VAL "5",u$: POKE VAL "23692",
CODE "": ON ERR GO TO VAL "2467"
: FOR n=1 TO 40000: LET u$="": I
NPUT #5; LINE u$: PRINT u$'#RND;
"ENTER for more - RECORD to QUIT
": PAUSE CODE "": LET u$=INKEY$
: GO TO (u$=" COPY " OR u$="q")*
VAL "2"+VAL "2465"
2465 PRINT "-------------------
------------------": NEXT n
2467 ON ERR RESET : RANDOMIZE US
R CODE "d": CLOSE #VAL "5": LET
m$="": GO TO VAL "1093"
9997 CLS : PRINT #RND;"NEW Progr
am Disc, DD# ? "; GO SUB 600: R
ETURN
9998 CLS : RANDOMIZE USR CODE "d
": POKE VAL "8200",VAL "8195": L
ET z=USR CODE "n": LET z=INT (VA
L "1"/VAL "2"+LN z/LN VAL "2")-V
AL "1": LET pd=(z AND z<(PI)+(VAL
"4" AND PI<z): GO TO VAL "1092"
9999 CLEAR : GO SUB VAL "9997":
RANDOMIZE USR CODE "d": SAVE "Se
qPar.B6" LINE VAL "9998": GO TO
VAL "9998"
```

Back in the 1980's when Sinclair stopped selling these machines we purchased two lots of close-out inventory. But, as it turns out, we really had no economical way to sell the items till now, with the advent of the Internet. Anyone who has built a **ZX81** kit will tell you of the sense of accomplishment and satisfaction they got from actually assembling a computer from basic components.

$30 Plus $10 for shipping and handling
WARNING!   We Do Not Ship Outside The Us & Canada
Payment Terms
Checks, Money Orders and Visa or Mastercard
Check/Money Order orders must be prepaid and drawn on a US bank. Please allow 5 business days for clearance
Visa and Mastercard
Items are shipped the same day the charge is processed
Credit card orders can be made over the phone. Call 212-675-8414
Make payment out to Zebra Systems, Inc. and mail to:

ZX81 Kits

**Zebra Systems, Inc.
122 W26th St. Suite. 904
New York, NY 10001**
You can also FAX your orders to 212-675-8980
Add $10 shipping for one unit, $5 for each additional unit - Shipping is by UPS ground.
New York State residents must add 8.25% sales tax.
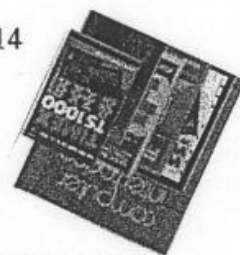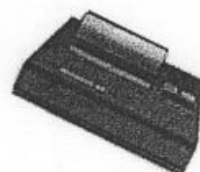
Basics of Timex Sinclair 1500/1000 BASIC
A copy of this book is shipped free with each ZX-81 kit.
Allen Wolach, Separately priced $12.95

BASIC Basics for the Timex/Sinclair 1500/1000
A copy of this book is shipped free with each ZX-81 kit.
Michael Barnett//Simon Barnett, Separately priced $12.95

The Ins and Outs of the Timex TS-1000 & ZX-81
Don Thomasson, $12.95

Computer Interfacing Technique in Science Timex/Sinclair 1500/1000
Paul Field & John Davies, $12.95

ZX-81 BASIC Programming (in Spanish language)
Steve Vickers (Traducido y adaptado) A copy of this book is shipped free for asking if you just pay for additional shipping cost. Separately priced $10

VU-CALC and VU-FILE (The Organizer)
Getting Serious With Your Timex/Sinclair
Pricing will be announced after we sort through the warehouse to determine if we have the software on tape.
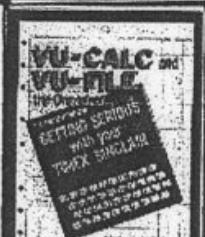
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with 16K RAMPACK for 32K of memory with documentation. Not known if working. One pound shipping weight.

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15.) Disk drive case and power supply with two full height 5.25 40 track disk drives mounted inside. Ten pounds shipping weight.

16.) Disk drive case and power supply with one 5.25 40 track disk drive. Six pounds shipping weight.

17.) Unassembled kits for use on the TS-1000. Oliger expansion board kit; Oliger 64K memory board kit all parts; 2764 EPROM read kit. Also an MRP 64K memory board and dynamic RAM chips. All have docs. Three pounds shipping weight.

18.) Z-Dubber cassette load aid for the TS-1000. AAA battery holders corroded but new battery holders included. Partial kit for a Z-dubber included. One pound shipping weight.

19.) ZX81 16K RAMPAK tested and working! One pound shipping weight.

20.) 2 TS-1016 16K RAMPAKs tested and working. One pound each shipping weight.

21.) PC8300, TS-1000 almost clone computer. Uses TS-1016 RAMPAK and printer. No power supply or cords. Documentation in one manual in Chinese and one in English. has sound chip and different and better cassette SAVE and LOAD than TS-1000. TV display at bottom of memory so as screen changes the location of program changes so machine code is wild. Has both TV and monitor jack. Has joystick port but no docs. Works. Uses 12 volt DC at 1 amp power supply with center postive (caution a TS-2068 power supply is the reverse of that and will zap the computer.) Four pounds shipping weight.

22.) 2 TS-1016 RAMPAKs have the key missing on the connector. May or may not be working. I did have one working on the PC8300. One pound shipping weight.

Donald S. Lambert
1301 KIBLINGER PL
AUBURN IN 46706-3010.

TS-2068 books

1 Technical Manual - Time Designs Magazine
1 The Timex Sinclair 2068 Explored - (Tim Hartnell)
1 T/S 2068 Basics And Beyond - (Sharon Z. Aker)
2 User Manuals - T/S 2068 Personal Color Computer
1 Beginner/Intermediate Guide (Fred Blechman)
1 Intermediate/Advanced Guide (Jeff Mazur)
1 Pro/File 2068 (Thomas B. Woods)

TS-1000 & ZX-81 books

3 User Manuals (1000)
1 T/S 1000/ZX81 User's Handbook (T. Terrell & R. Simpson)
1 ZX81 Basic Book (Robin Norman)
1 1000/ZX81 Basic Book (Robin Norman)
1 ZX81 BASIC Programming (Steven Vickers)
1 ZX81 Programming For Real Applications (Randle Hurley)
1 37 Timex 1000/Sinclair ZX81 Programs For Home, School, Office (Edard Page)
1 Brain Games (John Stephenson)
1 The Explorer's Guide - ZX81 & T/S 1000 (Mike Lord)
1 Mastering Machine Code - T/S 1500/1000 (Toni Baker)
8 QuarTerS - Spring/85 through Winter/86
1 (SQ) Syntax Quarterly Vol.2 #1
28 SUM August/84 thru July/86
2 Sync (Special issue) 1982?

6 Sync Vol.3 #3 through Vol.4 #2
12 Syncware News Vol.2 #1 through Vol.3 #6
1 " " " (Catalog) Vol.1 June/83 thru June/84
6 Syntax Vol.3 #3 and Vol.5 #7 thru #11
17 Time Designs Vol.#3, #6, Vol.2 #1, #5, #6
     Vol.3 #1 Through Vol.4 #6
8 Timex Sinclair User Vol.1 #1 through #7
21 T-S Horizons Issue #1 through #21
28 UPDATE Jan.88 through Oct.94

Hardware

1 TS-2968 computer - Never been used.
1 Amdek (# AMDISK III) dual disk drive.
1 Used TS-2040 printer with 3 extra rolls of paper.
1 Used Zebra FDD disk drive. Good for spare parts.
1 Westridge TS-2050 modem, rarely used.
1 ProScan FX-200, never used.

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