Still Alive With Sir Clive!

# ZXir QLive Alive!

The Timex/Sinclair NorthAmerican User Groups Newsletter

Volume 5 Number 4 Winter '95

Chairman Donald S. Lambert Auburn, IN

# MEMORY MAP

## ROUTINES

ADDRESS

2 Information and Chairmen — Trea$ury Note$
A welcome to our New Members

3 *Input/Output* — by Abed Kahale

6 From The Chairman's Disk — by Donald Lambert

7 Obituaries

## FILES

8 From the Editor

9 PC Power Supply for your QL— by Al Feng

13 QXL Totes — by Al Feng

14 Daisy Be Good V — by David Lassov

15 QHJ FreeWare

16 Annoucing the IKI — by Jack Dohany

17 50 Something — Editor

## SUBROUTINES

18 Unclassified Ads

24 RMG Updates

26 ZQA! 1995 Index

# T/SNUG Information

Here is the list of T/SNUG Chairmen and how to contact them. We wish to support the following SIGs:- ZX-80/81, TS-1000, SPECTRUM, TS-2068, TC-2068, Z88 and QL. If you have any questions about any of these fine machines, contact the:

**Chairman**
Chief Motivator
Donald S. Lambert (ISTUG)

**Vice-Chairmen**

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

**Z88** Library
Dave Bennett (HATSUG)
329 Walton St. Rear
Lemoyne, PA 17045
717 774-7531

**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
708 232-6147

**BBS** — GATOR
Bob Swoger (CATUG)
613 Parkside Cir.
Streawood, IL 60107-1647
708 837-7957 Work 708 576-8068

**Editor/Treasurer**
LarKen PD Library
Abed Kahale (CATUG)
3343 S. Flat Rock Ct.
Sierra Vista, AZ 85635-6874
520 378-3424

## *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 keep our Magazine, our vendors and our repair service alive for the benefit of T/S users.**

These valuable services shall have free advertising space in this user supported Newsletter so that they can see that we are still active out here. We must support their services whenever possible.

Another T/SNUG goal is to unearth titles of all known Public Domain and commercial software available for all Timex/Sinclair machines, building a library and providing lists of that software showing both the source and the availability.

**If you have solved a problem or you have a problem in one of your software or hardware, please share it with the rest of us.**

## TreaSury NoteS

As of January 16, 1996, we have a balance of $1078.26

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

Back Newsletter copies are available for $0.78 each postpaid.

## Article Contributions

Send in your articles by tape or disk and your inputs to:-

DON LAMBERT
ZXir QLive ALive! Newsletter
1301 KIBLINGER PL
AUBURN IN 46706-3010
Phone 219 925-1372

Or by hardcopy or modem (300-14.4) to: Abed Kahale.
103457.2440@compuserve.com

## GATOR's
### TWISTED PAIR

We have a 24 hour **BBS** and encourage you to exchange mail and contribute to the Upload Section. Use it and have fun!! (8N1 300-2400 BAUD)

Call **708 632-5558**

and Register using your first name, last name and phone number along with a password you won't forget, and ***Write It Down!*** Do not try to do anything else this first time because all the board options will be locked-out.

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" to see the different user groups. Select "TIMEX" to get into the Sinclair Section. The mail you then read will only be from other TIMEX Sinclair users but all SIGs share the same bulletins. Use extension .ART for articles, .ADS for ads and .NWS for news when uploading.

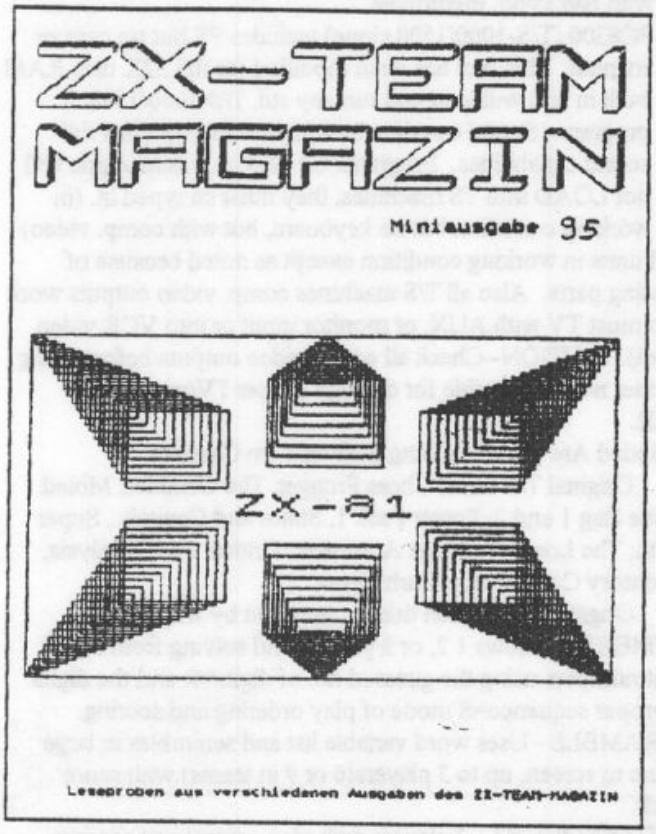
For help, contact the SYSOP by leaving a message, mail, e-mail or phone. Bob Swoger SYSOP --==GATOR==--

## Welcome

Robert Schimke

# Input/Output

by Abed Kahale




Dear Sinclair friends!

In the INTERNET news group comp.sys. sinclair, I found the information, that you are running a SINCLAIR-TIMEX user group.

I am a member of the German ZX-TEAM, the last ZX81 user group in Germany, founded first in 1991!!! We have about 73 members and we edit a bimonthly magazine, the ZX-TEAM-MAGAZIN, 25 issues until today. Our active members are almost *(mostly)* hardware orientated.

Some of our developments are:

- Floppy disk interface (two different solutions)
- Stepper motor control for robotics
- Memory as much as you like, up to one megabyte
- Colour-module from LAMBDA adapted to ZX81
- ZX81-mailbox
- and a lot of smaller projects

**Some of our members are working to develop a hard disk drive and LCD-screen.**

I would like to hear about your doings, do you edit a magazine? Please send information about your work.

## Perhaps we could share information

I enclose a *(reduced copy)* of our ZX-TEAM MAGAZIN. It is in German of course, so you will be able to see what we are doing. The original issue is twice as big (A5) and has 28 pages. Our Dutch member Martin van der Zwan intends to publish translations in his INTERNATIONAL ZX81 MAGAZINE.

I also enclose 2 IRC *(International Response Coupon)* for your answer (I hope it will be enough).

Thank you very much for reading my letter. I look forward to hearing from you.

yours sinclairly 25.09.95

PETER LIEBERT-ADELT
LUETZOWSTRASSE 3
D-38102 BRAUNSCHWEIG
GERMANY

PS: please excuse my bad English, I had to reactivate it for my ZX81 activities 25 years after leaving school.

Amateurradio: DK4BF @ DK∅MAV.#NDS.DEU.EU

e-mail: liebert@gsse.sni.de

Thank you for informing us of your ZX-Team. We both can profit by exchanging magazines.

Please send us your next copy perhaps unreduced. May be one of our members would translate your articles so that we can share information.

*Editor*

Just a note to THANK YOU for your 8/22/95 letter and HELP! I do appreciate both. It's sure a comfort to know that when one gets "hung-up" there's someone out there to help!

For the record I had gone the FDD power supply route some time ago and I replaced the original p.s. with one furnished by RMG, However, the balance of the info got me out of the bind and everything is "up & operating" again. (My Grandson is lost without his 2068 disk drive which I can understand).

So - THANKS AGAIN, ABED!

Fred Henn
Amherst, NY

I have just found out about your Magize throue a Company that sells Sinclair periferals. I would like some information about your Magize sent to my home. I would also like to reseave information on how much your back issues would cost to pershes and such.

I owen a Sinclair ZX81 and a Sinclair QL. I am more interested in the ZX81 though. Please send me all the information possable. Thank you,

JOSE MORENO
1871 N GLADES DR APT 3
NORTH MIAMI BEACH FL 33162

## System-Oriented Languages BBS

This is to announce the opening of Systems-Oriented Language Bulletin Board System. SOL BBS is unique, in its use of the Timex-Sinclair model 2068 as a platform for data communications. When have you EVER seen a complete BBS, run on a 2068 ?? Well, here it is, and it's only a telephone call away !!

As you might expect, the need for prompt response within the constraints of 37000 bytes of FREE memory has led to a few compromises. But, you should be rather comfortable with the system. SOL BBS features a 64 character-per-line messaging system along with time-tagging, if the SYSOP be absent. Otherwise, MaxCom has a fully functional TALK mode for on-line conversations between SYSOP and callers.

The original software, from Ottawa-Hull Timex /Sinclair BBS, has been broken out into three versions of Larry Kenny's MaxCom.

First, TERMax serves as strictly terminal software, which performs some housekeeping duties. Using an outstanding Autodialer to call somebody in TERMINAL mode, the user can SEND and Receive Files or just type in TALK mode. The individual message bases can all be squeezed, using TERMax. Communication parameters are all selectable here; the Clock can be set or reset here; and the Capture Buffer is opened or closed here along with sending text files. Arbitrary text files are VIEWed at the message menu.

For remote operation of the BBS, the NONrelocatable code for setting the clock conflicts with TALK mode. So, the version of MaxCom for unattended use tags all calls with timeON, Elapsed times, and Message Entry Times.

For attended use, MaxCom implements a full-featured TALK mode.

So; please give us a call and see what the 2068 has for the gay 90's. Oh yes, and PLEASE leave the SYSOP a message.

520 884-7667 (Voice)
520 882-0388 (Data)

David Lassov
Tuscon, AZ

## Communication

Hey everyone...

I'm in the current stages of setting up a new sinclair board down here in Florida, and I would like to get some feedback as to what kind of things do you want it to have. Message base topics, types of files, ect. Please e-mail me your comments. Thank's

Well, my Sinclair BBS is now in operation. It's running of a IBM clone. and using tribbs for the BBS program. It's running on a 28.8 baud modem. 24 houers 7 days a week.. I am suporting all the Sinclair machines. Thease are my file eareas.

ZX81 utilitys. ZX81 games. ZX81 applications. ZX81 educational. ZX81 suport text. ZX81 mis. and the same catigorys for all the other machines, the 2068, Spectrum, QL, and the Z88. I sofar only have a few for the ZX81 and 10 megs of games for the Spectrum I downloaded from the Internet and some for the Q.L. I need to find somthing for the Z88 and the 2068. like it sayed its up and running... right now, I sofar have 210Meg h.d. but I'm also including some IBM stuff later so I am going to have to buy a 1 gig h.d. for the board.

Happy new year!!!!!!!!!!!!!!!!!!!!!! and hope to see you on my board some day ! Jose

Oh!! sorry I forgot to tell you the info.. it's called The Sinclair Computer Connection BBS
(305) 945-8274
Sysop: Jose Moreno <----(me)

Hope see you all online soon!!!!!

---

Gentlemen,

I got your names and addresses off a site in Europe and wondered if maybe you might be able to help me. I'm looking for a schematic of the 2068 or at the very least a pinout of the edge connectors. I found one for the Spectrum but I'm guessing that they are dissimilar and would hate to smoke something based on faulty knowledge. If any of you can help I would be forever grateful! Thanx,

Kimmy Posey
kimmyd@bnr.ca or KPosey7382@aol.com

---

I can supply you with the schematic as you request. I own the tecnical manual. I will need a mailing address. The BBS is 708-576-8068 TSgroups are ChicagoAreaTimexUsersGroup @ Timex/SinclairNorthAmericaUserGroups Tnx, ---===GATOR===--- CENG108@email.mot.com or bobs@comm.mot.com

---

Hey thanks! My mailing address is:

Kimmy Posey
3800 Auburn Ch. Rd
Garner NC, 27529

You're a lifesaver!

---

To: Timothy C. @afam Swenson at CYM
Subject: Re: Sinclair
Hello again Mr Swenson,

You asked for more details about the ZX81 program I have written. I'm not sure what sort of details you mean. All I can think of is a description of the requirements and format of the program and a general description. If I've missed out anything send me another message.

The program is **"Masada Class"**. It requires 16k of RAM and so far is only on tape although any way of transferring it to disk would

be appreciated. The program is a game consisting of:-

1) Intro. movie, background story, Masada launch scene.
2) Stages 1 to 6 - Defend earth city from invaders.
-Blast off and cross the asteroid belt.
-Peruse alien cruiser.
-Attack alien galaxy.
-Destroy alien cruiser.
-Attack alien home-world.
3) End movie, alien threat ended, earth saved and a sequel chaser.

If someone wants a copy I would be happy to send it to them. $5 to cover postage and the tape would be appreciated. My address is listed on the signature. It might be easier to transfer the program to disk and put it on one of the bulletin boards so anyone interested can just download a copy. If somebody could send me a method of transferring ZX81 programs to disk I could e-mail the disk version back and save a lot of messing around.

I hope that covers everything. If the worst comes to the worst, I could just mail a tape version to someone who could do the transferal to disk format. After all the spare time it took to program it, a little extra time and expense is no big deal. I look forward to hearing from any interested parties. Cheers

simeon.dwyer@stonebow.otago.ac.nz
SIMEON DWYER
1 ABBOTS HILL RD
ABOTTSFORD
DUNEDIN NEW ZEALAND
ph (03) 4882268

*How about it Ed Snow — ZX-81 Librarian?* *Editor*

Hi. I'm hoping somebody has a schematic, books, and/or possibly even a working Sinclair, **ZX80** or Micro Comp AcroACE computer. Any help is greatly appreciated.

73's Justin NOZZA@NOOBM. #NCKS. KS.USA.NOAM

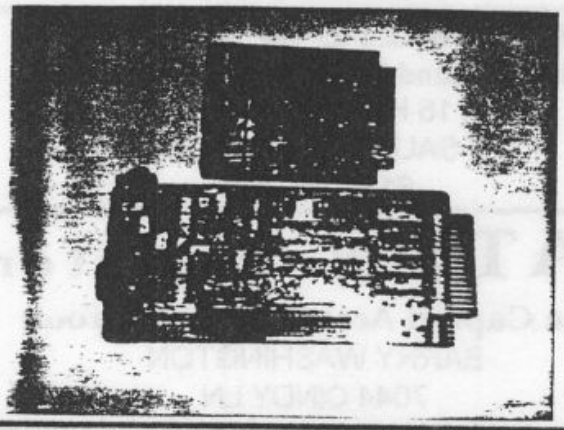
JUSTIN L CLARK
RT 1 BOX 76A
WILSEY, KS 66873

# LarKen Disk Interface

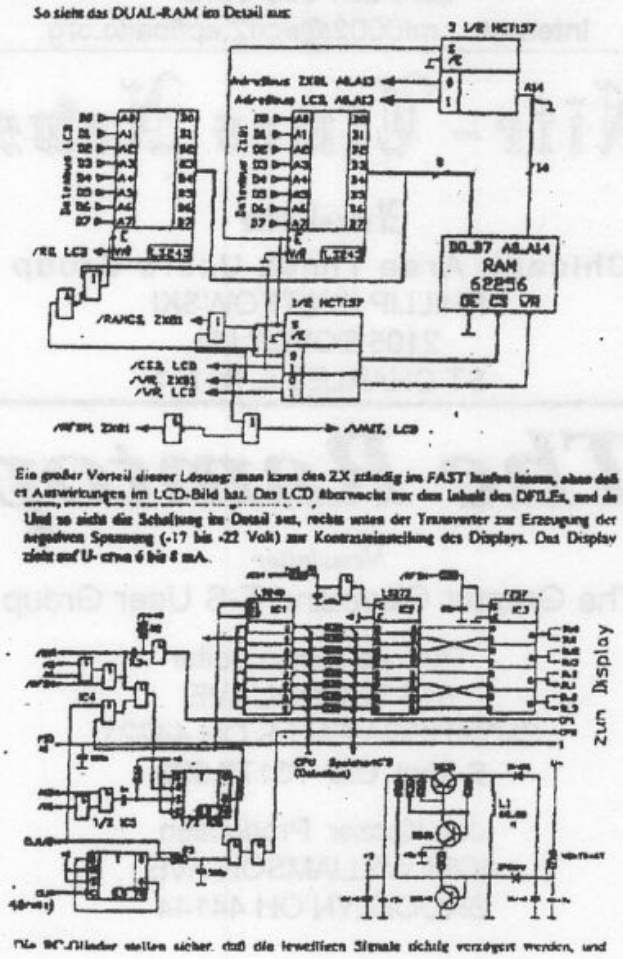
Les Cottrell has successfully built two LarKen disk I/F boards. See his article in October 95 issue of UPDATE! Magazine.

Previously he mailed a LarKen Dock Board to Don Lambert who put it to use without any problems whatsoever.

LES COTTRELL
108 RIVER HEIGHTS DR
COCOA FL 32922-6630



# LCD Screen for your ZX-81




Ein großer Vorteil dieser Lösung: man kann den ZX ständig im FAST laufen lassen, ohne daß es Auswirkungen im LCD-Bild hat. Das LCD überwacht nur den Inhalt des DFILEs, und da

Und so sieht die Schaltung im Detail aus, rechts unten der Transverter zur Erzeugung der negativen Spannung (-17 bis -22 Volt) zur Kontrasteinstellung des Displays. Das Display zieht auf U- etwa 6 bis 8 mA.



Die IC-Bilder stellen sicher, daß die jeweiligen Signale richtig verzögert werden, und

# FROM THE CHAIRMAN'S DISK

*Donald Lambert*

Those using our beloved computers are slowly dwindling away. There are a few that have gotten into the fold but not nearly as many as in the past. But a lot of us are diehards that enjoy the learning, the using of our decidedly limited computers. I. for one, do not want to get a major upgrade into a computer that has all those fancy attachments and bookshelf after bookshelf of manuals to use the software. Who needs all that complexity? Not I.

I noted that Bob in the last issue addressed the subject of disk speed checker. Well, I guess I will have to get it out again and give it yet another try. It is such a short program in BASIC but! then if you do not know programming then you are lost. I did get it to work with the Oliger/LarKen marriage but it will not work with the pure LarKen system. According to the Late Bill Pedersen it has something to do with the OUT command.

**It is Time to Renew for Volume #6**

I went to the Dayton ComputerFest but it was not user friendly to anyone except the MSDOS and the MAC and only then to the faster machines. The single biggest items were the CD-ROMs. I saw very few disk drives that would work on the T/S 2068 and of those few they were in the "I don't know if they will work" category. I did buy a few. And I will have to admit I still have not tested them. There were few venders with used disks and one was offering used 3.5 disks (720K) at a very low price. I bought a tray of them for $8.00 (later an actual count was 144) so I am set for that size for quite a while. In fact I am not yet using that size.

Since we were shuffled of to one side we (T/SNUG) did got a table and SMUG got two tables and that was the entire extent of the T/Sers at the ComputerFest and we were not in our usual spot since that was the food venders eating area (and the only place to smoke) and it was full of heavy smoke. I saw a lot of my old friends but not like in earlier years.

Will I go to Dayton again? I do not know, right now I am not sure. I might go for one day, that is drive down Friday and FEST and return late Saturday. It will depend on who might be there next year. Is it worth the gas, motel, meals and the time? Only time will tells.

But enough of the sob story. Look at the positive and what lays ahead Jack Dohany is still programming and maybe more new and wonderful things will come from him. And there are others that might have something to contribute. There are still those that have just discovered that there is a T/S group and are amazed.

At our house we went through a sort of emergency. It could possibly have lead to a tragedy. Our furnace was workings so far as I could tell, am O. K. But when I went from central air to using heat the furnace blower suddenly was stuck on while the power was applied to the furnace. In fiddling with the controls I managed to loose the pilot light and I could not got it to relight. I finally went two houses away where a man - that worked for the company that installed the furnaces in this area (and they still are building houses in the area) lived and asked him to check what I was doing wrong. In the process he observed that a circuit board on the furnace had apparently went bad but he got the furnace to relight. However, he discovered that the heat exchanger had holes in it and had to be replaced. He did seal the holes temporarily so that we could have heat while we waited for parts or a new furnace. An estimate of parts gave a figure that was quite high a sizable fraction of the cost of a new furnace and then the furnace still could develop another problem. So we put in a new furnace. NOTE! we did not have any noticeable health problems from carbon monoxide but then the furnace was only ran a few times a day. So on October 31st the new one was installed. Our furnace did cost more money than a normal furnace since it is an inverted furnace, that is, it is manufactured for a house with a slab floor. The air enters the top of the furnace and proceeds downward to be heated and exits into and under the poured concrete flooring through the air ducts there. The furnace, of course, makes noise more so than the old one but it works and is safe.

I took a break from this and copied a cartridge to disks, Flight Simulator. I haven't looked to see if this was on cassette but I presume that it was. I wanted to send it to Bob Swoger and he uses the LarKen LKDOS so how did I SAVE it to disks I used the NMI push button save. But with the LarKen there is dock board so that is out. What I did was pull the LarKen dock board - turned off power of course - and with only the Oliger working on my Oliger/LarKen disk system I had the cartridge installed and powered up and there it was on the screen. I then pressed the Oliger NMI SAVE and the disk drive sang a sang and I pressed a number key and there it was on disk. I then powered down and pulled the cartridge and replaced the LarKen dock board and I then powered up and LOADed from disk and then I turned off the Oliger and used the NMI push-button to SAVE to a LarKen disk and after that I changed the name to the LarKen normal naming from the NMI-S1.CM to fltsim.Bl so there it is. I had tried to break the program after SAVEing but it wipes out.

I have a bunch of cassettes for the T/S 2068 that I will try to get onto disk. To do so I will have to do the

DIRectories an paper so that I can compare the programs with other similar programs. If they in fact are the I will only SAVE one to disk. With the Oliger SAFE disks the directory also gives the number of bytes in a program, So if the programs from different sources have the same number of bytes I can assume that they are the same. That is a long term project for me to do.

I had wrote to Nuts and Volts magazine with a question about what size wire to use for the power cable between the power supply and the disk drives with a 5 foot runs I got all kinds of answers and most are in line with what I finally figured from wire tables and the resistance of wire, It looks like #16 gauge wire should be adequate. So I guess that project has no excuse to not go forward. Currently I am using a pair of 67.5 watt power supplies (IBM) to operate four full height disk drive. I have four half height drivers to use some day, I will reserve them for when these drives die or I get more ambition to make a new drive case.

And as soon as I get the interface and the docs from Frank Davis I will be trying to use portable disk drives on my Z88. The drives are TANDY and are obsolete and I asked the local Radio Shack store to play telephone tag to locate me a pair. One came from California and the other from Washington state. I bought the Z88 from Frank at the ComputerFest and have only tested it to see if it worked. When the drive interface arrives I will give it a road test of some sort. The drives use 4 AA batteries for power and have a capacity of 200K. What am I going to use it on? I don't know at the moment. Since I have a parallel printer cable for the Z88 I can print out without UPLOADing to the T/S 2068. Of course I should get a serial port built so that I can upload it to the T/S 2068.

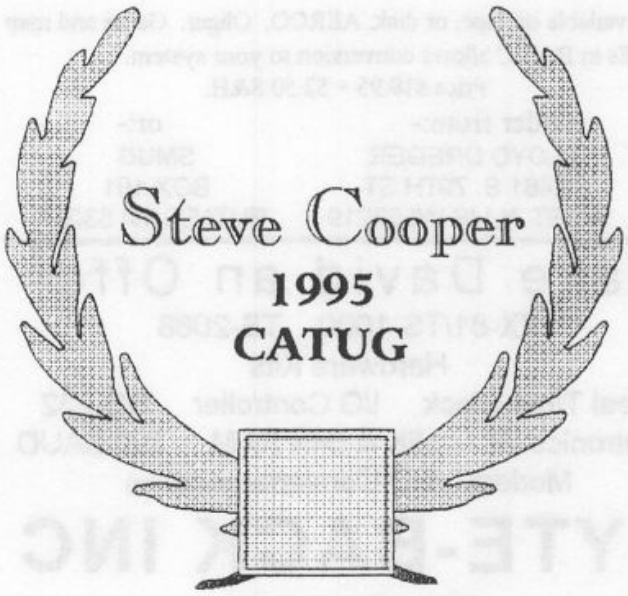
With regards to the plea for help from Fred Henn on the Amdek disk drive case and drives. I so happen to have the Amdek manual which is about the drive case and power supply plus the disk drives themselves. I have no use for it so if I was supplied the postage (it weighs almost a pound and half) I could mail it to Fred Henn. If Fred's address was in the newsletter I would have wrote him direct.

And now with the colder weather here, yesterday the sun shone and the snow came down, but not at the same time. So now that outside walking is out of the question, I have started using the treadmill. Trouble is I cannot really know how far I have gone since I have to take the machine's word for it, 30 minutes and it said I went 1.75 miles. It is boring even I watch/listen to CNN. I will have to get into it with 30 minutes every day or at least several times a week.. This is called body maintenance and regardless it is boring.

I will go to the Allen County HamFest this coming Saturday (November 18th) to see what there is for me in the computer line. I have only one item to look for and that is a 6 VDC power supply to use for the portable disk drive for the Z88. BUT! I will be looking since I do not know what I will see or find.

I was given an Apple IIC computer that does not work. It just produces a herring bone pattern on the monitor and I was told by someone else that is an indication that the video circuit is bad. However, the green screen monitor will work with the T/S 2068. I opened up the computer and the disk drive does not look like a standard drive. So maybe that is out for use on the T/S 2068.

I will now turn this over to the rest of the gang. 0/0



From the Editor

# Better Late Than Never

Due to my relocation after 30 years in the Chicago area to Arizona things got a little mixed up, some material for the Newsletter was miss-routed but I finally received it the first week of January — Happy New Year to you all.

It was quite an experience, I have/had collected a huge amount of items over the years —*I might need it some day*. But when it came to moving some 1800 miles at 45¢ a pound, it was time to get rid of most of it and I did that *with tears in my eyes*. A whole roomful of electronic equipment, parts, test instruments, vacuum tubes, motors, transformers, you name it. *I saved a little though*.. CATUG members were first invited to help themselves and the rest went by the bye.

**It is Time to Renew Membership**

Now that I have been in Sierra Vista for two months, I wonder why I didn't make that move earlier. The weather is beautiful and the air is fresh and clean. The temperature has been between 59 - 78° at high noon and down to 29 - 45° in the wee hours of the morning. It rained once (¼") and snowed once (1½") at night but it melted by 10 AM. About 98% of my neighbors are or were in the service (retirees), ***excuse me, in the military***, at Fort Huachuca, the electronic testing grounds. Very nice, friendly and helpful people. The town was established in 1956, everyone is from somewhere else. I see the snow capped Miller's Peak, 9400ft. from my window. Here is a letter that I mailed to friends and relations two weeks after my arrival; so if you are interested, read on.

## Our Escapade

It was a long trip, 1864 miles in 4 days; we had to be here before the moving van arrives otherwise, I would have been charged for storage and unloading. We left two days after the movers on Nov. 9, to clean house and put junk out for garbage. The hardest part on us and the fully loaded car was between Oklahoma City and Albuquerque, NM. It was all steep hills and dales, about a 100, some of them about 500 ft. up and then 500 ft. down with very strong constant bucking head wind. I let the car coast down as fast as it wanted and then up the hill when it shifted down gears and slowed down to 60 at the top. We arrived after 3 PM, Nov. 15, got the keys and went home to find no electricity and no gas (no heat). I called but couldn't get anyone to do anything before 5 PM. Got candles, put a blanket under and one over and slept on the floor. We brought with us blankets, pillows, suit cases, kitchen utensils, computer, towels, tool box and a cat.

Mad and full with vigor, the next day I was on the phone again. I had to go first to City Hall to get ***ENLISTED***, pay deposits for sewer and garbage and get a *Certificate of Ownership* without which I wouldn't get any services from others. Called the gas company and was told that they will install the meter in 6 days. NO WAY CHARLIE. I went there, asked for the big boss and talked to her. "This afternoon"; she said, after I uttered the magic words; "... ***we even don't have hot water to take a bath.***". The electric company will connect me sometime in the afternoon, they had put a notice on the door 2 days before we arrived that they will turn off the power if I don't get in touch with them. The gas man couldn't turn the gas on because the hot water heater was not connected and had no shut off valve installed. The gas range man could not set up the range without electricity. Back to the electric company—*I want it now!* The furnace guy could not set up the furnace without gas and electricity. That was finally done the next day. Luckily it was in the 40's at night and the house did not get too cold.

The moving van arrived at noon and finished unloading by 5 PM. Now to the unpacking, searching, unpacking and where does it or should it go? Where did I last see that?

Everything in the house is made to comply with the energy saving laws here. The furnace is high efficiency, the tasteless odorless water has flow controls on all faucets even the toilet has a controlled flush, holding the lever down gives a longer flush otherwise it is just a spurt. Outside lights work from light sensors to turn on 40-watt bulbs even the street lights have 300 watts sodium bulbs instead of 500. Well insulated house, storm windows and all, just like Chicago.

The weather is beautiful, 67 to 78° at noon and starts cooling down after sunset to 39° - 49° at night with a continuous gentle breeze. Windows are open all day except when a backhoe is working next door. The humidity has been between 26 and 34%. We feel great but tire easily as we have not got accustomed to the 4600 ft. elevation. No clouds in the blue blue sky except one day when a runaway cloud presented us with a few rain drops. The car gets hot in the sun, A/C during the day and heater at night. The only negative is the yard; I tried to dig to plant; it is like digging in concrete. Not only hard red clay but with lots of stones and rocks thrown in for good measure. It is virgin desert soil never touched by man, no organic matter, no top soil. Water just sits on top of dry soil for hours. A stick of dynamite may be needed to make a hole for every shade tree I plan to plant.

People here live at a slow pace and nothing seems to be urgent except probably going to a fire. The *only* newspaper is delivered at 3 PM and I get the mail at 1 PM. All the people we talked to are very friendly and all are from somewhere else. The postwoman told me she was from Macomb, IL. "Arizona is the place to live"; she said, so did the man at Ace Hardware and the guy across the street who is from Monomenee, Wis. The four neighbors in our court work at the Fort; there is a couple of retirees down the street but most of them are in the military and would like to retire here. Everyone of them offered us help and one of them invited us for Thanksgiving.

Nov. 30, 1995

# PC Power Supply for your QL

by Al Zeng

Some FIXes to the QL's power supply or *additions* to make the QL motherboard more stable are best described as KLUGEs. Since enough time had transpired between when I thought I knew how to read a schematic to the present time when I know I do NOT know how to read one (remember when a schematic was glued to the inside of transistor radios?), and because it seems that I have always lived in places where "odd" electronic components are not readily available over-the-counter, none of the kluges were viable for me. My trouble shooting has degenerated to replacing suspected "defective" part; and, my repairs are limited to what can be ascertained with a Volt-Ohm-Meter (VOM) and fixed with a soldering iron. Nonetheless, I managed to come up with a Four Line wiring scheme which allows you to utilize virtually any PC power supply with your QL motherboard.

## WHAT YOU'LL NEED

My Four Line [ +5 GND -12 +12 ] wiring scheme allows for *proper* power to the SERial ports and microdrives and all (?) attachments to the 64-pin DIN edge connector. In addition to a working QL, to implement this "project" you will need:any PC-type power supply

male & female 4-pin connector
1 "length" of RED wire for +5
1 "length" of BLACK wire for GND
1 "length" of BLUE wire for -12
1 "length" of YELLOW wire for +12
solder (w/flux)
soldering iron (preferably, 15 watts)
snips (finger nail clippers are "okay"!)

I recommend "lengths" of about 12" (or, more) of multi-stranded wire.

As they say [this is a disclaimer], you attempt the described modification at your own risk and neither I nor ZQA! can take responsibility for muffs. The skill level you will need is modest, but you do need to have some previous soldering experience since the space may seem limited if you are not used to soldering on electronic boards. If you don't know how to solder, or your idea of soldering is with a torch on copper pipe, then either don't do this, or find someone who can use a pencil pointed soldering iron.

Since all soldering is done to the bottom of the motherboard, at some point, you will need a Philips head screwdriver to open the QL case and remove the motherboard. Again, if you have trepidation, then DON'T do it.

Look at the diagrams. All four diagrams are representative views of the back edge of a QL motherboard. For clarity, the majority of the diagrams have been rendered simply as lines, with the relevant portion a closer representation. The enlarged darkened dot is the suggested point on the motherboard to solder the particular colored wire.

Do not begin this project until you have compared the bottom of the motherboard with the diagrams and have a good sense of what is represented.

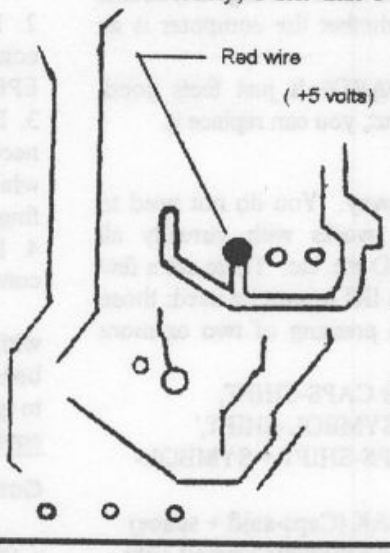
## WHY I DID IT

The first time my QL went *dead* I was obviously perplexed. Several months of use had familiarized me with the fact that the position of the QL's case behind the microdrives would always get *warm* when running, and mine was *stone cold*. After deciding to void the very limited warranty, I opened the case and confirmed that the 7805 voltage regulator to which the heat sink was attached was dead by replacing it with a new one and having my QL come back to life.

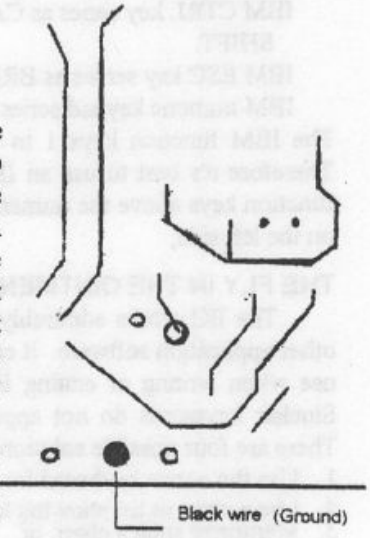
Time passed, and after replacing the 7805 for the umpteenth time, I knew I had to come up with an alternative power supply. It seemed that all the "standard" power supplies which were available provided three voltages ( +12 +5 -12 ). Because the output for QL power supply is AC, the QL Service Manual that I bought was of little assistance to me. Time for the VOM.

## WHAT I DID

Obviously, I felt that I needed to come up with a simple Four Line wiring scheme which only depended on the available voltages from a standard power supply.



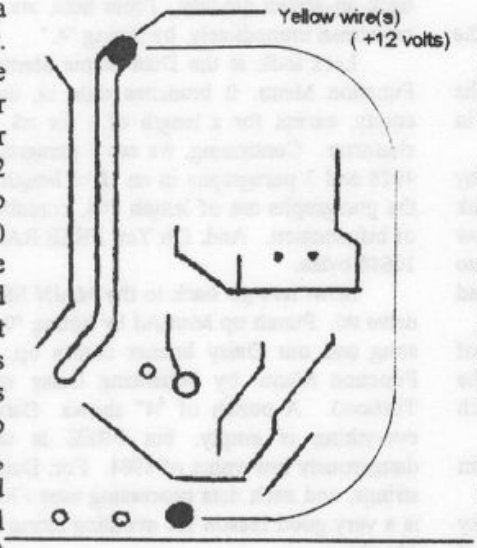

Beginning at the point that I knew the best, I soldered a RED wire (+5 volts) to the trace that the 7805 voltage regulator output was connected. Use the flux to tip the ends of the four wires before attaching them to the motherboard -- that is, strip about a quarter-inch from the ends of the wire, dip them in flux, add heat them from the soldering iron, then apply a light coat of solder. Snip ends so that about 1/16" of wire remains exposed before soldering to the motherboard.




I did consult the QL Service Manual to confirm that the middle pin on the power

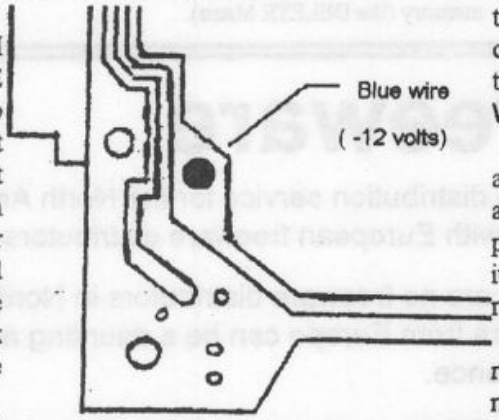
connector socket was the ground, and soldered a BLACK wire to it. This is a tight space, and perhaps other points on the motherboard could be used.

Using the QL Users Guide and a VOM I found the pin closest the QL's power connector socket which corresponded to the +12 volt pin on the 64-pin expansion connector and soldered a YELLOW wire to it. Since this was not the input pin on the power connector, I later decided to also feed +12 volts to that pin to provide (stepped down) voltage for the microdrives and whatever else does not use "standard" voltages (after all, the QL's circuitry was designed to deal with +15 volts, wasn't it?). Do you need to add the additional jumper? I really don't know. I can say that whether or not my logic was correct, the microdrives seem to operate as before (whatever that means!).




Wiring the -12 volt line was a bit perplexing to me. The first time, I soldered the BLUE wire onto the output pin of the small transistor (like triode(?)) which generates the -12 volts from the AC input. This was (is!) a *very tight* space, and I don't think I did a clean soldering job since operation of the Serial ports seemed problematic.

HMMMmmm. Eventually, I soldered a BLUE wire (-12 volts) to the largest (trapezoidal) point near the 64-pin edge connector which connected to the long trace nearest to the back edge of the motherboard behind the Serial ports (see diagram). The Serial ports work with this arrangement.




## SOME OF THE CHOICES I MADE

I happened to use the "standard" 4-pin Molex connector that is commonly used for disk drives since that was what I had.

The wire color sequence I used is: RED - BLACK - BLUE - YELLOW. Note that the wire colors "match" except for the -12 volt line.

This may be (is probably!) a bad choice if you are color blind (I am not); but, I presume that if you were to mistakenly plug your QL motherboard into a "standard" 4-pin Molex that there would be no harm since the -12 VOLT line would simply be "looking at" a GROUND line. However, if you plug in a modified power supply line to a drive, you might have a problem with the -12 Volts (minimal as it is) being where a GROUND line should be! I really don't know.

To minimize confusion, I Braided the four lines attached to the QL motherboard and the Molex plug; and also, I Braided the power supply lines its Molex socket, too.

To further ensure visual differentiation, I Twisted the "regular" power supply output lines which supply power the drives.

Regardless, match the sequence (voltage and color) of the lines from the power supply with those of used on the motherboard. If the power supply you are using does not have leads, then solder matching colored wires to the appropriate terminals (i.e., RED to +5, BLACK to Ground, and so on) and BRAID.

Although the wire COLOR and Voltage output seems to have been standardized to what I have described, don't make that presumption if you are not using a "new" power supply & case. For example, older Leading Edge power supplies used a proprietary color scheme; so, don't presume anything. If-or-when in doubt, check with a VOM, or have a friend who knows how to use a VOM check your power supply's output. If you don't know what a VOM is, or how to use one, ask someone in your users group.

If you feel you have successfully wired your QL's motherboard, and attached the power supply's output lines to a matching socket, then before you re-attach the various accessories to your re-wired QL motherboard you should test the motherboard with only a monitor attached just in case you have muffed the wiring. If your bare QL works, then it should work with all its accessories attached, too.

## WHY EVERY QL USER SHOULD CONSIDER THIS

It should be noted for those who have read this far and do not think that it is necessarily worth the effort of avoiding their standard, QL power supply that there is a probable cause and effect that I will suggest which makes it paramount for anyone still using the standard keyboard matrix (old or new) to consider the modification.

Some time ago, I had concluded that one of the reasons that the QL's keyboard matrices fail is *not* necessarily because SRL was trying to save a hay-penny, but because of the proximity of the matrix tails to the heat sink (where the matrices tend to fail). That is, simply, that the material is prematurely aged by the heat.

Having said that, the caveat is that handling a fragile (i.e., "old") matrix might make it fail; so, this is best done with caution unless you are already in the process of installing a new matrix.

Okay, so you're up to the project. You can wire your QL before you have a specific power supply in hand.

You should note that there are a lot of "salvage" power supplies available. I've tried doing this with a lot of really strange stuff (i.e., I "wasted" a lot of money on odd-ball power supplies while trying to save money) and Dan

Elliott has successfully wired a COLECO power supply to many QLs.

Dan's UPDATE! article came too late for me, but just as well since the wiring he described employed a multitude of lines coming from a modified COLECO power supply to some cryptically described "pins" on the QL motherboard. Well, at some point, I actually got a chance to lay my baby-blues on Dan's handiwork. HMMMmmm.. I learned that my confusion in following Dan's article was a result of trying to use the QL Service Manual as a guide rather than just scanning an actual motherboard. I also learned what Roy Barber (QUANTA) had meant when he once remarked about engineers tending to use only one color of wire!

The lesson: Do yourself a favor and use different colored wire for different voltage values.

Multi-stranded, colored wire is available from auto supply stores or can often be found in the automotive section of some national hardware stores. Desperation forced me to use some Blue Krylon for my -12 volt line -- it works.

**QPlane**

The QPlane is a fold-over type backplane with three buffered connectors; and, my recollection is that the original QPlane, or a close cousin, was available several years ago without the AT compatible power connectors. Learning that the QPlane now comes with P8 & P9 power connectors which correspond to an AT-type power supply finally peaked my curiosity enough that I bought one even though I probably won't use one until I manage to find a "used" (under $250), Super Gold Card.

The QPlane may not be the answer for everyone who wants to use a PC-type power supply. While a Super Gold Card does not need to be modified to take advantage of the QPlane's power connectors, modifications are necessary when used in tandem with either a Trump or standard Gold Card disk interface. Call me crazy, but in a worse case scenario I would rather have to replace a QL motherboard than a disk interface.

Another QPlane observation I want to make for those who are not familiar with IBM compatible PC hardware is that PC & AT power supplies (to my knowledge) are not wired the same. I "forget" what the precise difference is, but after physically modifying my sister's first generation IBM PC case to accept an AT motherboard, the motherboard didn't work when I plugged the power supply into it! The problem was apparently in the power connector output lines being sequenced differently than that of an AT power supply. Since I didn't have any reference material with me to put the power lines in the proper sequence, I re-installed the original PC motherboard back into the case (and, of course it worked); and yes, the AT motherboard did work when it was plugged back into an AT power supply.

I cannot say that your QL equipment will successfully survive having

a QPlane plugged into a "regular" PC power supply. When in doubt, check line voltages.

**DO IT YOURSELF FOLD-OVER**

Part of the downside of the QPlane is the additional cost created by the "extra" two connectors which you probably won't need. The extra connectors are a throw-back to when some expansion cards did not have Thru-Ports. Of course, the alternative to "store-bought" is to make one yourself.

Over a half dozen years ago, after much trial-and-error ("gnashing of teeth" is probably a better description), I can say that a fold-over type board should be relatively easy to cobble up; but, it requires acquiring the necessary parts (connectors, perf board, tinned wire, solder, soldering iron); and, knowing the easiest way to fabricate it.

Initially, I tried the "original" Foldover board (Adman Services) which failed miserably (for me) for a couple of reasons -- the primary being my tardiness in ordering (my issues of QUANTA came about a month after they apparently were received in the UK), thus receiving the last one (literally) on the shelf which unfortunately had some broken traces that necessitated hand wiring some of the connections. HEW. Apparently, during soldering at least one other trace must have broken (they were very, VERY thin), or I had an undetectable solder splash. Regardless, I just could never get it to work despite extensive continuity checks.

Okay, so I pulled the connectors, and decided to hand wire a "clean" piece of perforated board (Radio Shack). Well, I made the mistake of following the lead set by the single-sided, printed circuit of the Foldover board, and tried to hand wire the 64 (x2) pins on the same side. Let me just say that using insulated, wire-wrap wire it got very crowded in a hurry. In the end, my "first" home-made fold-over board didn't work either; but, I keep it around as a reminder of what not to do.

In a flash of this-is-really-obvious-in-retrospect, I determined that the key to successfully hand wiring and soldering a fold-over board is to use both sides of the perf board. Really. Double-sided soldering can be done with the end result being physically quite stable.

So, all you need to do is to take the first connector and straighten the "lower" row of pins (or, bend the "upper" row) so they can be inserted into an appropriately spaced piece of perforated board. If you do the same for the other connector, you will find that if properly bent/straightened and inserted into the perf board, the bent pins will be pointed toward one another on one side of the perf board and the straight rows will be accessible on the other. I allowed for nine "rows" between connectors. The QPlane's first connector appears to be similarly spaced.

Of course, you want to ensure that the DIN connectors are snug to the perf board before soldering. I decided to use tinned wire for the connecting wire since its slightly heavier gauge is less fragile than the wire-wrap you can get from your local Radio Shack (of course, you can use insulated wire wrap if you prefer). If you follow my suggestion of double-sided soldering, you simply need to solder a connecting wire between each pin of one connector with the one that lines up with a pin on the other connector.

If you have made your fold-over board with tinned wire (as I have), I recommend that you "paint" the outer, exposed wires to provide some insulation.

Since 64-pin DIN connectors are rare in North America, if you want to try to cobble up a fold-over board, you might consider salvaging a matched pair of DIN connectors from a QL memory expansion which has a Thru-Port since these boards are periodically available for a very small amount (try Mechanical Affinity). Removal of the DIN connectors from the circuit board is best done with either a razor saw or a Dremel-type tool (of course, you will want to cut as close to the board as possible).

**YOU CAN DO IT**

I have an internally expanded (512K) QL [motherboard modified by Nazir Pashtoon] with the described Four Line wiring configuration. Because the 512K QL is in the standard QL case, I have left the 7805 voltage regulator in place so that I can power it using ***either*** a PC power supply OR a QL power supply -- there have been no perceived conflicts.

My "primary" QL (with an unmodified Gold Card) has been wired to a Sperry PC case (100 watt PS) for years. Before I bought either the Sperry case or the Gold Card, the "same" motherboard was installed in an AT case (230 watt -- excessive for the hardware configuration) and the original connector attached to the QL motherboard was a salvaged pin set that I recall plugging only into P8 from the power supply.

My QL's motherboard is held in place within the Sperry case with two screws whose posts were inserted in a 3/4" thick piece of pine cut to fit the bottom of the case; and, the edges of the QL motherboard "rest" above the wooden platform on 1/8" thick strips of perforated hardboard that happened to be handy.

A home-made ribbon cable extension connected a keyboard which used the original QL matrix until I bought a Falkenberg keyboard interface a couple of years ago. The new, DI-REN keyboard interface (available from Mechanical Affinity) would be my first choice, now.

If you have questions, contact me:

AL FENG
914 RIO VISTA CIR SW
ALBUQUERQUE, NM 87105

**READTHIS_TOO**

I would like to think that the foregoing is useful information for many people within the QL community; and, I have to apologize for the delay in getting it into print.

Prior to the inception of ZQA!, I believe I put out a general query regarding interest in an article on putting a QL in a standard PC case; but, the only response I got was from Peter Hale (then editor of NESQLUG's newsletter). The problem with NESQLUG's newsletter was my perception that the article would necessarily need to be broken up (i.e., re-written) into episodic installments due to its length. So, for various reasons, I never got around to re-writing (nor, sending) a version of the original draft. My belated apologies.

Shortly thereafter, I spent my "lost year" in the hinterlands of New Mexico. My QL was packed away for the majority of my sojourn. Time passed, and the article was pretty much forgotten.

Eventually, I must have interpreted a written comment by Tom Robbins that he was having power supply problems; and so, I re-drafted my original article, drew up a diagram, and sent it to him since he co-authors "QXL in Command" (in IQLR). I requested that Tom advise me if he could not follow it; otherwise, if he had no problems to send it off to Bob Dyl (IQLR's editor/publisher). That was November 1994. Well, I never heard back from Tom, so I can only presume that he didn't have a problem with following the instructions in the article.

While I could only presume that the article was sent to Bob Dyl, I eventually re-sent the article in April along with three others directly to IQLR. The US Postal service did NOT return my envelope, so I can only presume that IQLR received the articles. Well, that certainly makes Bob Dyl's lament about the lack of articles a few months ago ring hollow, doesn't it?

Of course, in theory, it is the perogative of any editor to exclude information from their publications, particularly if the writers are being paid for their articles; but, it seems obstructionist to the better interest of the Sinclair (particularly, QL) community to omit an article such as this one unless the information was found to be grossly inaccurate-or-incorrect.

Well, perhaps Bob Dyl has a "vision" of how the QL community should directed. Perhaps he thinks that information which "competes" with commercial products should be suppressed. Perhaps he thinks that only articles written by his by his friends should be included. Or, is it something else?

Perhaps you bought a QPlane and are satisfied with the idea of cutting and soldering on your Gold Card. Perhaps you have unlimited funds that don't infringe on any portion of your household budget so that you would prefer to buy one of the over-the-counter QL-in-a-box packages instead of saving some money. Perhaps you consider yourself simply a regular person to whom the way of the world can be dictated by those who would like to be thought of as the cognoscenti.

Regardless, I know that I would be miffed if I had been looking for this information on wiring a QL motherboard to a PC power supply, and later found out it was excluded from print because of some unwritten, quixotic editorial policy.

And, that is the real pity because IQLR has apparently provided an excellent forum to a geographically diverse number of QL users. It seems that most of the articles are informative -- even if many tend to hawk particular products -- since they are usually written by end-users. Still, this episode begs the question: How many other articles and how much other information has been excluded for reasons that one can only speculate upon?

IQLR's editorial policy is ambiguous at best (I remember once reading the proclamation that every article submitted had been printed just about a year before the lament that there was a dearth of articles) and has certainly

become provocative at worst.

You have "one side" of the story about the history of this article. If you want more information [i.e., the "other side" (if there is one)], put your queries in the proper (and/or, telephonic) forums. Discuss this with other members in your users group. In particular, you owe it to yourself to get explanations and answers if you are an IQLR subscriber.

I don't tele-communicate since I try to spend most of my time in the Upper Paleolithic and early Holocene -- in other words, I can only shout what I know from the house tops and hope that someone else hears what needs to be said; and hopefully, those of you out there who do care about the direction of the QL community make it a consensus -- rather than an individual -- decision.

If I did tele-communicate, then I would be posting this information about Bob Dyl's exclusionary policy on QBox and the appropriate site(s) on the INTERNET. Perhaps some of you out there will do so. The Sinclair community needs to hear from all voices about all its facets. What I know is that sometimes the emperor isn't wearing any clothes; and, someone has to point it out.

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

# QXL TOTES

*by Al Zeng*

Neither Santa nor the postman brought me a new copy of SMSQ for Christmas; and so, I'm still plugging away with the same version of SMSQ (v2.57) that I received during the Summer. That should not be considered bad; but obviously, the same limitations exist as before with the video display being less than 80% of the "available" VGA display and the TURBO compiler still not fully compatible with SBASIC.

It may be noted that Jochen Merz's SMSQ/E always appears to be a version release ahead of the "standard" SMSQ that is provided to QXL users; so, SMSQ users may eventually have the keyword DISP_SIZE available to the QXL with a future upgrade. Whether DISP_SIZE will remedy my complaint about the QXL's diminished display is unknown.

## A PORTABLE QXL

Although the QL itself is relatively light (about 3 pounds), after you add a monitor and other sundries, it generally becomes quite cumbersome to transport. For many QL users, a (trans-)portable QL has been high on the wish list -- perhaps, the "holy grail" of QL hardware.

The fact that the QXL uses a PC as its host means that if one can find an AT-class portable with an ISA expansion slot then one should be able to have a portable QXL as well.

Laptop PCs with ISA slots are a rare breed because they arrived just prior to the advent of the stripped-down, sub-ten pound notebook class of computer with which they briefly coexisted. Most of the laptop-class of portables with the ISA slots were very high end as one may note by the Gas Plasma displays which many had. The contrast provided by Gas Plasma displays was superior to that of the pre-VGA LCD screens of the time.

The CARDSTAR 486 and the PCIII 4X CD [PC Portable Manufacturer, Inc.] are two contemporary laptops with ISA expansion slots. The former does not appear to be available, but the latter still is (price varies depending on screen, processor, memory, etc.; starting at about $1800). The former had a monochrome VGA display, while the latter is available with either monochrome or color (passive or active). I am not sure what the keyboard layout is for the CARDSTAR; but, I can report that the PCIII's non-ASCII layout looks awkward.

The following list of older laptops and portables are PCs which should be usable with a QXL card; but, what should be may not be. The COMPAQ Portable III and the DataWorld PortaComp III have "lunchbox" configurations. The information is believed to be accurate; but, actual specifications may be better-or-worse than I have indicated.

| | |
|---|---|
| COMPAQ Portable III | 16 BIT (2 - Full length) |
| EPSON LT286e | 16 BIT (1 - Three-quarter length) |
| EPSON LT386SX | 16 BIT (1 - Three-quarter length) |
| MYODA LT5200 | 16 BIT (2 - Full length) |
| TANDON LT 386SX | 16 BIT (1 - Full) |
| DataWorld Data LP/320 | 16 or 8 BIT (1 - Half length) |
| DataWorld Portacomp III | 16 or 8 BIT (2 - Half length) |
| DELL 316LT | 8 BIT (1 - HALF length) |
| DELL 320LT | 8 BIT (1 - Half length) |
| TOSHIBA T3100e | 8 BIT (1 - Half length) |
| TOSHIBA T3200SX | 8 BIT (1 - Full, 1 - half length) |

The original generation of laptops with ISA expansion slots appear to weigh between 14.5 and 18 pounds. If you are ordering by mail/phone then ask about all of the specs; particularly, you should confirm whether the slots are 16 BIT or 8 BIT. Do not confuse the TOSHIBA T3100SX (for example) with the TOSHIBA T3100e or T3200SX.

## CLOSE ENCOUNTER

I recently had the opportunity to try my QXL card in a refurbished EPSON LT286e. The EPSON is probably a compromise between the best and the worst from which one might choose. From what I am able to glean, the EPSON may be the only ISA-portable with a 286 processor and EGA output ("three" shades of "grey"). With the exception of the two, contemporary laptops, the rest appear to use an 80386 (generally SX) with VGA output (generally 16 shades of "grey").

I should note, before getting too far along, that I returned the EPSON I had bought because the screen's back-lighting did not always come on. I had been promised a "new" replacement screen, and waited three weeks for it before calling to find that it had never been sent! Consequently, I am still waiting for a "credit memo" from the vendor -- until then, I will reserve the name of the vendor.

My first impression of the EPSON LT286e was that it

not only felt heavy, it was heavy. The outer case looked as though it had seen *much* better days. The EPSON's 640x480 LCD display (11") can be considered an adequate (not measured) QXL display -- the screen was supposed to be "clean"; but, I've seen better. While the display in "inverse" mode appeared cleaner, recollection is that it only provided two shades; and, this could result in critical drop-out as RED is translated to BLACK, etc.

Because there appear to be only "three" shades of GREY (I think there are actually "four" shades), whatever was RED on your QL is GREY on the EPSON's monochrome, LCD screen and whatever was GREEN on your QL is translated as WHITE -- or, invisible! I think BLUE is translated as a *paler grey*. If you are familiar with SKYGLOBE, I will mention that the EPSON ran the program (configured for a VGA monitor) without any apparent problems.

The EPSON has an external MDA/CGA/EGA hookup plus an external keyboard port. The 40 meg. hard-drive is removable, and I would suspect that almost any 2.5" or 3.5" IDE drive could be substituted if you wanted a larger capacity.

The keyboard felt crisp and looked "new"; but, the layout of the non-ASCII keys is a bit odd (but, I think the layout of the original AT keyboards is odd, too; so, you have to be the judge of what is acceptable for you).

The AC/DC transformer plugs onto the back of the humongous battery pack which must weight four-to-five pounds. Since I did not receive a manual, I can only suppose that the transformer can be attached directly to the computer. I'm not sure how long it takes to charge the battery, but I am sure that based on the battery technology available that each charge only "lasts" for about two hours. Details are hopefully available from EPSON.

The EPSON LT286e could be a lot worse; and, it is certainly very usable as is. There are limitations, and whether or not those limitations would preclude your using it as the host for your QXL depend on your own sensibilities. Because aging eyesight is forcing me to prefer a "good" (easy to view) screen, I don't recommend the EPSON LT286e; but, the EPSON LT386SX may (should?) have a VGA screen with at least 16 shades of grey; and, this "upgrade" would be worth looking for.

The bottom line is that despite the fact that the EPSON LT286e worked with the QXL card, if it weren't for the flaky screen, I might still have it; but, all things considered, I guess I'm still looking for a portable ISA host for my QXL card.

HAPPY TRAILS,

AND COMPUTING, TO YOU ...

# DAISY BE GOOD - V

by David Lassov

Look HERE, you guys !! We hear, that some of you have DAISY software, but are not following along in these presentations, which are designed, *to get you to use this stuff*, or, at least, TO TRY IT !!

DAISY is more flexible than MSCRIPT, and it leaves nice margins at the bottom of the page, which TASWORD *doesn't do*.!! So, get out your disc, named Daisy #1, and do an AUTOSTART. A tune plays, and Bill Jones' banner comes on-screen with an invitation to "PRESS A KEY...". At this point, we always press "3", because what follows becomes so automatic and easy to remember.

The MAIN thing to remember is, that we are now describing (in an initial fashion, which can always be revised by recourse to Format Menu, as discussed last time.) the print parameters to use, upon print-out of our masterpiece, or other document. So, we press "3", or something, then "2" for our dot matrix printer.

We are using an AERCO CPI, and a punch of "1" tells this to the software. The dip switches are set to wait for software-generated line feeds, and we punch "y" in response to the next question.

We like both margins justified, and answer the next question in the affirmative. The first line of all our paragraphs is indented by 5 spaces.

The software stores up all the above formatting information and sends it out the printer port (127.?) to the printer. Thus, the software tests for printer-ready, before sending it out. So, from the outset, "PRINTER MUST BE ON"., connected, and ready to go.

After sending out the information to the printer initializing Daisy, the main menu, Function Menu, comes on-screen. We summarize all the foregoing, by saying LOAD Daisy and punch 3,2,1,y,y,y.

The first four articles in this series have discussed the first three entries of the Function Menu. Hence, this, the fifth article, discusses the Data Status Menu, as that which happens, when you punch "4" at the Function Menu.

Well, if you punch "4" now, you get the description of the occupancy status of several strings in an empty, or thus far unused, software. That's all right, and we can tell a lot about this interesting Data Status Menu and about the Daisy software, itself, as distributed by Frank Davis.

For example, the column on the left indicates, that a$ contains exactly 1 character, a blank right now. There are a lot of empty strings, right now, but f$ contains a string of 85 characters: "I would appreciate whatever information or suggested references that you can provide."

These strings can all be used for temporary storage of printable information, which can be inserted many times in the composition of a printable document. Thus, we want to be able to keep track of the availability of various strings.

H$ and I$ are both string arrays, which combine to contain the printable document. Thus is listed the number of paragraphs and the number of characters in both H$ and I$. FREE=19887 indicates a free RAM of almost 20000 bytes for that many more characters in the document. When we are through reading this menu's information, we can get back to the Function Menu, by pressing ENTER.

Performing a BREAK, while this menu is on the screen, traps us into answering the question, whether we desire to CLEAR variables and LOAD a complete, new set of variable values. If NO, then we return to the Function Menu with nothing changed. If SO, then we are asked for the number, from 0 to 4, of a data disc, containing sets of variable files. The data disc is catalogued, and files with extension .C2 are listed. Variable files have a five-digit number for the name, and these five digits plus the extension indicate which variable file is to be LOADed in, thereby completely reinitializing Daisy.

Incidentally, the five digit number gives the length in bytes of the particular variable file. by saving the variable file.

Also shown on the Data Status Menu is whether MAIL DATA is on board (YES or NO), which can be used for MAIL MERGE, while printing the document. In addition to the many strings, listed for data storage, k$, p$, and v$ can be so used.

Lastly, "3579" denotes the BASIC line number to GO TO, in order to get the Data Status Menu on the screen..

Please, refer to the following article for the behavior of the Data Status Menu, in the case of lots of data on-board.

Otherwise, we'll pick up next time with discussion of the all-important Data Management Menu, for employing LKDOS in the management of scarce memory resources.

All right, you guys. Now, that we have hacked our way through that stuff in Bill Jones' Daisy, as distributed by Frank Davis, sit back and relax, as we regale you with tales of our new and improved version of Daisy, which we have broken out into four separate versions, for the purpose of SPEED, SPEED, and more SPEED.

First, we load the RAMDISK with all the menus, some of which have been compressed. Then, we LOAD the AUTOSTART file on drive #0 for the MAIN MENU and punch "2" for Input-Edit.

Up comes the Function Menu, as the dock port switches in as a branch. By the way, the value of TURBO is shown as "1".

We punch "4" for the Data Status Menu and get an empty version, as before, since nothing is LOADed. The only real difference is, that we have managed to scrape together a FREE of 20495, which allows us to process documents of almost another screenful of information.

So, we hit ENTER and get the Function Menu back on the screen immediately. Now, we hit "1" for "Input-Edit" and the QUICKIE MENU comes on immediately. We key-in "<" to Load Dbase, follow with "1" (for H or I data base), since we have no desire to LOAD another variable file, although that is another way to go, should we already have a set of variables, set up with the document information, we have in mind. Thus, we hit "1", and input a DATA disc on drive #3. Next, the disc is catalogued, and the question is asked, whether we want to load H$, I$, or Both.

Since we want to load up for demonstration purposes, we indicate "Both". Next, a BEEP sounds with a request for file number, to be LOADed. We ENTER "400" and drive #3 grinds away, as files "400.A$" and "401.A$ are LOADed into string arrays h$ and i$, respectively. The QUICKIE MENU comes back on-screen quickly. From here, we get the Function Menu on-screen immediately, by hitting "4."

Let's look at the Data Status Menu, by hitting "4" at the Function Menu. It branches right in, and indicates all strings empty, except for a length of 1 for u$. u$ contains a blank character. Continuing, we see 7 paragraphs in an H$ of length 4928 and 3 paragraphs in an I$ of length 2112. Apparently, all the paragraphs are of length 704, containing an exact screenful of information. And, Oh Yes, FREE RAM has been reduced to 10648 bytes.

Now, let's go back to the MAIN MENU, AUTOSTART in drive #0. Punch up ManlAd by hitting "0." Then, after the little song and our Daisy banner comes up, we charge on to the Function Menu, by initializing Daisy with 3,2,1,y,y,y. Note Turbo=3. A punch of "4" shows Data Status Menu, where everything is empty, but FREE is already reduced to a dangerously low value of 6984. For, Daisy manipulates a lot of strings, and such data processing uses FREE RAM only. Which is a very good reason for avoiding string operations as much as possible.

Next, let's go back to the MAIN MENU on drive #0 and punch up PO+MM, by hitting "1." After the little tune, we get the Function Menu, by hitting 3, 2, 1,y, y, and y in succession. Note Turbo=2. The Data Status Menu is unchanged, except for FREE=15863, enough for print-out and mail-merge file).

Lastly, let's hit "3" at the Main Menu and bring the Function Menu right up. Note Tubo=0. Pressing "4" gives an immediate Data Status Menu, which shows a FREE = 28199.

Next issue, we're going to have a lot of fun, describing how the LOAD Menu and SAVE Menu combine to conserve memory (the DELETE Menu).


# QHJ Freeware

**What:** QHJ Freeware is a freeware/shareware distribution service for the North American QL users. It is not designed to compete with European freeware distributors.

**Why:** It has recently dawned on me that there are no freeware distributors in North America. Due to currency exchange rates, buying freeware from Europe can be a daunting and a costly experience.

**How:** All Freeware packages are available as ZIP files. Check the list of files available, add up the total bytes, determine how many disks it would take, send the disks plus return postage. Return postage should be the same as sending the disks to me.

**The List:** Send a SASE, e-mail, or check my web pages. The Addresses for all of this:

Timothy Swenson
5615 Botkins Rd.
Huber Heights, OH 45424-4225
http://www.serve.com/swensont/

# ANNOUNCING: IKI (IBM Keyboard Interface for 1000/2068) by *Jack Dohany*

**October 13, 1995**

I've been using my IKI and an IBM keyboard with my 2068 for seven years, and I love it. I've been wondering how to share the IKI with the Timex community, and have finally decided just to do it, however I can.

## HISTORY

The IKI was designed in 1987 by a friend who has since retired from the Timex scene and now wishes to remain anonymous. I have his permission to publicize and/or reproduce his design however I wish. We owe him a debt of gratitude, I do not intend to profit from his design, but only to share it freely. I ask only payment for time/materials expended in the sharing process.

## WHAT IT WORKS ON

The IKI can be used with the ZX80, ZK81, T/S 1000, T/S 1500, Spectrum and T/S 2068 computers, It is compatible with all interfaces for those computers, It cannot be used with the QL or Z88,

## WHAT IT LOOKS LIKE

The IKI works with any IBM XT-compatible keyboard. The keyboard must have an XT/AT selector switch. The IKI won't work with "auto-sensing" keyboards which decide for themselves whether the computer is an XT or AT type.

WHY USE AN IBM KEYBOARD? It just feels good, that's why. And if you wear it out, you can replace it.

## HOW TO USE THE IKI

Just plug it in, and type away. You do not need to load any software. The IKI works with virtually all software: MSCRIPT, TASWORD etc. etc. There are a few Spectrum games with which the IKI cannot be used: those which require the simultaneous pressing of two or more letter or number keys,

IBM SHIFT key serves as our CAPS-SHIFT,
IBM ALT key serves as our SYMBOL-SHIFT,'
IBM CTRL key series as CAPS-SHIFT + SYMBOL-SHIFT.
IBM ESC key serves as BREAK (Caps-shift + space)
IBM numeric keypad series as a numeric keypad only,

The IBM function keys 1 to 10 serve as shifted 1 to 0. Therefore it's best to use an IBM keyboard which has its function keys above the numeric keys, rather than grouped on the left side,

## THE FLY IN THE OINTMENT

The IKI works admirably with word processors and other application software. It can be a pain in the keester to use when writing or editing BASIC programs, since the Sinclair keywords do not appear on the IBM keyboard. There are four possible solutions:

1. Use the native keyboard for BASIC editing, or
2. Use a chart or list showing keys and keywords, or
3. Memorize such a chart, or
4. Use my KEYWORD V2,0 program which lets you type in keywords letter by letter,

Solution 4 is the one I usually use when editing BASIC.

## HOW TO GET AN IKI

Ah. now we come to the hard part: sharing it, I see three possible schemes:

1. Build one for you, or
2. You build your own with my help, or
3. We as a group make a PC board, or have one made,

SCHEME **ONE** is not economically feasible. It would cost you about $240! That's because it takes about 20 hours to hand-wire an IKI board. If you're willing to pay that much, I'll be happy to build you an IKI if and when I find the time. If you have more time than money, and construction skills, you might prefer Scheme Two.

SCHEME **TWO** possibilities:

1. Send me a self-address stamped envelope. I'll send you the IKI schematic and EPROM contents. You will have to buy all hardware (about $30) and program your own EPROM. This info could also be published in any magazine or newsletter that wishes to devote numerous pages to it,

SASE is NOT NEEDED for items 2 to 4

2. For $10 I'll send you the items listed above, plus complete construction details, and a pre-programmed EPROM.
3. For $40 I'll send you the items listed above, plus all needed parts EXCEPT the rear-connector finger board which I am unable to obtain, (If you know of a source for finger boards, please let me know!)
4. KEYWORD V6.0 is in the public domain. A disk containing it would cost $5,

SCHEME THREE: Let me know how you can help, with time, skill or money, in the production of an IKI PC board. If enough people are interested, it may be possible to produce an IKI PC board. Self-addressed stamped envelopes appreciated!

---

**October 30, 1995**

The version of KEYWORD that you have is probably a very early one, and as you suspect, it was probably improperly SAVEd. The latest version is not fussy about when it gets SAVEd. and is in all ways much better than the original, Will there be a V7.0? Well, probably... if and when I think of any improvements,

The only real problem with KEYWORD V6.0 (and all earlier versions) is that it's not compatible with BASIC programs which use non-relocatable machine-code-in a REM statement, Right now I can't think of any solution to that problem other than modifying such BASIC-programs, or rather, the code in their REM statements.

You'll note that no EPROM or schematics of the IKI are enclosed. That's because, since the article was written, I have come up with some ideas for improvements to the

IKI design, and I want to try those out before (more or less) finalizing the design.

You'll note that no EPROM or schematics of the IKI are enclosed, That's because, since the article was written, I have come up with some ideas for improvements to the IKI design, and I want to try those out before (more or less) finalizing the design,

You WILL get the IKI EPROM and documentation as soon as I'm sure that they are as good as they can be, for the present,

I have great plans for the future. I have finally (after years of effort) succeeded in modifying my DEVPAC assembler and disassembler so that they can cope with LARGE machine-code programs. It is now possible, for the first time ever, to re-source, rewrite and re-assemble LARGE machine-code programs, such as MSCRIPT, the LarKen DOS, and the 2068-And Spectrum ROMs. I will now be able to do things that I have only dreamed of being able to do. Great things are coming, In the fullness of time, and yes, Timex/Sinclair still lives!

Best regards,

Jack Dohany
627 Vera Ave
Redwood City, CA 94061
415367-7781

# 50 Something .....

*Editor*

We were born before Television, penicillin, polio shots, plastic cards, frozen foods, Xerox, contact lenses, Frisbees and the pill. We were before tape decks, panty hose, printers, word processors and guys wearing earrings.

We witnessed RADAR, split atoms, laser beams, artificial hearts, FM radios, ball point pens, dishwashers. cloth dryers, electric blankets, air conditioners, permanent-press cloths and man walking on the moon.

We got married first and then lived together; quaint wasn't it? Closets were for cloths and not for coming out off. Bunnies were small rabbits and not buxom girls, rabbits were not Volkswagens. Designer Jeans were scheming girls named Jean and meaningful relationship meant getting along with our cousins.

We thought fast food was what we ate during lent, and outer space was the back of the Riviera theater.

We were before househusbands, gay rights, computer dating, dual careers, and computer marriages. Before day-care centers, group therapy wellness and nursing homes.

For us, time sharing meant togetherness not computers or condominiums. A chip meant a piece of wood or off the old block, hardware was at the general store and software wasn't even a word in the dictionary.

MADE IN JAPAN meant junk, making out referred to how we did on the exam. Cool and hot were senses and not a state of mind.

Pizza, McDonald's, gyros, yogurt and instant coffee were unheard of.

We hit the scene when there were 5 & 10¢ stores, where we bought things for a nickel or a dime. For a nickel we rode a street car, made a phone call, bought a Pepsi or enough stamps to mail a letter and two Postcards. We could buy a Chevy coup for $600, but who could afford one? A pity too, with gas at 11¢ a gallon.

Cigarette smoking was fashionable, grass was mowed, coke was a cold drink and pot was something we cooked in. Rock music was a grandma's lullaby and aids were helpers in the principal's office.

We were certainly not before the difference between the sexes was discovered, but we were surely before the sex change. We were the last generation that was so dumb as to think that a woman needed a husband and not a test tube to have a baby.

**What a life!**

# Unclassified Ads

## Place your ads here, it is free!

Mail to: A. KAHALE 3343 S FLAT ROCK CT SIERRA VISTA AZ 85635-6874

## SPECTRUM for your 2068

If you are a LarKen LK-DOS owner and would like to run SPECTRUM programs on your system, we will supply a V2 EPROM, socket and 74HCT32 for $12 which includes shipping and handling. The installation instructions are in your LarKen manual. We shall not be responsible for your install job. AERCO owners need only the EPROM for $10 forwarded to LarKen.

Bob Swoger Address on page 2

## 747 Flight Simulator

So you like to fly, the 747 Flight Simulator for SPECTRUM by Derek Ashton of DACC. Requires a SPECTRUM equipped 2068. Supplied on LarKen SSDD or DSDD LarKen disk for $10 which goes to Derek now working at Motorola with Bob.

Bob Swoger Address on page 2

## PAL Chips

Programmable Array Logic chips are available for some Timex and QL's from:-

NAZIR PASHTOON
NAP_Ware
940 BEAU DR APT 204
DES PLAINES IL 60016-5876
Phone(eve.) 708 439-1679

A Strategic Generic War Game for the TS-2068

## CONQUEST

- Completely in fast machine code. Games can be SAVEd and CONTINUEd.
- Available on tape, or disk, AERCO, Oliger. Game and map SAVEs in BASIC allows conversion to your system.

Price $19.95 + $2.50 S&H.

Order from:- or:-
LLOYD DREGER SMUG
2461 S. 79TH ST BOX 101
WEST ALLIS WI 53219 BUTLER WI 53007

## Make David an Offer

ZX-81/TS-1000 TS-2068
Hardware Kits
Real Time Clock I/O Controller RS-232
Centronics I/F 16K & 64K RAM 300 BAUD
Modem A-D Converter(assembled)

## BYTE-BACK INC

536 LONG TER
LEESVILLE SC 29070

## The John Oliger Co.

11601 Widbey Dr.
Cumberland IN 46229

**The John Oliger Floppy Disk System**
**FOR THE TS-2068**
**DISKWORKS**
**EXPANSION BOARD**
**2068 User Cartridge**
**DISK BOARDS "A" & "B"**
**2068 Parallel Printer Port**
**2068 EPROM Programmer**
**2068/SPECTRUM Joystick Port**
**DFh Mapped Universal I/O Port board**
**Vpp Power Supply**

**User Manual** only : $5.00 (Read before you buy)

## Service For America's

Favorite Home Computers
And Their Accessories

## SINCLAIR

TIMEX ADAM ATARI
IBM OSBORNE TI COMMODORE
BUY SELL TRADE UPGRADE

Reasonable flat rate plus parts and shipping.
Write for prices SASE appreciated

## WANTED

Dead or Alive!

PC color monitors, keyboards, printers, circuit boards, etc.

## COMPUTER CLASSICS

RR 1 BOX 117
CABOOL MO 65689
Phone 417 469-4571

**PROFILE - ZX-81** (tic-tac-toe)
**ZX-TEXT** - Word Processor
**ZX-CALC** - Spread Sheet
**Business Software**
**Cycle Accounting** Financial Report Generator
**ZX-CALENDAR** - Time Management

ZX-81 TS-1000 TS-1500
TS-2068
Albert F. Rodriguez

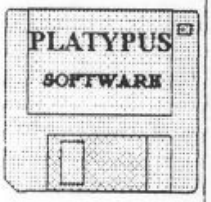
## A.F.R. Software®

1605 PENNSYLVANIA AVE 204
MIAMI BEACH FL 33139
305 531-6464

| | |
|---|---|
| QLAMBer new users, QXL/Minerva/QDOS compatible | $15 |
| QLAMBer + QLuMSi both QXL/Minerva/QDOS compatible | $25 |
| QLAMBer + QLuMSi upgrade | $20 |
| QLAMBer + QLuMSi upgrades | $10 |
| QLUSTer to QLAMBer upgrade only | $5 |
| QLuMSi upgrade | $5 |

## Al Feng

914 RIO VISTA CIR SW
ALBUQUERQUE NM 87105
(505) 843-8414




## Get In Touch

# QBox-USA

## 810 254-9878

24 hours a day
300 to 14400 bps
Supporting all Sinclairs and Timex users
Fidonet echomail areas for Sinclair computers
Lots of new files for you to download such as
TS-2068 emulator for those who use a PC
Give us a call and let us know what you want to see
Message Area & File Area
QL International, Quanta, IQLR, UPDATE!, QL Hacker's Journal, Spectrum/2068, ZX-81/TS-1000, Z88, NetMail, Emulators, Pointer, FDFORMAT for QXL/QDOS etc.
**SYSOP John J. Impellizzeri**
**Co-SYSOP Don Walterman**
**Utica, Michigan, USA**
'How-To' is in the April. 94 UPDATE! Magazine

## Z88

Memory, Printers, Disk Drives, Software,
EPROMs, Modems, Mobile Phones
**Mike Fink**

## Domino Cubes

130 W 42nd ST 28th FLR
NEW YORK NY 10036-6329
800 800-0718 27762
FAX 212 869-1526

## WOOD & WIND

### Bill Cable

### ARCHIVE Based QL Software

**QLerk** - A complete financial program for the QL

| | |
|---|---|
| QLerk software (v3.21) with tutorial | $29 |
| QLerk manual | $29 |
| QLerk software & manual | $50 |

**DBEasy** - A rnenu based database system

| | |
|---|---|
| DBEasy software (v1.6) | $24 |
| DBEasy upgrade from V1.5 | $7 |

**DBProgs** - A toolkit of ARCHIVE procedures

| | |
|---|---|
| DBProgs software (v1.8) | $18 |
| DBProgs upgrade from V1.7 | $7 |

**DBTutor** - A general purpose leaming program

| | |
|---|---|
| DBTutor software(v1.5) | $12 |

**PC DBEasy** - Just like QL DBEasy but, you must have PC ARCHIVE to use It.

| | |
|---|---|
| PC DBEasy software (v1.3) | $12 |

WOOD & WIND COMPUTING
RR3 BOX 92
CORNISH NH 03745 USA
Phone (603) 675-2218

**FOR SALE:** Radio Shack CGP-115 Color Printer /Plotter, $75.00.
QL Computer, new, never used. Package includes: Trump Card, P/Supply, manuals, printer cable and 24 Micro-Drive cartridges (10 preprogrammed and 14 blank) $125
D G SMITH
R 415 STONE ST.
JOHNSTOWN PA 15906-1609
(814) 535-6998

## LISTing Newsletter

The Long Island Sinclair/Timex Users Group
L. I. S. T.
HARVEY RAIT

5 PERI LN
VALLEY STREAM NY 11581

## QL Hacker's Journal

**Supporting All QL Programmers**

Timothy Swenson, *Editor*
5615 BOTKINS RD
HEUBER HEIGHTS OH 45424
613 233-2178

## NESQLUG NEWS

**New England Sinclair QL Users Group**
16 HIGHLAND AVE
SAUGUS MA 01906
617 233-3671

## CATS Newsletter

**The Capital Area T/S Users Group**
BARRY WASHINGTON
7044 CINDY LN
ANNANDALE VA 22003
301 589-7407
BBS 301 588-0579
Internet mf0002@epfl2.epflbalto.org

## Nite-Times News

**Newsletter**
**Chicago Area Timex Users Group**
PHILLIP KWITKOWSKI
2106 DOVER LN
ST CHARLES IL 60174

## The Ramtop

*Newsletter*
The Greater Cleveland T-S User Group

Thomas Simon editor
615 SCHOOL AVE
CUYAHOGA FALLS OH 44221
E-Mail CIS 73177,333

Jon Kaczor Production
4568 WILLIAMSON AVE
BROOKLYN OH 44144


# RMG

## ENTERPRISES

**Supports**
**Timex/Sinclair Users!**

**Call or FAX for information on prices and availability, hardware or software and books**

**You can send a legal and 55¢ Request list & price sheets.**

**Public Domain Software**

**Sell Your Idle Computer & Related Items Here**

**We also carry extensive PC shareware**

Allow 6 - 8 Weeks for Delivery
Send check or money order to:

## RMG Enterprises

14784 S QUAIL GROVE CIR
OREGON CITY OR 97045
503 655-7484 (10AM-7PM Tue-Sat) FAX 503 655-4116


**WANTED:** Timex Sinclair User #2&5, T-S Horizons #1, 2, 7, 11, all after #16. Software for TS 1000 or 2068 - Conversational German (Sinclair Research Limited), Der Student (J.W. Collins), German Tutor (Creitech) or similar programs. Machine Code Tutor for the 2068 (Knighted Computers - 2 cassettes) or similar for 2068 or 1000.

DOUG WAGONER
E 4825 ST ANTHONY LN
POST FALL ID 83854-8812

**FOR SALE:** TS-1000, User Manual, 16K RAM module, 9v. wall transformer and Game cassette and cables. $15 postpaid.

GENE RAY
2388 HWY 36 E
MILNER GA 30257

**FOR SALE:** (1) TS-2040 printer with power supply and a roll of paper, works good, $20

(1) TS-1016 memory packe not tested, $7

(1) Q-SAVE fast loading device for cassette system. Not tested, $5

(1) TS-1500 computer with power supply, manual, tv switch box. Works 0K. But needs working keyboard. In TS carrying case $25

(1) TS-1000 Computer with manual but no TV switch box or power supply. Not tested. $7

WILLIAM DES LAURIERS
9926 KRAMER CT
INDIANAPOLIS IN 46236-1647

# TS-1000

Software listing offered by Donald S. Lambert. Make offer including shipping costs I cannot guarantee that all cassettes will load but I can offer to replace with or cassettes as long as I have m but you will have to pay shipping on replacements.

13) Synchro-Sette subscription tape: September 1983 no docs
15) Synchro-Sette subscription tape: November 1983 no docs.
16) Ator ABC Gator (Timex) 16K RAM no docs
17) Backgammon (Timex) 16K RAM no docs
18) Bat Cage (Timex) 2K RAM docs
19) Bigflap Attack (Timex) 16K RAM no docs
20 & 21) Capitalization Master (Timex) 16K RAM Docs
22) Challenger I (Timex) 2K RAM docs
23 & 24) Checkbook Manager (Timex) 16K RAM Docs
26) Critical Path Analysis (Timex) 16K RAM docs
27) Cube Game (Timex).16K RAM docs
29) Flight Simulator (Timex) docs
31) & 32) Fortress Of Zorlac (Timex) 16K RAM i ntationo
33 & 34) Frogger (Timex) 16K RAM docs
36) Grimm's Fairy Trails (Timex) 16K RAM docs
38) Home Asset Manager (Timex) 16K RAM docs
39 & 40) Inventory Control (Timex) 16K RAM docs
42) Language Usage (Timex) 16K RAM docs
45) Manufacturing Control (Timex) 16K RAM docs
48) Mixed Game Bag 1 (Timex) 16K RAM docs
49 & 50) Mixed Game Bag 2 (Timex) 2K RAM docs
52) Mixed Game Bag 3 (Timex) 2K RAM docs
53 & 54) Money Analyzer I (Timex) 2K RAM docs
57) Organizer (VU-FILE) (Timex) 16K RAM docs
59) Power Pack 1 (Timex) 2K RAM docs
60) Presidents (Timex) 16K RAM docs
61) Puzzler (Timex) 16K RAM docs
62) RAM Runner (Timex) 16K RAM docs
63) Stamp Collector (Timex) 16K RAM docs
65 & 66) Stock Option Analyzer (Timex) 16K RAM docs
67) Super Math (Timex) 16K RAM docs
68 & 69) Supermaze (Timex) 16K RAM docs
70) Superdoodles (Timex) 16K RAM docs
71) Trap (Timex) 16K RAM docs
72) Trident (Timex) 16K RAM docs
73 & 74 & 75) VU-CALC (Timex) 16K RAM docs
76 & 77 & 78) Pac Rabbit (IPS) 16K RAM docs.
79) Biorhythms and Day Of Week (Softsync) 16K RAM docs for biorhythms only
80) Delphic Toolkit (Thomas B Woods) 16K RAM no docs
81) Escape From Shazzar! (software) 16K RAM docs
82) Joystick Games For 2K RAM 6 (Zebra Systems) docs
84) HOT Z-11 (Ray Kingsley) 16K and 64K RAM docs
85) Inca Curse (Arctic Computing) 16K docs.
86) Key and "U"TILITY (Russell Electronics) 16K RAM docs
87) LarKen Disk Utilities-ZX81 (Public Domain) no docs
88) Mad Dog Tank Blaster (Thom Woods) L6K RAM no docs.
89) Mars Rescue (data-assette) 16K RAM no docs
90 & 91 & 92) Master-Scribe 1.0, I.1, I..2 (Mike Hawks) 64K RAM docs
93) Monarch! (Software) 16K RAM no docs
94 & 95 & 96) Monster Maze 3D (New Generation Soft) 16K RAM docs
97) Nowotnik Puzzle (Software) 16K RAM no docs
98) Printer Driver, Universal (Fred Nachbauar) docs
99) Programmers Toolkit (Softsync) 16K docs
100) Quest For Holy Grail & Elusive Mr. Big (Softsync) 16K RAM docs
101) Sort (Thomas B Woods) IK RAM no docs
103) RAMpager (Calliope Software) 16K RAM no docs
104 & 105) Supertape (JRC Software) docs
107) Tool Kit and COPY-CAT (Unknown) docs.
108) Zombies and Mount Mayhem (data-assette) no docs
109) ZX Assembler (Bus-Byte) docs
110) ZX Forth ( Forth Dimension) no docs
111) ZXLRB (Russell Electronics) docs
112 & 113 & 114 ) Adventure C (Softsync) 16K no docs
115 & 116 ) Alien Invasion (Softsync) 16K no docs
117 & 118 ) Artist Games Tape 2 (Melbourne House) 16K docs
119 & 120 ) Catacombs Games Tape 3 (Melb House) 16K docs
121 & 122 ) Championship Chess (SoftSync) 16K Docs
123) Datamaster (Timeworks) 16K part one of docs missing
124) Disassembler "DA1" Follow directions on screen
125) Financial Manager & Record Keeper (Softsync) 16K docs
126 & 127) Flight Simulator (Timex) 16K docs
128) Graphics Kit (Softsync) 16K docs
129) HOT-Z II 16K and 64K no docs
130) HOT-Z II 16K only no docs
131) Machiine Code Test Tool 16K no docs
132) Master Scribe Set Of 5 Cassettes no docs
133) Memotext Cassette (7 Cassettes) Version By Fred Nachbaur with help files docs
134) "MTERM" Communication Program no docs
135 & 136 & 137) Night Gunner (Softsync) 16K docs.
138) Pilot (Mindware) 16K docs
139 & 140) PRO/FILE (Thomas B Woods) 16K no docs
141 & 142) Pyramid Games Tape 2 (Melbourne House) 16K no Docs
143) Quest For Holy Grail & Elusive Mr. Big (Softsync) 16K docs
144) Screen Kit I (Mindware) 16K docs
145) Shark's Treasure (Softsync) 16K sealed never opened
146) Space Commando (Softsync) 16K sealed never opened
147 & 148) Starfighter Games Tape 2 (Melbourne House) 16K Docs
149) Super Chess (Softsymc) 16K sealed never been opened
150) TS Destroyer & Space Raid (Softsync) 2K sealed
151) ZXAS Machine Code Assembler docs
152) ZX Assembler no docs
153) ZXLRB (G Russell) no docs
154) ZTEXT (Mindware) 16K docs
155) Unknown Programs Sent From Australia no docs

DONALD S. LAMBERT
1301 KIBLINGER PL
AUBURN IN 46706-3010

**FOR SALE:** Fine deal for someone within driving distance of Gettysberg. All of the following to the first person to show up with $350 cash and cart it away. Firm.

3 TS-2068's
1 TS-1000
2 2050 Modems
2 2040 Printers

2 Color Monitors
1 B/W Monitor

Many, many magazines and books with the bulk of them going back to the early 80's.

2 spectrum Emulators and other Chips.

100's of programs including many in their original boxes.

You will not be disappointed. We need the space. And we are in the Gettysburg telephone directory and live 8 miles southwest of Gettysburg.

PAUL ROBINSON
121 FRANKLIN ST
FAIRFIELD PA 17320

## T/S Related Equipment For Sale

GROUP I (Jack Maher's equipment):

I) Sinclair QL Computer system (original package like new).
2) T/S 2068 Computer in original factory box (never used).
3) T/S 1500 Computer system (original package like new).
4) ZX8I Computer system (like new).
5) 3 T/S 2040 Printers (original packages like new),
6) 38 Rolls printer paper for T/S 2040 printer.
7) Switching power supply (18, 12, & 5vdc) no disk drive connectors and the wattage is not known.

GROUP 2 (my equipment):

8) 2 T/S 2068 Computers (never used complete in original boxes).
9) T/S 1000 Computer (never been used in original box).
10) SANYO DM-2112 Monochrome monitor (used) will work with the T/S 2068 computer.
11) Thomson 4120 Color monitor (used but like new) will work with the T/S 2068 computer.
12) IBM 5151 Monochrome monitor (used) has IBM connector so probably is for that computer only.
13) T/S 2040 Printer (used) complete with p/s and docs.
14) LarKen disk drive system (never used) for T/S 2068.
15) Westridge modem with power supply.
16) Timex 3" disks (used) including one identified as: CP/M vers. 2.2 & monitor emulator (never used and includes docs. Timex user's guide to CP/M and Digital Research CP/M operation system command summary).
17) Oliger EPROM programmer system (never used) includes supporting documentation and EPROM programmer board assembled by supplier.

Make offer including shipping costs:

FRED J HENN
230 N FRENCH RD
AMHERST NY 14228-2033
(716 691-9495)

## BONANZA

### 13 Year Collection of T/S Computers

1 - ZX81 W/external keyboard and PS, (working condition but no case for kybd)
2 - T/S-000's both upgraded w/comp. video, and 16K RAM built in (docs Incl.)
one has 32K RAM (16Kx2) and one has 64K RAM (16Kx4) designed for battery backed operation. Includes two PS, manuals and one Load Aid.
5 - T/S-1500s Including four manuals, four PS , three 16K RAM packs.
1 - L/N with all cables in original box.
1 - Mounted in full size kybd. enclosure with comp. video and load aid.
1 - With composite video.
1 - With full size kybd, but no enclosure.
1 - with bad kybd. membrane.
1 - PC8300 (T/S-1000/1500 clone) includes PS but no case or manual. This unit has been modified for full 32K user RAM built in and will load and run any std. T/S-1000/1500 program. Sound can then be added as this unit has full sound capabilities. Programs SAVEd on this machine will not LOAD into TS machines, they must be typed in. (in working condition but no keyboard, but with comp. video)

(All units in working condition except as noted because of missing parts. Also all T/S machines comp. video outputs work into most TV with AUX. or monitor input or into VCR video input).CAUTION--Check all comp. video outputs before using - writer not responsible for damage to user TV/monitor or VCR.

Included Are The Following Software On Cassette:

Original T/S titles; Chess Frogger, The Gambler, Mixed Game Bag 1 and 2, Power Pack 1, States and Capitals , Super Math, The Loan/Mortgage Amortizer, Critical Path Analysis, Inventory Control and Biorhythms.

Original R. A. Jelen titles; (authored by writer)

NUMBERS Allows 1 2, or 3 players and solving from 3 to 9 digit numbers using the guessed no. of digits=R and the digits in proper sequence=S mode of play ordering and scoring.
SCRAMBLE - Uses word variable list and scrambles in large letters to screen, up to 3 players(6 or 9 in teams) with score clock.
PHRASEQUEST- 3 players with play control and scoring similar "Wheel of Fortune", but keeps track of used letters.
Tic-Tac-Toe - Large graphic display, for 1 player against the comp. or 2 players against each other.
HANGMAN - Standard favorite kids game with large graphic display and keeps track of used letters.
VIDEO - Keeps track of video library or cassettes, CD's, books etc. Easy menu driven data entry up to 32 chars., and prints to 2040.
PART - Keeps track of large no. of items, prints to 2040
FILE - Home inventory control, keeps track of household goods such as TVs, VCRs, with cursor control data entry,
MONEY - Interest compounding program.
CALCULATOR - Turn computer into an adding machine.
PRINT - Plot print program - input letters and watch them print large to screen.

All above looking for a good home. $75 plus $20 shipping, ground US only. Large box 45#. It is ALL or NOTHING

R. A. Jelen
11443 Island Rd.
Grafton, Ohio 44044
or call (216)748-3830 if you have any questions.

## From Sco'land

## MOTIVATION

The New Name in Sam Coupe Software

Zenith Graphics & MOTIVATION presents

Edition 1 £4.00 Or all 3 editions for £10
Edition 2 £4.00
Edition 3 £4.00 Plus an extra FREE disk called EXTREME (Issue 0)

The Edition Trilogy of disks are packed full with loads of good, addictive and playable games, demos plus amazing utilities and if bought with Extreme, you'll also enjoy many scarce and some never released programs!

Single *Extreme* issue costs only £1.75

**So don't delay — Post today**

We are looking for contributors who are willing to send us *exclusive* programs to be featured in future issues of Extreme. We can't promise you any payment (yet) but we will send you a free copy of every issue of Extreme that your program appears in.

We want to act as an outlet where we can put new Sam Coupe owners in touch with other Sam owners and organizations.

Spectrum software on tape

We are now selling NEW Elite utilities: Notepad 1.0 (WP), Prowriter (Notepad 2.1), Dirman (512K only) £4.99

Please send your money orders and contributions to:

ALEC CARSWELL
MOTIVATION
16 MONTGOMERY AVE
BEITH AYRSHIRE KA15 1EL
UNITED KINGDOM

## SINCLAIR Resources

Compuserve — Timex SIG
Wednesday Nights @ 10 PM E.S.T. (GO CLUB)

Jack Dohany (Developer - 2068)
627 VERA AVE
REDWOOD CITY CA 94061

John McMicael (Developer - Graphics)
1710 PALMER DR
LARAMIE WY 82070

Bill Ferebee (TS-1000/2068)
MOUNTAINEER SOFTWARE
749 HILL ST 9
PARKERSBURG WV 26104
304 424-7272

IQLR (QL)
PO BOX 3991
NEWPORT RI 02840-0987
401 849-3805

Bill Russell (QL)
RUSSEL ELECTRONICS
RR 1 BOX 539
CENTER HALL PA 16828

TEJ Computer Products
2405 GLENDALE BLVD STE208
LOS ANGLES CA 90039
24 Hr. Order line: 213 669-1418

Mark Stueber (QL)
SHARP'S COMPUTER CENTER
7244 MECHANICSVILLE TPKE
MECHANICSVILLE VA 23111
804 730-9697 FAX 804 746-1978

SUNSET ELECTRONICS (TS-1000/2068)
2254 TARAVAL ST
SAN FRANCISCO CA 94116

Send them a LSASE and ask for information about their current products and/or services.

# UPDATE! Magazine

**The only known, privately produced Sinclair computer magazine that covers ALL of the Sinclair computers. We are now starting our 8th year of publication ! ! !**

**We are a large quarterly magazine that is produced on Sinclair computers. We cover the QL, Z88, TS-2068, Spectrum and the ZX-81. Minimum issue size is 50 pages, and does include ads from Sinclair dealers. The subscription is $20 in US$ in North America; £18 or 40 DM or equivalent elsewhere. Send all funds and requests for a new subscription to:**

UPDATE! MAGAZINE
PO BOX 17
MEXICO IN 46958 USA

Checks, travelers checks, cash are all acceptable

# > FWD COMPUTING <

**Frank Davis**
**P.O. Box 17**
**Mexico, IN 46958**
**317-473-8031**

**Software and Peripherals for**

**TS1000**
**TS2068**
**QL & Z88**
**AMIGA**

# RMG Enterprises

14784 S QUAIL GROVE CIR
OREGON CITY OR 97045
503 655-7484 10AM - 7PM (Pacific) Tues. - Sat.

## Yearly Subscription

Now is the time! Send us 12 #9 or #10 (legal size) self-addressed-self-stamped envelopes and we will send you a pack of information and list of items for sale once a month — for one year.

### More Items That Would Like To Find A New Home! Read This!

1 PC to QL Monitor adapter (use QL monitor on PC) Like your QL Vision monitor? Want to use it on your PC? This adapter w/ps will allow you to do that with any CGA output. $40
1 TS-2068 In Wooden Case w/Large KB/Reset/More $55 pp.
1 DMP 430 15" Dot Matrix printer (Good Shape) $75 pp.

**For Above Items Please Use Reference # DSU1190**

1 BSR 1200 BAUD External Modem Like New! $25 pp.
1 TANDY CoCo Package $35 pp.
1 Composite Monochrome 12" Monitor $40 pp.
1 TS-2068 w/monitor cable for RGB $65 pp.
1 **LarKen** DOS disk package: 2 FH drives in case w/PS, LarKen controller and cart. cables $150 pp.

**For Above Items Please Use Reference # REGU0591**

1 TS-1000 In KRADLE Keyboard w/added RAM $90
A real Collector's Item!
1 Melbourne House Software Pack 8 Pieces $25
1 SOFTSYNC Software Pack, 9 Pieces $25
1 Software Farms HI REZ Software Pack, 3 Pieces $20
All 3 Titles For The 1000
1 TIMEX Software Pack, 3 Pieces $10
1 Magazine/Book Pack 3 Books/21 Mags $25

**For Above Items Please Use Reference # FRSU0792**

1 MIRACLE QL Printer Interface $35
1 QL Technical Guide $10
2 AERCO FD 68 Disk Interface w/256K RAM $100 ea
1 COLECO Power Supply For Use With FD 68 $5
1 RITEMAN 9 Pin Dot Matrix Printer $115
Includes: Tractor/Roll Feed w/8 Ribbons Graphics Compatible

**For Above Items Please Use Reference # RDSU0393**

1 Timex Sinclair 1000/ZX81 Users Manual $2.50
1 The Timex Personal Computer Made Simple $2.50
1 Mastering Your TS1000 Personal Computer $2.50

### Collector's Items

LIPINSKI'S Software Buyer's Guide To TS Products and Services In Loose Leaf Binder $10 pp.

**For Above Items Use Reference # HCU0793**

## CNSN 3 Last Updated: September 16, 1995

### Here Are A Few Great Items For You Collectors!

1 TS1000 16K RAM, Manual, p/s, MINOT adaptor $25
1 Memopak 64K $27.50
1 Digital dual disk drive w p/s/fan/case/2 drives 40 tr. SS/DD 5.25"(Aerco FD/ZX) w/Aerco Centronics interface w/docs. Bill Boss DOS on disk for the TS1000. This requires the MINOT adaptor. PRO/File on disk, 6 Disks with many programs. $225
1 TS2040 Printer in original box $20
1 Memotext Module $20
1 Memotext on disk by F, Nachbauer $20
1 Memocalc Module $20
1 Memotech HRG Module Never used w/book below Graphics A to Z Bingham explains HRG $30

CASSETTES

2 ea. Prog. Tool Kit/Graphics Softsync $4 ea.
1 Krakit/ 2 Frogger $4
2 ea. Budgeter/States & Caps $1 ea.
1 Algebra 1 $3
1 Carpooler $1
1 ea. Strategy Football/Puzzler/Graphic Golf Crosswd $2 ea.
1 ea. Organizer/Home Asset mgr $2 ea.

**All Of The Above For Only $4.50 (Includes Shipping)**

1 Memotech Centronics interface $30
1 Cable for above $7.50
1 Advanced budget mgr. Softsync $4

1 Execu Soft 7 software prgms for the small business:
1 Customer Credit 1 General Ledger
1 Execu Diary 1 Address and Phone File
1 Accounts Payable 1 Accounts Receivable
1 Inventory 3 Blank Cassettes/data
All in plastic binder $30

**For above unit use reference #HCU0793**

## CNSN 11 Last updated: October 12, 1995

### And Here Are More Collectables

1 TS1000 P/S, 16K RAM, 2040 printer FileSixty Keyboard $50

The following are $1 Each

1 Home Asset Manager 1 Home Improvement Planner
1 IRA Analyzer 1 Nowotick Puzzler 1 The Gambler
1 Stock Market Tech Analysis I 1 Stamp Collector
1 Computer Coach 1 Grimms Fairy Trails

1 The Cube Game 1 Chess 1 Stock Market Game
1 VU-Calc 1 Coupon Manager 1 Conversational Spanish
1 Checkbook Manager 1 The Gambler
1 The Starter 1 Money Analyzer I 1 Money Analyzer II

| | |
|---|---|
| 1 ZX PRO/File | $10 |
| 1 PRO/File 1000 | $9 |
| 1 Ten Good Games (Savage Software) | $9 |
| 1 Trader Jack (Savage Software) | $9 |

**All Of The Above Items Can Be Yours For Only $95**
**For Above Unit Please Use Reference # HCU0793**

| | |
|---|---|
| 8 TS1000 Computer Paks with p/s, man., cables. 10 s/w | $28 ea. pp |
| 3 TS1000 Computer with external keyboard, cable, printer and 10 s/w | $30 ea. pp |
| 1 TS1000 computer w/extra PC board and p/w | $15 pp |
| 1 TS1000 computer w/p/s, man. cables and 10 s/w | $25 pp |
| 1 TS2068 Manual | $5 pp |
| 54 Assorted TS Magazines | $20 pp |

**For these Items Use Reference # JDU0795**

## CNSN 12 Last Updated: September 10, 1995

### Here Are Some Items Just In!

### TS-1000 Hardware:

| | |
|---|---|
| 1 TS-1000 Complete In Original Box | $17.50 |
| 1 TS-1000 In Suntronics KD 81 Keyboard Direct Video Output Cables and Manual | $45 |
| 1 PC8300 (TS-1000 Clone) Not Working, No P/S | $10 |
| 6 TS 1016 16K RAM Packs ALL FOR $12 Or each | $4.50 |
| 1 TS-1000 ROM Demo PC Board | $12.50 |
| 1 Z Dubber Tape Filter/Copier For TS1000 | $10 |
| 1 MEMOTECH HRG (High Res. Graphics) Pac | $22.50 |
| 1 William Stuart Systems Speech Recognition/Sound Board Interface (Not Working) | $15 |
| 2 TS-1000 Power Supplies Both For $10 | $5.50 ea. |
| 1 Molded Plastic Briefcase For TS-1000 Package Holds TS1000/Power Supply/Cables/TV Switch/RAM Pack/Manual and Cassette Tapes | $17.50 |

### TS-2068 Hardware

| | |
|---|---|
| 1 TS-2068 Complete In Original Box Includes: Crazybugs Cartridge/States & Capt. Cart | $55 |

### General TS Hardware:

| | |
|---|---|
| 2 TS 2040 Printers with power supplies $40 or | $22.50 ea. |
| 1 TS 2040 Printer With No Power Supply | $10 |
| 1 AERCO Centronics printer interface w/software | $40 |
| 1 WINKY Board II Tape Filter | $8 |
| 1 Dual 5.25" Disk Drive Package w/Case and Power Works With Both LarKen 1000 and 2068 1/Fs | $95 |
| 1 TANDON TM 100 4 5.25" Full HT 720K Drive | $15 |

**For Above Items Please Use Reference # TWUII94**

## CNSN 13 Last Updated: October 14, 1995

## Package A

All items on this page and page CNSN-16 go as one package!

**All for only $250 Postpaid!**

**Hardware:**

| | |
|---|---|
| 1 TS 2068 Computer (Manual, power supply, cables) Power supply: 13v fully regulated | $50 |
| 1 Suncom TAC-2 Joystick | $10 |
| 1 Commodore 1702 Color Montior | $90 |
| 1 Mitsubishi 3.5" SSDD (400K, 80 Track) in case with power supply and cables. 1 Larken 2068 Disk Drive Interface W/v.L3 ROM | $200 |
| 1 Aerco CP-68 Parallel printer interface | $35 |

**Disk Software:**

Hybiscus Ensemble (Bill Jones)
Pixel Print Plus (S. Lemke)
Omnibus V 3.039 (B.Mitchell)
Tasword Two
Menu Master (Executive Workshop)
ScreenDesign (Arrow Software)
Aerco Printer Drivers (Aerco)
Hurd LKDOS Utilities (R.Hurd)
ProFile +5 (R.Fisher)
TechDraw Jr. (Zebra)
Larken Utility Disk (LarKen)
Chambers Utilities (G. Chambers)
Vu-Calc (Psion/Timex)
Vu-File (Psion/Timex)
LKDOS System Disk (LarKen)
Novelsoft Suite (Timachine/The Worx/ZXpert/Artworx)
Logicall V 5.0 (B. Swoger)
Superdrivers (J. Dohany)
Pix-FX V 1.1 (M. Di Rienzo)
16 Point Font Pak/Mega Fonts II (S. Lemke)
Pixel Sketch (S. Lemke)
Many more titles from various sources, all with original docs.

**Software Tapes:**

Personal Home Finance (Timex) $5

**Books:** All for only $35 pp

2068 Technical Manual (Time Designs)
T/S 2068 Basics & Beyond (S. Aker)
The TS 2068 Explored (T. Hartnell)
The Working TS 2068 (D. Lawrence)
TS 2088 Intermediate/Advanced Guide (J. Mazur)
Note: All hardware and software come with docs.

**Please use reference 0 JSU0395**

## CNSN 15 Last Updated: October 12, 1995

## Package B

**Hardware**

| | |
|---|---|
| 1 TS-2068 Computer w/power supply & cables. | $55 pp |
| 1 TS 2040 Printer w/p/s, 11 Rolls 2040 printer paper. | $35 pp |
| 1 GE Compu-Mate recorder w/power supply. | $17.50 pp |
| 1 Suncom TAC-2 Joystick. | $10 pp |
| 1 32K Non-Volatile RAM Cartridge (T. Woods) | $40 pp |
| 1 ProFile Cartridge (T. Woods) | $15 pp |
| 15 Blank cassette tapes | $10 pp |

**Software Cartridges:**

Flight Simulator (Timex), Casino I (Timex)

**Software Tapes:**

Pix-FX V 1.1 (M. Di Rienzo), Font Library I (Mountaineer), TechDraw Jr. v 1.3 (Zebra), Personal Home Finance (Timex), States & Capitals (Timex), ProFile 2068 (T. Woods), Vu-File (Timex), Vu-Calc (Timex), Vu-3D (Timex), ProFile +5 (R. Fischer), Timex Software Tape, Pixel Sketch (S. Lemke), Quadra Chart (Timex), Icon Library/Icon Utility (S. Lemke), Icon Manager/Designer (S. Lemke), Mega Fonts/16 Point Font Designer (S. Lemke), Basic Toolkit (J. Kilday), The Tracer (S&K s/w), Kruncher 2068 (S&K s/w), Cassette Hea.der Rea.der (G. Russell), Tasword II (Tasman)

**Books:**

The Timex Sinclair 2068 (R. Valentine), Inside the Timex Sinclair 2000 Computer (J. Naylor/D. Rogers), TS-2068 Reference Guide (G. Held), , Timex Sinclair Beginner/ Intermediate Guide (P. Blechman), , Crea.tive Games for the TS-2068 (R. Maunder), The Best Of The Plotter (CCATS)

Note: Documentation is included for all items except the 2068.

**Please use reference JSU0395**

## CNSN 16 Last Updated: October 12, 1995

# ZQA! 1995 Index


| VOLUME 5 NUMBER 1 | Spring 1995 |
|---|---|
| INPUT/OUTPUT - Carlos Delhez, Robert Gilbert, Larry Crawford, Rod Gowen, Fred Henn, Greg Bridgewater, SNUG News, William Krossner. | Abed Kahale |
| Zebra FDD | Donald Lambert |
| Windows by Shade | Robert Shade |
| QL Hacker's Journal | Tim Swenson |
| QXL Notes | Al Feng |
| Z88 - My Memory Surprise | Hugh Howie |
| Z88 - Power to You | Hugh Howie |
| Computus Interruputs 2 | Wes Brzozowski |
| TS Bulletin & BASIC N-L | William Harmer |
| Daisy Be Good II | David Lassov |

| VOLUME 5 NUMBER 2 | Summer 1995 |
|---|---|
| INPUT/OUTPUT - Les Cottrell, Tim Swenson, Robert Gilbert, Francine Sklar, Harry Miller, David Lassov, Joan Kealy, Wire guage, Bill Cable, Gilliam Parrish, Ferdinand Gunther, Carl Jones, David Lassov. | Abed Kahale |
| CAI/ESF Stringy Floppy | Donald Lambert |
| A Word to the Wise | Tim Swenson |
| Memories Mean a Lot | Abed Kahale |
| QXL Notes - Sequel | Al Feng |
| MDIR_BAS v1.05 MDIR_C | Al Feng |
| Lil'Amp Rides Again | Les Cottrell |
| Ql Corner | Bob Gilder |
| The Musical PC8300 | Gilliam Parrish |
| QLuMSi -Recent Changes | Al Feng |
| Daisy Be Good III | David Lassov |
| Waging in the TSRoom | Donald Lambert |
| QL Hacker's Journal | Tim Swenson |

| VOLUME 5 NUMBER 3 | Autumn 1995 |
|---|---|
| INPUT/OUTPUT - Editor, Robert Hartung, Paul Robinson, Alvin Albrecht, William Harmer, Donald Lambert, M. Binstock, Fred Henn, Martin van der Zwan, Leo Moll, Jack Dohany. | Abed Kahale |
| ZEUS Assembler | Alvin Albrecht |
| Towers of Hanoi | Alvin Albrecht |
| Digitizing & Sythesizing the 2068 Sound | Alvin Albrecht |
| TTSUC | Robert Swoger |
| Daisy Be Good IV | David Lassov |
| QL Hacker's Journal | Tim Swenson |
| Some Are QXL Notes | Al Feng |
| Windows by Shade 3 | Robert Shade |

| VOLUME 5 NUMBER 4 | Winter 1995/6 |
|---|---|
| INPUT/OUTPUT - ZX-TEAM Peter Liebert-Adelt, Fred Henn, Jose Moreno, David Lassov, Kimmy Posey, Simeon Dwyer, Justin Clark, Les Cottrell, ZX81 LCD Screen. | Abed Kahale |
| Better Late than Never | Abed Kahale |
| PC Power Supply for your QL | Al Feng |
| QXL Totes | Al Feng |
| Daisy Be Good V | David Lassov |
| QHJ FreeWare | Tim Swenson |
| IBM Keyboard Interface for 1000/2068 | Jack Dohany |
| 50 Something | Abed Kahale |


Back copies are for 78¢ each, Postpaid from :


A KAHALE
3343 S FLAT ROCK CT
SIERRA VISTA AZ 85635-6874