

FROM OUT OF 'THE ASHES' RISES

>>>> ZXir QLive Alive! <<<<

The  
Timex/Sinclair NorthAmerican User Groups  
Newsletter

Timex/Sinclair NorthAmerican User Groups  
Volume 2, Number 2

Auburn, Indiana  
SUMMER 1992

MEMORY MAP

ROUTINES	ADDRESS
T/SNUG Chairmen .....	1
T/SNUG Information .....	2
ZXir QLive Alive! Article Contributions .....	2
Contributors to this Issue .....	2
From the Chairmans Disk .....	2
TREASURY NOTES .....	3
From the Editors Desk .....	4
INPUT/OUTPUT .....	4
Sinclair Nostalgia .....	9
NEWS ITEMS .....	12
SPECIAL DEALS AND BUYS .....	12
LIBRARY .....	13
Articles:	
CASSETTE LOAD/SAVE Problems Solved - PART 5 .....	13
MODEM TIME! 1st MTERM II .....	14
Refining ZCOMM for the ZX81 .....	16
TS2068 - Z88 Transfer via Modem .....	19
Ads .....	20
And now a word from our Vendors .....	22
ZX Emulators, letter from Carlo Delhez .....	24
ZX-91 TEN YEARS LATER #4 .....	37

T/SNUG CHAIRMEN

Here is the list of 1992 T/SNUG Chairmen and how to contact them. We wish to support the following SIGS: ZX80/ZX81, Z88, SPECTRUM/TS2068/TC2068 and QL. If you have questions about any of these fine machines contact the Chairman.

POSITION	NAME	PHONE	PRIMARY FUNCTION
Chairman	Don Lambert	219-925-1372	Chief Motivator
Vice-Chairman	Dave Bennett	717-774-7531	CATS/Z88
Vice-Chairman	Al Feng	708-971-0495	CATUG/QL Library
Vice-Chairman	D.G. Smith	814-535-6998	TAPE & JLO Library
Vice-Chairman	Ed Snow	407-380-5124	ZX81 TAPE Library
Vice-Chairman	Rod Gowen	503-655-7484	CCATS/HRDWR&SFTWR
Vice-Chairman	Rod Humphreys	604-931-5509	VSUG/TS2068
Vice-Chairman	Bob Swoger	708-837-7957	LarKen/BBS/Newsletter
Treasurer	Abed Kahale	708-885-4337	CATUG/Cash Tracker

Copyright (C) 1991 Timex/Sinclair NorthAmerican Users Groups  
ZXir QLive Alive!

## T/SNUG Information

**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 at least four newsletters per year.

It is our goal to build a Public Domain software library and develop a list of available software for all T/S machines showing the source.

Vendors have free space in this newsletter which they receive free of charge so that they may see we are still out here. If you feel that T/SNUG should perform other tasks, let us know your feelings.

T/SNUG wishes to provide an open forum for discussion and to have a chairman from every T/S user group who will take charge of sending us their groups newsletter and other correspondence.

We encourage your group to copy this newsletter and distribute it at regular meetings to all of your members. If you can't copy this newsletter, perhaps we can provide a disk with the articles on it for use in your newsletter.

Articles appearing in this newsletter can be obtained by downloading this newsletter from our BBS.

For an annual contribution of \$10.00 you can keep T/SNUG alive! Make your check payable to:

**ABED KAHALE**  
ZXir QLive Alive! Newsletter  
335 W NEWPORT RD  
HOFFMAN ESTATES IL 60195  
Tele: H708-885-4337

Please include your ZIP+4 code and your phone number when you renew your membership. It will speed up the mailing.

## ZXir QLive Alive! Article Contributions

If you would like to contribute an article to the newsletter, upload a file to our BBS called TSNUG.ART. If you have an AD for the newsletter UPLOAD a file called TSNUG.ADS. If you have NEWS to POST about your group, UPLOAD a file called TSNUG.NWS. If you need help contact the SYSOP by E-MAIL on the T/SNUG BBS, mail or by phone:

**BOB SWOGER**  
613 PARKSIDE CIRCLE  
STREAMWOOD IL 60107-1647

It is preferred that you call:  
H708/837-7957 or W708/576-8068

If you can only contribute hard copy, tape or disk format, send your inputs to:

**DON LAMBERT**  
ZXir QLive Alive! Newsletter  
1301 KIBLINGER PL  
AUBURN IN 46706

Tele: H219-925-1372  
Please call before sending articles.

## CONTRIBUTORS TO THIS ISSUE

Paul Anderson  
Andre' Baune  
Al Feng  
Charlie Fox  
Glenn Hufstedler  
Abed Kahale  
Chuck Kereluck, WA7PMT  
Ken Krack  
Don Lambert  
David Lebowitz  
David Leech  
Mauricio Tavares  
Joseph Rampolla  
Francine Sklar  
Phil of Sunset  
Bob Swoger, K9WVY  
John Veness

## FROM THE CHAIRMANS DISK

I stated to Bob Swoger that I would start this on April 1st. April Fool Bob! here it is April 2nd and I am just getting started.

Hip! Hip! Hurrah! we survived the first year and seem to be going good for the start of the second year. But remember that ZXir QLive Alive will be only as good as the submitted material. Instead of crying that it doesn't have anything about my computer send me a letter or and article or something about your computer. I can only get into the newsletter what is submitted. I will admit that the delay in starting this was because I was typing in some of Jack Dohany's MSCRIPT update manuals. I have such a hard time finding any documentation that is on 8 1/2 by 11 paper and it does take up desk space since I have a habit of piling papers on top of it and then it is lost.

Between the Ft. Wayne Hamfest and the Dayton Computerfest I found some very nice three ring notebooks for 5 1/2 by 8 1/2 paper. The notebooks are sturdy and black in color with UNISYS stenciled on them. So if I type in the material and print it out on my single sheet feed printer on 5 1/2 by 8 1/2 paper I have it in a form easy to find and easy to handle on my desk.

I had typed in the manual for MSCRIPT V5.0 and just today I finished typing in V5.5. Now, I will be able to print it out as I like it and have it in a binder that doesn't take all my desk room. An earlier session put the manual of D. U. S. by Kristian Boisvert on disc and when I returned some library disks to TTSUC to George Chambers I sent the D. U. S. manual to him and in the next bunch he sent me he sent back the disc as he added some improvements to make it come up on the screen as readable text without using the word processor. On the disk it is in both TASWORD and MSCRIPT. I have a few typos I know but it is very good for the purpose, and since I typed it in I felt it should be shared.

Surprising what I learned when I typed in the MSCRIPT manuals.

And all this became important to do when I bought the EPSON LX-810 printer in December. And according to THE PLOTTER the company that put out the EPSON originally put out a print head called EP-101 so when later things came along they were called SON of EP or EPSON. Moving from a draft quality only printer to a printer that could do a lot of neat things really enthused me to do more.

I had a call Sunday (March 29th) from Rod Gowan of RMG in which he corrected me on the Citizen 200 printer. He is selling them to be used on the TS2068 and they will work with the AERCO printer interface but not until a hardware change is made to the interface. Something about the Citizen is too fast in handshaking for the AERCO. While Rod did not know if that could be changed on the Oliger printer board he suspects that it is possible. Thank you Rod for the information.

I apologize to Frank Davis for referring to UPDATE MAGAZINE as UPDATE Newsletter. With all the hard work that Frank and Carol Davis do to issue UPDATE MAGAZINE I would not want to distract from that good publication.

If you have something T/S to sell spread the word around, and if you want something get the word out. You never know just when it might appear and one of your contacts will see or hear of it and let you know.  
0/0.

Dom Lambert, Chairman  
TIMEX/Sinclair NorthAmerican  
User Groups

## TREASURY NOTES

-----  
As of August 20, 1992, we have a balance of \$586.28 from 3 groups and 28 individuals.

Abed Kahale, Treasurer  
TIMEX/Sinclair NorthAmerican  
User Groups

## FROM THE EDITORS DESK

---

Beginning with this issue, we shall have articles on the use of modems. A computer without a modem is like a race car without tires. There may be plenty of horse power under the hood but it ain't going nowhere! If you are a ZX81/TS1000 or TS2068 owner and don't have a modem, now it the time to get one while you still can! TS2050 Modems are still available from Mechanical Affinity in Indiana while MD-2 and MD-68 modems are available from BYTE-BACK in South Carolina.

There is a very special feature in the Byte-Back modem software for the TS2068 that may make you want to consider BOTH modems for your hardware collection. The MD-68 can download the BASIC programs of non-Sinclair computers and allow you to modify those programs into Sinclair BASIC! More on this in a future issue of ZXir QLive Alive!

The situation of QUANTA mentioned in past issues of NTN and ZXir QLive Alive! has come up continuously. Poles have been taken and the general consensus among the **CONTRIBUTING MEMBERS** of T/SNUG is to try, whenever possible, to clean up matters that pertain to our Sinclair community. Better that we bring them out and get them fixed before others get hurt and drop out, making our Sinclair users an even smaller group!

We users are the losers because there is some really good stuff out there and we can't get it! A CATUG member ordered items from Canada and though his check was cashed, he never received the items! We have the bucks to spend which could mean hundreds for the vendors, but we can't do business until matters get cleaned up! If you are willing to write about these problems, **your opinions shall be printed.**

My thought is, if you can't take the flack, don't make any, or correct the problems and get back to your customers. We users need our vendors!

Yes, Al. Input/Output is an open forum, Go for it!!!

Bob Swoger, Editor  
TIMEX/Sinclair NorthAmerican  
User Groups

## INPUT/OUTPUT

---

### QUANTA-GATE?

By Al Feng

I'm always intrigued to read recent/current issues of the QUANTA newsletter even though I am no longer a member of that organization.

Eros Forenzi (June 1992) said that his "new Gold Card is an Issue two (RED circuit board), with version 2.28 firmware." He can input:

POKE 114796,0 <ENTER>

to boost his 16 Mhz Gold Card's timing to a blistering 24 Mhz.

While this speed up has a negative effect on the NETWORK capabilities, the "important" I/O functions seem to be okay:

Disk & SER1/SER2.

Eros claims an approximate speed up of 8x (vs. 4x to 6x) of his TRUMP card.

Neil Jackson (June 1992) says:

*I think that now the QL market has weeded out most of the bad companies. The one(s) left are those that are dedicated and provide the correct service.*

So! The QUANT-Aryan Editor(ial Board) seems to feel that if they espouse a right-minded attitude that the membership will believe that their intent is for the common good.

Is this part of a big lie?

Act one way, but espouse what you think will appease the masses.

What a "mother-" country!

Another interesting editorial inclusion during the past six months was penned by John Mason (Feb 1992):

*As regards the question of what should a Newsletter Editor do if he received a letter making a complaint against a firm which he might, at the time, be associated -- surely this is covered by standard ethical practice which would require him to temporarily hand over the Editorship to the Committee so as to assure that Quanta could not be accused of showing bias in handling the complaint.*

*I hope & trust that ALL QUANTA MEMBERS are conscious that continuance of the QL scene -- whatever their QL may be -- is dependent upon continued mutual confidence between End Users and Traders.*

Ah, what grand pronouncements.

And, while these are certainly the words of an individual member of QUANTA, one would suppose (lacking a disclaimer) that this is also the unofficial QUANTARYAN stance.

Yet one must certainly read hypocrisy in this inclusion by the the current QUANTA Editor (perhaps, he was not privy to what has transpired over the past year). Further, we should rail at the apparent hypocrisy of ANY-AND-ALL of the Editors who have undertaken a conspiracy of silence in the matter of the mis-handling of the QUANTA library in North America.

It was (and, is) NOT my intent to undermine the confidence of the QL users in North America or elsewhere by disclosing the

uneven distribution policy of the current sub-Librarian in North America.

Reality may change with perception, but the facts are the facts.

Apparently QUANTA has chosen to officially ignore the rather sticky matter of the two-tiered pricing of the QUANTA library which occurred in the past by directing their only "official" representative in the Western Hemisphere to ignore the issue by not responding to me.

A subtle change may be noted by yet remaining QUANTA members whereby sub-Librarians are now referred to as "Authorized sub-Librarians" [as if to imply that there have been (or, are?) un-Authorized QUANTA sub-Librarians].

Where are the ethics that QUANTA would like to hold so dear? Don't they apply to those outside the UK?

Some have said that this is not a matter which concerns them; but, with QUANTA being the major organization supporting the QL user (Sinclairist?), one would hope that their activity would be beyond reproach.

It is not.

Because NESQLUG is an official sub-Group of QUANTA, shouldn't they be more concerned than they apparently are? Should we suppose that NESQLUG is as complicit in this conspiracy of silence as T/SNUG has chosen to be?

Because T/SNUG is captained by 2068 users, we might dismiss their laissez-faire attitude toward something related to the abominable QL.

Are memories at T/SNUG so short that they have forgotten that their "charter" is directly due to failure of "another" group to properly service the North American community?

formed because The Boston Computer Society was no longer servicing their needs?

I am NOT calling for an overthrow of QUANTA despite the fact that organizations exist in the non-English part of Europe (e.g., IFE) which seem to be more dynamic in aiding their membership.

I would like to think that I am suggesting an open accountability on the part of QUANTA and its Board.

I would like to think that blind allegiance to a group because they are perceived as being the:

"only game/forum in town"; or, "largest in the country/world" ends when that group no longer services its membership.

There are certainly those who would like to sweep this situation under the rug.

So be it.

But, let me extend a little wisdom to those who would like to do so:

Sweeping dirt under a rug simply leaves you with a lumpy rug; and worse, the rug fibers deteriorate more quickly so that sooner than later there is no rug.

HAPPY TRAILS,  
AND COMPUTING, TO YOU!

Al Feng, QL Chairman  
TIMEX/Sinclair NorthAmerican  
User Groups

Ken Krack writes:

I have just seen the T/SNUG Newsletter for the first time and I appreciate its "broader coverage than any 'local' T/S group". It should do a good job in maintaining interest in what I consider to be these masterly friendly computers, I even got the local county college to let me do the assignment work on a course in 'BASIC' language on a T/S 2040 printer and left everybody else behind

struggling with PC "Syntax Error".

K. G. Krack  
c/o Virginia Pavlik  
RD1, Dick Station  
Irwin, PA 15642  
Tel 412 446-5221

Glenn Hufstedler writes:

. . .I was really pleased to read in Computer Monthly about your newsletter. It's nice to see there's a little more support for our computers than I realized. Keep up the good work.

GLENN HUFSTEDLER  
1340 LOCH LOMAN WAY  
LIMA OH 45805

*We at T/SNUG are thankful to Bill Ferrebee for getting out the word. Bill, I hope you will have time for one more plea on our behalf and best of wishes in future endeavors.*

Francine Sklar writes:

I continue to use both the TS2068 and the Z88. I'm particularly interested in articles about the Z88. I enjoyed the short history of the Z88 by Dave Bennett. Are you planning to print any articles on ZBASE?

*I hope your request causes such an article from one of our Z88 owners, Francine. Thanks for asking.*

Charlie Fox writes:

Please accept me as a member in T/SNUG and mail me your newsletter.

CHARLIE FOX  
7603 E FIRESTONE BLVD SUITE #129  
DOWNEY CA 90241

*Charlie, because both you and Glenn sent in more money than we requested, we will send you, both, all eight newsletters!*

Don Lambert writes:

I had a LarKen ZX81 disc interface upgraded from a one drive model to a two drive model and since I have not had any luck getting it to operate and copy discs. While I was

sure it was a disc drive power supply that was flaky I have went through several testing stages with different power supplies and with no luck. I cleaned the various connectors with mineral oil and did get improvements. One of the failures was that drive 1 would read the DIRECTORY but would not LOAD the first two or so programs on the disc. After cleaning, I did get the system to LOAD the first one or two programs. Also, I have a feeling that the 64K Memotech memory is flaky. Elsewhere in this newsletter will be a explanation of how I will solve the problem. The most activity with the T/S seems to be with the TS1000. By that I mean in the calls and letters.

I am involved with two different disc systems for the TS1000 and they are not compatible although both use the 12K to 14K area of memory for the operating system. The ZX81 LarKen system has an unofficial manual of some 110 pages and still growing. The ZX81 AERCO system has two different DOS, one supplied by AERCO and the other wrote by Bill Bell. The latter makes the AERCO operate much like its bigger brother, the TS2068 except that it does require a BOOT disk to LOAD the DOS into memory. Neither system is being manufactured except that I heard that Larry Kenny does have one ZX81 disc interface he found that is for sale. Frank Davis does have a used complete ZX81 AERCO disc system for sale. Regardless of which system is used it is amazing to be able to LOAD in seconds what cassette required many minutes to LOAD or SAVE.

**Andre' Baune** writes:

. . . I hope you enjoy reading about the ZX81/Timex 1000. [You bet we do, Andre'!] In its policy to share and spread all the news to all users, I am including a copy of the letter from Holland to the New England QL Users Group. Be nice, thank them for sharing the info. Also, it is my endeavor to

favor membership to your clubs by supplying your clubs with the latest info and to send the readers of ZX-91 to seek that info from your clubs.

ZX-91 is increasing its number of readers by sending extra letters every month to ex-users or possible users and to different computer magazines and papers. In the process, all the listed groups and dealers are also getting known. The Sinclair-Timex family needs new members and new users, the way to achieve this is to be known more/better. By sharing info and spreading each others names and works, we can do it and we will do it.

*As usual, you are right on target, Andre'. And thanks for the lead you gave us on Byte-Back!*

**Joe Rampolla** writes:

DON, I GUESS THAT YOU HAVE YOUR HANDS FULL EDITING THE NEWSLETTER. ENCLOSED IS THE ARTICLE I JUST FINISHED. PLEASE FEEL FREE TO CALL ME IF YOU NEED ME TO EXPLAIN WHAT I AM TRYING TO SAY. I SURE HOPE I DIDN'T MAKE ANY TYPOS. SINCERELY,

**Joseph P. Rampolla**  
2638 E. Monument St.  
Baltimore, MD 21205

*Don is not the editor yet, but we are trying to ween him on to it!*

Byte-Back's **Dave Leech** writes Thanks for the ZXir QLive Alive! newsletter ... color me impressed! Yes, Byte-Back is still alive and kicking, and I have enclosed copies of the current catalog. I will make your readers the same offer I made the readers of ZX-91, "Make David an Offer." [Make a list of what you want. Include a check for the price you want to pay (be reasonable) and send it to Byte-Back. David will send you the merchandise or return your check. His catalog is included in this issue. Ed.] No reasonable offer refused for

items listed in my catalog.  
Keep up the good work.

BYTE-BACK, INC.  
PO BOX 112  
LEESVILLE SC 29070

Phil of Sunset Elect writes:  
We still have TS1000s, TS1500s  
and TS2068s, Misc. software,  
printers. Thanks for the  
newsletters. We would be happy  
to be on your mailing list.

SUNSET ELECTRONICS  
2254 TARAVAL ST  
SAN FRANCISCO CA 94116

[Phil, if you have a list of  
available items, we will print  
it here free of charge, yes,  
FREE ADVERTISING!, we pay to  
see what you have. How is that  
offer?]

Chuck Kereluck writes:  
.....computers here include two  
TS2068s using the TIMEX TOS  
disk operating system, three  
TS1000s and an IQ-8300. As  
stated in SWYM, the reason that  
we at SEATUG thought that SNUG  
was not there anymore was 1)  
Not realizing your once-every-  
three month ZQA publication  
schedule and 2) Getting burned  
the 1st time we sent in our \$10  
dues (the very first time SNUG  
was announced and SNUG ROUND-UP  
started) and having only 2  
issues received. The reason we  
hadn't sent in our dues for  
T/SNUG until now was because we  
thought our payment for the old  
SNUG would still be good and  
carry over. However, we have  
sent in a new amount to Abed  
and indeed things are looking  
better.

Chuck Kereluck, WA7PMT  
Editor, SWYM Chairman  
TIMEX/Sinclair NorthAmerican  
User Groups

Chuck, you seem led to believe  
the names SNUG and T/SNUG are  
interchangeable. These two  
organizations are not the  
same. T/SNUG was started in  
April of 1991 under its own  
power and money when we saw  
that there was no life in SNUG.  
T/SNUG choose to represent the  
user groups ONLY when it became

apparent that SNUG had failed  
to deliver. The BOOKS of the  
two organizations are separate.  
T/SNUG DID NOT GET A PENNY FROM  
SNUG!

Paul Anderson writes:  
Don Lambert and crew are doing  
a fabulous job. Since there  
isn't a local club in San  
Diego anymore, is there  
something I can do to help  
T/SNUG? Let me know.

PAUL ANDERSON  
1346 CHARGER BLVD  
SAN DIEGO CA 92117

Paul, the first thing that  
comes to mind that would help  
the community would be news  
from California. There  
presently is no known T/S user  
group in California that sends  
out newsletters. Please  
consider contacting other known  
users in California and  
starting a User Group that  
would send in news as to how  
many known users, what T/S gear  
they use, and how we can help  
each other. Copy this  
newsletter and send it to them  
to keep the UG going. As for  
California T/S users, Contact:

BILL MILLER  
6675 CLIFFORD DR  
CUPERTINO CA 95014-4530

Ed Grey  
PO BOX #2186  
INGLEWOOD CA 90305

WARREN TUCKER  
348 IDORA AVE  
VALLEJO CA 94591

David Lebowitz writes:  
Bob: I told you earlier that I  
had subscribed to a "list" run  
by Mauricio Tavares in  
Florida that concerns itself  
with anything about the  
Sinclair computers. I have  
begun to get a small but steady  
stream of mail, some of which  
is informative. Much of the  
discussion is international  
with regular postings from  
Sinclair enthusiasts in  
England, Holland, Finland, etc.  
I thought you might enjoy  
reading the following from  
England that gives a British

view of Sinclair history and discusses some of the computers that all of us may have forgotten about.

## Sinclair Nostalgia

OK. This is my first post to the list... I've been reading all the past postings and think I can help answer a few questions on old Sinclairs (I've lost touch recently.) I have literally dozens of books which I can give details of for the bibliography, and I can give details of magazines etc. Unfortunately all this stuff is 50 miles away from where I am now, so you'll have to rely on my memory until I can get back home!

As far as I'm concerned, this mailing list is just one big nostalgia trip for me! I started with a ZX81, and moved onto a 48K Speccy, then a Speccy 128. Admittedly my main use was games (well I was 13/14 at the time) and learning to program. The Speccy was just perfect to learn BASIC on, what with it's friendly user interface and one-key BASIC entry. I started learning Z80 code on it as well, but never really fully got my teeth into it (-;

I realize a lot of you will know most of Sinclair's history, but I thought I'd give details as I know it of all Sinclair machines to present. Maybe I might mention something you \*didn't\* know, and well, as I said, nostalgia! (-;

pre-80 Wasn't there some mail order kit computer by Sinclair Research? Perhaps I'm thinking of Acorn Computers... [It was a programmable calculator! NAP.]

1980 ZX80 - white case, blue touch sensitive keys, 4K (?) ROM, 1K RAM, cassette interface, b/w character based screen, no sound. The video circuitry (or the processor?) couldn't do too many things at once, so, for instance, every time a key was press the screen

would blank out, ie flash for a split second! A 4K RAMpack was available, to give the user 4K of RAM (not 5). ZX80 available in kit form or ready made. Simple ZX BASIC on-board, using one-key entry system. Not much software ever available.

1981 ZX81 - basically a ZX80 with an 8K ROM. For some time you could buy an 8K ROM upgrade for the '80 which would turn your '80 pretty well into an '81. However the '80 video circuitry wasn't up to SLOW mode, so the flashing was still present. Black case, black and grey t/s keys, 8K ROM, 1K RAM (actually less of this 1K was available to the user than in the '80 because there were more system variables in the '81 than the '80), cassette, same screen, no sound. 16K RAMpack available. ZX printer (thermal, 12 (?) cm wide silver paper, made a horrible noise!) ZX81 available in kit form or ready made. The ZX BASIC in this was improved with better string handling (the '80 used the standard, but inflexible LEFT\$ etc. The '81 and the Speccy used A\$(x TO y) where x and y are the left and right ends of the substring.) Used one-key entry system for BASIC. The RAMpack connection to the computer was very dodgy and led to the unfortunate problem of 'RAMpack wobble' -the computer crashing and losing all data if the user tried doing anything physically unusual with the machine, like pressing a key!

1982 ZX Spectrum - now this is more like it! Colour, sound, 16K or 48K RAM, 16K ROM, black case, grey rubber keys (that actually moved! The keys were criticized at the time, but though they were not good for typing, they were never bettered for games playing), cassette based, the sound came out of an internal beeper (speaker!). An upgrade from the 16K to the 48K was made available as a user upgrade (plug a few chips in) but the computer itself was not available as a kit any more. The ZX printer would plug into

the Speccy, but not (for instance) the ZX81 16K RAMpack. Had 15 colours (supposedly 8 logical RGB colours each of which could be BRIGHT, but BRIGHT black was the same as normal black.) 1 channel sound, though software packages, games etc, often increased this in software. Check out Agent X - 5 channel music! Still one-key entry BASIC.

1983(?) ZX Interface 1 - for the Speccy, an RS232 interface (non-standard connections), a network interface (hmmm... nothing ever came of that!), and a Microdrive interface. The Microdrive was an infinite tape loop storage system, pretty slow (faster than cassette of course), with about 80K on a single microdrive cartridge. A lot of Spectrum programs had to be changed to work in conjunction with an Interface 1 due to the extra system variables in the memory map. The Interface 1 contained a 'shadow' 16K ROM which was paged in whenever a BASIC error occurred. This allowed it to trap commands which would be errors, Eg LOAD "\*"m";1;"prog", and use these to load from microdrive. Good hackers could also use this to extend ZX BASIC.

ZX Interface 2 - a Speccy games cartridge and 2 joystick interface. The cartridges initially seemed a good idea, instant loading, good software protection etc, but what was not announced and what was not realized at the time was that they could hold a maximum of 16K, because they were paged in in place of the Spectrum ROM. Only a few games were ever released for it - Jetpac, Psst etc. The joystick ports were standard Atari 9-pin jobs, mapped to keys 1-5, and 6-0. These could be read by an IN 65xxx command, which unfortunately went against the already standard Kempston design which used IN 31. All games up to the present time support both standards, and additionally the cursor key

standard for a variety of other joystick interfaces.

1984 Sinclair QL - no idea of ROM size, [48K. NAP], 128K (?) RAM, improved keyboard over the Speccy (in Sinclair's opinion), used 68008 processor - a deviation from the Z80 in all their previous micros. Contained SuperBASIC, an even more improved ZX BASIC with procedures etc. The intention was that the ZX tag would be continued for Sinclair's home computers, while the QL tag would be used for the professional, business range. The QL adverts claimed 'There's no comparison table, because there's no comparison.' At the time it had a pretty good spec, certainly better than the PCs of the time. It had an internal microdrive (incompatible to the ZX Microdrive format) and no cassette interface. Graphics were colour, up to 512 by 196 (?), similar to the Speccy's. Sound was still single channel. There were a whole load of production problems early on - the first models had chips hanging out the back of the case (did I mention the black case?), apparently \*half\* the BASIC didn't work, (QL owners used to read the manual and dream of how good their computer could be if all that was in the manual was implemented!), and though things only got better, the QL had a bad reputation from the start. Sinclair's notorious practice of advertising things as ready for sale before they were even finished (as happened with the Speccy and the Microdrives) didn't help. This was in the days when Sinclair Research only sold via mail order and there were massive backlogs of orders. The one-key entry system was dropped in favour of a traditional letter by letter spelling out system for BASIC.

1985(?) ZX Spectrum + - a Speccy 48 in a QL style keyboard, with a reset button to save wear and tear on the power lead (the Speccys had their equivalent of RAMpack

wobble, which was the power lead wobble effect, because pulling out and replacing the power lead was the easiest way to reset the Spectrum!) Bit of a rip-off really, though the keyboard could be bought as a kit upgrade. This was Sinclair's answer to all the third party keyboard upgrades, such as the ones by DKtronics, Saga (?) keyboards etc. The first shipments (as given to the magazines for review, who immediately noted it) had dodgy keys which fell out if the machine was turned upside down and its bottom hit! (Though why the magazines all performed this particular test is a mystery to me!)

1986(?) ZX Spectrum 128 - the first real update to the Speccy since '82. 32K (?) ROM, 128K RAM (48K as normal; the rest configured for BASIC use as an 80K RAM disc, accessed by LOAD !"prog" - actually paged in and out in 8K (?) pages), Speccy + black case (notice any consistency in the Sinclair colour scheme? (-;) with a massive heat sink on the right hand side, which looked like it would get incredibly hot, but actually got pleasantly warm enough to keep you hands warm on one of those late night Winter hacking sessions! Same graphics spec, 3 channel AY-3-8912 sound (the AY seemed a bit long in the tooth in 1986, it was 10 (?) years old by then, but at least it was a proven design), built in RS232 interface (details in the (very slim) manual only for how to use this with printers - it also had a different way of accessing it to the Interface 1), MIDI OUT socket (same socket as RS232, nicely implemented in 128 BASIC), keypad socket (the keypad had a cursor key and numeric keypad cluster on it as a separate colour-coordinated box, though it never appeared outside Spain!) Had a nice menu on power up to choose 48 or 128 mode. 128 BASIC used a letter by letter system similar to the QL, with a screen editor built in.

1986(?) On a sad day for home computing, Sinclair Research's micro division was sold to Amstrad (spit!), makers of the rival Z80 systems- the CPC464, CPC664, CPC6128 etc. Amstrad soon dropped support for the CPCs, instead concentrating on the superior (-;) Speccy system. They first released the Sinclair: (they continued using the name and logo)

ZX Spectrum +2 - a Speccy 128 in a grey case (what's this, \*grey\*??!!), which had a proper full travel keyboard, and a cassette drive 'glued-on' (Alan Michael Sugar's words (AMStrad boss)) to the right hand side. The grey colour and the cassette drive made it look suspiciously like a CPC at first glance, a fact that many old Speccy hands resented. The keyboard tops lost the keywords, which made 48 BASIC programming tricky, though of course Amstrad (and Sinclair before that) assumed most would use 128 BASIC. The only other changes were alterations of the copyright messages in the ROMs to (c) 1986 Amstrad, even in the 48 BASIC ROM, which in the Spectrum 128 still said (c) 1982 Sinclair Research. Also this was the first Spectrum with built-in joystick ports, using the same system as the Interface 1, but perverse as Amstrad were/are, they are the only micro in the world to use a different 9-pin layout to the Atari standard of 10 years! Converters were soon available from a number of third parties (similar to the gender changers for RS232 etc).

1987(?) ZX Spectrum +3 - a Speccy +2 with totally redesigned circuit board, and a 3 inch disc drive in place of the cassette drive (a cassette interface was of course provided). In a black case (evidently someone complained about the +2!) with similar keyboard, ports etc to the +2. The ROMs also changed some more with the 80K RAM disc being accessed as drive M, eg LOAD "M:prog" instead of LOAD !"prog". The improved circuit



Want to try MS-DOS first before you switch? Try QLUmsi DOS, the MS-DOS SIMULATOR on your QL first.

QLuMSi (disk/specify) .....\$15  
CALL: Al Feng H(708) 971-0495

Try Al's Side-Kick on your QL. It is an Auxiliary Operating System (AOS) like LogiCall and can make your life on the QL a lot easier [you may never lust for MS-DOS again!]

QLuSTer (disk/specify) .....\$10  
CALL: Al Feng H(708) 971-0495

## LIBRARY

\*\*\*\*\*  
TIMEX/SINCLAIR  
PUBLIC DOMAIN LIBRARY  
IS AVAILABLE NOW  
AND  
IS ON THE MOVE  
GIVE BOB SWOGER A CALL  
\*\*\*\*\*

### GATOR'S TWISTED PAIR

!!! R E M E M B E R !!!  
We now have a 24 hour BBS and encourage you to exchange mail and contribute to the Download Section. Use it and have fun!

The board has become semi-private at this time. Please call Bob Swoger at 708/576-8068 at work or 708/837-7957 at home for information on how to log on.

## ARTICLES

### CASSETTE LOAD/SAVE ROUTINE AND PROBLEMS FOR THE ZX81 PART 5

Compiled by Donald S. Lambert

SOURCE: ZX COMPUTING  
FEB/MARCH 1983

TIM HARTNELL AND IAN BEARDSMORE SUMMARIZE ADVICE FROM MEMBERS OF THE NATIONAL ZX USERS' CLUB.

### CONQUERING LOAD/SAVE PROBLEMS

Some of the following advice will not be relevant to your particular computer/cassette setup, so read through all the advice we give until you find something that appears to apply

to you, and then try out the suggestions given.

#### IN A JAM?

Make sure the outputs from your cassette player are compatible, that is you have 3.5mm sockets, and check that the plugs fit firmly. Some appear to work better if they are moved a fraction of an inch out of the computer, rather than being jammed hard into the ZX81. The ZX80 and the ZX81 need four to six volts peak output.

If you have a 16K program, trying SAVEing, then LOADING a very short program without the pack on, and then with it in place. If they both LOAD/SAVE, then try a longer program. If the longer program does not LOAD/SAVE, then the problem could be overheating, something that can cause problems within 15 minutes of turning the computer on.

If you get LOAD/SAVE problems only with the 16K RAM PACK attached, then try the following ideas. They sometimes bring results, even with mischievous RAM packs.

1. Keep your ZX cool. This can be done by using a fan, or by placing something cold on top. Tim's first book, MAKING THE MOST OF YOUR ZX80, was written with the aid of a succession of frozen LONG LIFE milk cartons. If you follow this somewhat bizarre idea, make sure that the water doesn't get into the computer. If you have an extreme heating problem, and you feel confident of your ability to do it, you can take the top off, and/or solder in an extra heat sink.

2. Don't jar the computer while SAVEing or LOADING.

3. Try different volume levels when LOADING, and keep the tone control on the maximum (in full treble). You'll need a lot of volume in most cases, and a maximum treble.

4. Noise can be a source of LOADING problems. There should be about five seconds of

silence before a program. Tape hiss is not conducive to a successful load.

5. Use good, proper computer cassettes, rather than cheap low-noise audio ones. Quality audio cassettes (such as TDK) generally work well.

6. Clean the tape head frequently, and if you can get one - use a demagnetizer from time to time.

7. If your cassette recorder has batteries, try it with them, rather than running the recorder from the mains. You should find this helps.

8. Make several copies of each program, so that if one doesn't load, you can always try the next one on the tape. Frequent use of a tape (or one portion of it) will lead to a buildup of hiss over the program, which may eventually make it impossible to load from.

#### ADJUSTING AZIMUTH

Mr. S. Atkinson of Harrogate suggests the following. He points out that, for loading, the output from the cassette needs to contain as much treble as possible. You can increase the treble content of the recorder's output by changing the tape head azimuth, the alignment between the tape head and the tape.

The tape head on most cassette machines is mounted on two screws, one of which is sprung. By adjusting this screw, the tone can be altered. The screw is accessed by a small hole above the play head. In many cases, this hole is covered by tape, or a small metal plate.

Here's how you can adjust your azimuth:

1. Turn the recorder controls to maximum treble, minimum bass, and insert a tape containing a program.

2. With the earpiece out, start the recorder.

3. Adjust the screw, trying it

in both directions, until the sound is as "tinny" as possible.

Note that this may make some of your music cassettes sound a little too sharp for your liking.

#### MODEM TIME! 1st MTERM II by Bob Swoger

When I see a computer setup without a modem, I am reminded of a story about a man at a wake remarking to the man standing next to the casket "Now he's with his LORD". But the man said "I'm afraid not, he didn't believe the HIM". "Oh! so he's going to the other place?" the visitor asked? "No, he didn't believe in that either. The man was an atheist!" was the reply. " Oh, too Bad," said the visitor, "all dressed up and no where to go!"

In this age of computers, I am amazed to see this situation so often, computers "all dressed up and no where to go!" I type something for a manual and print it out on paper. I give it to the publication department and they have someone else type it into another computer. I could have uploaded it to them and saved all that typing time and the ensuing typing errors.

Someone writes wanting the latest version of LogiCall. It is always on the T/SNUG and CATUG BBS. With a TS2050 modem they could download it in four minutes. Someone wants to put an ad on the BBS, they give it to me printed on an 8 X 11 piece of paper or a person submits an article for a the newsletter printed on paper wanting me to type it into the computer! I've got better things to do with my life!

If these people would just invest in a modem and terminal software, the data could be transferred from one machine to another in no time at all and the two machines wouldn't even

have to be of the same brand name! They all speak ASCII!

One of the reasons the BBS's were invented was for the exchange of information. I have seen good computer programs written and articles written in magazines or periodicals that just don't get around enough because they were on paper and not made available on a BBS. What a loss to the community! I have friends that work during other parts of the day than me and we still stay in touch through the BBS Electronic Mail service. Less interruption by telephone calls is also a result of E-MAIL. You don't have to be on the other end when someone calls.

I have seen modems now starting at \$5. Most machines can get free terminal software so what excuse have you got now?

If you are a TS2068 LarKen/LogiCall owner with a WESTRIDGE 2050 modem by Anchor, (also labeled TS2050), you will want to have at least three terminal software packages. They are MTERM II, LOADER V and MAXCOM. You will be limited to 300 baud but you will have the ability to communicate with any board supporting that speed. You will be able to transfer new software from the host system to yours and much more.

We shall start with an article for the WESTRIDGE 2050 Modem, made by Anchor, using MTERM II software from Micro-Systems Software Inc., the company which also wrote MSCRIPT and presently develops software for AMIGA computers. T/SNUG asked the author, Steve Pagliarulo, if he would release the program to the public domain but he stated that he still uses portions of the code elsewhere.

The most outstanding terminal program I have seen for the TS2068 is MTERM II. Steve Pagliarulo, also the author of MSCRIPT, fully understood how host computers operated and what we would need to communicate with them. To fully

understand MTERM II, one needs the MTERM Software manual from WESTRIDGE, E. ARTHUR BROWN Company's notes for printer drivers, Barry Carter's SMART TERMINAL TELECOMMUNICATIONS manual and the VIDTEX portion of the GETERM manual from Greg Miller to explain the screen control portion of the software. Hopefully, I can provide that information in a future article.

The LOADER V manual from Kurt Casby will make the package complete. More on that next time.

Below is a driver for the MTERM machine code to be used with the LarKen/LogiCall system inspired by the original Mterm sent out with the first Anchor modems. Note that Steve's present address and phone number is given in case he changes his mind about releasing to the public domain. If this loader is still in memory after exiting to BASIC from MTERM II, just key in RUN and <ENTER> to get back to LogiCall, otherwise RAND USR 100: NEW.

#### MTERM2.B1

```
1 GO TO VAL "9998"
10 REM Version 1.021 1983
MICRO-SYSTEMS SOFTWARE INC.
By Steve Pagliarulo Suite 201A
12798 W FOREST HILL BLVD
WEST PALM BEACH FL 33414
407-790-0772
20 CLEAR VAL "54015": LET A=SG
N PI: LET B=VAL "7": LET C=VAL "
4": PAPER A: INK B: BORDER A: CL
S
30 BEEP VAL ".15",VAL "5"
40 PRINT AT VAL "2",VAL "5";"R
EACH MORE OF THE WORLD";AT C,VAL
"14";"With"
50 PRINT AT B,PI; FLASH A;"Mic
ro-Systems Software Inc."
60 PRINT AT VAL "12",VAL "8";"
SMART TERMINAL II"
70 PRINT AT VAL "15",VAL "3";"
TELECOMMUNICATION SOFTWARE"
80 PRINT AT VAL "20",VAL "9";
FLASH A;"PROGRAM LOADING"
90 RANDOMIZE USR CODE "d": LOA
D "mterm2.CV"CODE : BEEP VAL ".0
42",CODE "2": PAUSE VAL "2.8": B
EEP VAL ".042",CODE "2": RANDOMI
```

```

ZE USR VAL "54016"
9992 RANDOMIZE USR CODE "d": SAV
E "MTERM2.B1" LINE PI: RANDOMIZE
USR CODE "d": SAVE "mterm2.CV"C
ODE VAL "54016",VAL "9216"
9994 REM RANDOMIZE USR CODE "d":
SAVE "phnubr.Cu"CODE VAL "61373
",VAL "1495"
9998 RANDOMIZE USR CODE "d": LOA
D "L.B1"

```

Certainly this is the time to acquire a TS2050 modem for your TS2068 if you don't already have one. Frank Davis will give them away to schools if he can't sell them. Call him at Mechanical Affinity and be sure to have yours when you are ready for it or they will be 'ALL GONE' when you really need one!

**REFINING ZCOMM**  
by Joseph Rampolla

Fans of the "I LOVE LUCY" television series may remember when Lucy Ricardo wrote her first novel - "Real Gone with the Wind". Her publisher wanted to use it in a text book on "How to Write a Novel". However, to Lucy's disappointment, it was to be used as an example of what NOT to do! Well, I hope I do better than Lucy. Here is my first attempt at writing an article for the TS1000 and Byte-Back's MD-2 Modem.

After playing with 16K to 64K ZCOMM's programmable characters, I was fortunate to find the 2 sets of POKES that convert ASCII to T/S CODE and vice versa. Those familiar with ZCOMM for the MD-2 modem know that certain characters are not available to you. You can re-program CONTROL J and M, but nothing shows up on your screen. While using CompuServe, I noticed that I wasn't getting the exclamation point, or any character to substitute for it. Sure, I could live without the "!", but text looked wrong, if not confusing. Also, the "%", "&", and CONTROL symbol (the upside down "V") were all missing. I was disappointed that ZCOMM didn't give me some

substitute, but I imagine it is for a good reason, perhaps for uploading and downloading programs. My concerns here are just for text.

The following table shows what to POKE to give those missing characters. (An inverse character or graphic symbol is my substitute.) It just so happens that both the 2K and 16-64K versions have values in the same consecutive order, but at different starting addresses.

**ZCOMM CHANGES FOR MD-2 MODEM**

2K ADDRESS	16K - 64K ADDRESS	OLD #	NEW #
17250	17774	64	33
17351	17875	10	64
17370	17894	13	37
17417	17941	255	12
17421	17945	255	134
17422	17946	255	149
17448	17972	12	151
17478	18002	255	148

% is now graphic 134 (two small squares).

& is now the inverse plus sign.

! is now the sterling symbol.

@ is now the inverse asterisk.

Cursor down sends the @ symbol.

Graphics M (CONTROL M) sends the % sign.

Other ASCII characters can be programmed into unused CONTROL characters.

For 2K, CONTROL A to Z are addresses 17358 to 17383.

For 16K - 64K, CONTROL A to Z are addresses 17882 to 17907.

So, for example, with 16K to 64K ZCOMM, if PRINT PEEK 17945 gives you 255, then POKE 17945, 134 and so on. You need only to check what was the original POKE to see if we are dealing with the same version of ZCOMM.

One last note, the inverse equal sign is now the CONTROL symbol or up arrow on some keyboards (ASCII 94). Unless

you reprogram an unused control character, you can only receive the equivalent of the CONTROL symbol and the ampersand (&).

Another interesting thing ZCOMM does is to subtract a value of 32 from any incoming ASCII value over 95. So if you are sent ASCII value 126, ZCOMM changes it to 94. So the "tilde" is also interpreted as the control symbol. (Sometimes the tilde is used as a designation of "approximately" and used for other purposes I am not familiar with.) That subtraction of 32 converts all lowercase ASCII codes to uppercase codes (or values). So, consult an ASCII conversion chart and check for those double meaning characters.

If you have a version of ZCOMM that is different from mine, you may be able to find those POKES provided the software is written in the same style. I did the following in order to find the POKES that did the code conversions: LOAD ZCOMM but don't RUN it.

Type in the following lines:

```
100 for I=17000 TO 18999
110 PRINT PEEK I, I
120 NEXT I
```

Then enter GOTO 100 and wait for these numbers: 65, 66, 67, 68, 69, etc., all the way to 90. You will have found the section of ZCOMM that converts T/S code to ASCII. Twenty-six POKES above that address where 65 appeared will be your starting position.

If all goes well, everything may be in the same order as the previous table shows. Once you have located the starting position, change 17000 to that value, allowing for approx. 250 repetitions. And change PRINT to LPRINT. Enter FAST mode and your printer should be singing. After you have tested your finds and settled on the subtle changes you may want, reLOAD ZCOMM, make the POKES, and SAVE it. (Of course, you make the changes and SAVE it before

RUNning it.)

The other problem with ZCOMM is that it uploads text in a 32 column format, with trailing spaces to fill out the right margin to 32 col. This is a problem with CompuServe when you wish to upload text for FAX or Postal letter. The other problem is that ZCOMM sends 3 carriage returns between ZCOMM pages, and at the start of an upload, it sends 2. With no help from CompuServe, I found a way to reformat text to 80 columns for a professional looking result. There are some little known EDIT commands that allow you to "get around" ZCOMM's shortcomings. If someone familiar with machine language programming knows a way to stop these extra carriage returns, please let me know.

You can compose your text, off line, in a manner that allows for quick and easy editing. Allow yourself to experiment until you find a method that works for you. The example is worth a thousand words! The address is my correct address is at the end of this article.

The first thing you must do is not to exceed 32 keystrokes per line when entering text. ZCOMM considers your back-spaces as characters; you'll see them if you exit to BASIC after you finish text entry. The back-spaces are those grey boxes. If you exceed 32 keystrokes, what you see on your screen will be broken up and spill over to the next line. It's not the worst thing, but when you are paying top dollar for a service like CompuServe, it is best not to have to make a correction online.

Since CompuServe's text editor doesn't leave 2 spaces after punctuation when it reformats text, you may want to hold that space with an "\*" to be replaced with a space after reformatting. You can use any symbol (character) that ZCOMM will recognize when uploading

text as an indent character, or as a space preserver. Always leave one blank line between paragraphs and between lines that you want to remain in the original format. You will skip over the address and date when you use the reformatting command. Otherwise, it will lose its placement. ZCOMM will only recognize regular characters, not the ones you re-programmed. So, for example, the graphic symbol that represents the per cent sign will not be uploaded. (You can send it while online.) ZCOMM WILL recognize the sterling as an "!" when uploaded.

Upload your text while in the LINE EDIT mode because it allows you to delete multiple lines in one command. So, after selecting DELETE LINE(S) from the menu, do the following at the prompt: 1,2,26-28,48-50,72-74,96-98, until you have included all the blank lines you wish to delete. The blank lines ZCOMM sends are always in the same place and order. Then file your text as a draft copy. This is important. Otherwise, reformatting will not be correct. CompuServe maintains the original line order, for some unknown reason, until it is SAVED as a file. Also, if you mess up the text with the editing commands, you can /ABORT and start over, without having to re-upload and delete lines.

Now, enter "SET EDIT NOLINE" and choose the menu number for using a file, the one you just saved on CompuServe. (You will be asked to name the file initially, and you can retrieve it, of course with the same name. I always use DRAFT as the name at this point. If I want to save it permanently, I give it a new name at the end of that session.)

Enter the following commands at the start of a new line. Remember, an "X" is used for these examples to designate a space. You, of course, will substitute a space.

/T,(GC/XX//) This command removes most of the trailing spaces that can screw up reformatting.

/POS8,RM80,(FP) This command reformats your document to 80 col. The RM stands for right margin 80 col., or any width can be substituted. The FP stands for fill paragraph. The ( )repeat the FP for the entire document. POS 8 tells the editor to start at line 8.

/T,(GC/XX/X/) This changes any place where there are 2 spaces together to one space. (The extra space can happen on a line with an odd number of characters. In the first command, we only removed spaces in pairs.)

/T,(GC/\*/X/) This changes the asterisks to spaces.

/T,(GC/+/XXXXXXXXXXXXXXXXXXXXX/) This indents your designated line the number of spaces you specify.

All these commands seem like a lot to do? IT IS! But you can get it down to about 10 min. per document, and that ain't bad. CompuServe has a Basic Rate for \$7.95 per month. It doesn't cover all areas, but it does cover the Mail, News and Encyclopedia. For one month's worth of unlimited time, you can get the hang of it. (That's unlimited time in selected areas.) If you have a modem and T/S 1000 just taking up space, it is worth a try. I almost gave up on it all until I found the FP command in a question and answer section of CompuServe. I wasn't made to feel very welcomed at one point because people with machines that send a mixed case character set consider all caps as shouting. Also, there is snobbery in computerland, unfortunately. I only had wished that I had discovered the T/S line back when it came out, not just two years ago. Any feedback is welcomed.

P. S. If anyone knows of word processing software which is

compatible with ZCOMM, please let me know.

Joseph P. Rampolla  
2638 E Monument ST  
Baltimore, MD 21205

**[SEE THE BYTE-BACK CATALOG ELSEWHERE IN THIS ISSUE IF YOU WISH TO PURCHASE THIS MODEM AND SOFTWARE!]**

TS2068 - Z88  
Transfer via Modem  
by Dave Bennett

The Z88 has a built-in serial port. It is easy to send files back and forth to any other serial port equipped computer via null modem. A null modem is simply a serial cable with a couple lines crossed.

However some computers such as the TS2068 do not have built-in serial ports. You can buy a serial interface such as a Z-SI/O card. But this can also be done with two modems. Thus saving the cost of buying another interface.

Hook up the modems to both computers in the normal manner. On the Z88 you will have to make or buy a serial cable to plug into the modem. Most TS2068s will be using the TS2050 modem which plugs directly into the expansion slot on the back.

Instead of hooking the phone cord into the wall jack, plug it from one modem into the other. However with some modems you may also have to connect to the phone jack using a 'Y' connector.

Now load your favorite communication software. The Z88 has two programs available, Z88COM and ZCP. On the TS2068 try Specterm 64 or Mterm II with an Xmodem enhancement such as Loader V.

If you are using a TS2050 set the baud rates in the Z88 Panel to 300, the Parity to None and Xon/Xoff to No.

Now you will command one modem to originate and the other to answer. Modems use two different sets of tones for originate and answer. The commands for the Z88 and a Hayes compatible modem are ATO and ATA. Use the equivalent command for your TS2068 software. If the equivalent command is not available try OUT 119,2 or OUT 119,34 for the TS2050.

Initiate the commands on both computers at the same time.

The modems should connect with each other just as they do when you call an online service over the phone.

Try typing on one computer. The letters should appear on the other computers screen. If all the letters appear OK, you can try transferring files. Initiate Xmodem on both machines. This will vary with the various communication programs. Select S for Send on the machine you want to transfer from and R for Receive on the other computer. Type the filenames and press Enter on both machines at the same time. The file should be transferring. If not, check your connections and software switch settings.

This method will work for any computer. But if both computers have serial ports a null modem cable is faster and easier.

If you have two computers and two modems you may want to experiment with this method of transferring files.

## T I D - B Y T E

From SOFTWARE MAGAZINE Oct 1992  
Charles Wang, Chairman and CEO at Computer Associates told the recent Atre Consultants Client/Server conference, "DOS Perot is a new operating system. When you boot it up, it displays a message that says it's thinking of running. If it finds a competing operating system, it quits right away."

# ADS

-----  
To put an AD in the BBS and newsletter, upload a file with the filename.filetype:

TSNUGx.ADS

!!! Our ADS are free !!!  
Your ADS appear in FOUR different newsletters!

FOR SALE: ON 921012  
%%  
TRS-80 MODEL 16.B W/15 MEG DISK SYSTEM FOR 8" DISK.

- (2) TRS-80 DWP 510 PRINTER
  - (1) DAISY WHEEL PRINTR MODEL II
  - (3) TRS-80 8 MEG DSK SYSTEM
  - (2) TRS-80 12 MEG DISK SYSTEM
  - (1) TRS-80 15 MEG DISK SYSTEM
  - (4) DISK SYSTEMS 3 SLOTS, 2 DRV
  - (4) TRS-80 MDL II MICROCOMPUTRS
- EVERYTHING WORKS - PRICE NEGOTIABLE - CALL PHIL OR JIM CLARK 8 AM -5 PM WEEK DAYS OR 9 AM TO 12 NOON SATURDAYS  
708-366-1913

FOR SALE: ON 920909  
%%

I have acquired more ZX goodies to pass on to you all since my last ad:

\*\*\*\*\*  
\* Timex and Sinclair Hardware \*  
\*\*\*\*\*

- (2) TS-2068
- (2) Joysticks
- (1) Spectrum Joystick Adapter
- (2) Commodore 1520 Color Plotter
- (1) Color Plotter Repl Pen Set
- (1) Wico Trackball
- (1) TS-2040 Printer
- (1) TS-2068/1520 Plotter Intfce
- (5) TS-2050 Modems (untested, 3 with cables, all uncased)
- (1) OS-64 Cartridge
- (1) TS-2068 Winky Board
- (1) Z-SIO (TS-2068 Serial Intfc)
- (1) JLO TS-2068 Expansion Board
- (1) Z-Link (TS-2068 to Spectrum bus converter)
- (1) JLO Printer Interface Card
- (1) QL
- (2) Crazybugs Cartridges
- (2) Budgeter Cartridges
- (1) States & Capitals Cartridge
- (1) Pinball Cartridge
- (1) Flight Simulator Cartridge
- (1) Androids Cartridge
- (1) ZX-81
- (3) TS-1016 (16K Rampack)

- (2) TS-1000 Winky Board
- (1) Larken NVM for TS-1000

\*\*\*\*\*  
\* TS-2068 Software \*  
\*\*\*\*\*

- Fighter Pilot
- MScript
- Flight Simulator
- Casboard 2068
- Ramdizk
- Textwriter 2000 Plus
- Pro/File 2068
- Hot-Z 2068
- Mterm-T
- Loader V

\*\*\*\*\*  
\* Spectrum Software \*  
\*\*\*\*\*

- Super Bowl
- Machine Code Tutor
- Higheay Encounter
- The Flying Formula
- Dlan
- Specterm-64
- ZXpert
- 007 Spy
- Softaid (10 Programs)
- Cassette 50 (50 Programs)

\*\*\*\*\*  
\* TS-1000/ZX-81 Software \*  
\*\*\*\*\*

- Word Sinc
- ZX-Term\*80

\*\*\*\*\*  
\* QL Software & Manuals \*  
\*\*\*\*\*

- QL Technical Guide
- MAC Paint (with files)
- CAD
- Runtime Editor
- Pascal
- Psion Package (WP,SS,DB,Graph)
- Qcode
- QLTerm
- QLink

BEST OFFER

Gary Lessenberry  
12 Alleghany Road  
Havelock, NC 28532  
919-444-3895

FOR SALE: ON 920719  
%%  
1770 DISK DRIVE CONTROLLER  
I.C.s for \$9.00 each postpaid  
to U.S. or Canadian addresses.

Paul Holmgren  
52310 Wilton Wood Court  
Indianapolis IN 46254  
317-291-6002

FOR SALE: ON 920102  
 %%%%%%%%%%  
 128K QL W/ MINERVA 1.66 ROM and  
 ENHANCED KEYBOARD .....\$95  
 MIRACLE 512K EXPANDERAM (QL) ..  
 .....\$125  
 SPEEDSCREEN ROM (w/ RAM code on  
 1 mdv) .....\$45  
 NUCLEON (2 mdv) .....\$15  
 INTEGRATED ACCOUNTS (on 3 mdv)  
 .....\$45  
 \*\*\*\*\*  
 \* ALL ABOVE ITEMS: \$250 \*  
 \*\*\*\*\*  
 \* ALL PRICES NEGOTIABLE \*  
 \*\*\*\*\*  
 CALL: Al Feng H(708) 971-0495

FOR SALE: ON 920522  
 %%%%%%%%%%  
 Epson LX-86...needs new head  
 .....\$25.00  
 Royce 23-chnl CB mobile radio  
 .....\$25.00  
 Royce 40-chnl CB mobile radio  
 .....\$35.00  
 If interested, either leave  
 E-mail, or call Tom Kowalski at  
 (708) 289-7583 after 3:30 PM,  
 or leave message on answering  
 machine.

WANTED: ON 920509  
 %%%%%%%%%%  
 TRACTOR AND/OR ROLL PAPER  
 UNIT(S) FOR MANNESMANN TALLY  
 MT160 PRINTER. ALSO, ANY  
 INFORMATION ON THE RC ALLEN (BY  
 LITTON WESTREX) PRINTER MODEL  
 NO.88802-112  
 D. G. Smith, R.415 Stone St.,  
 Johnstown, PA 15906

FOR SALE: ON 920309  
 %%%%%%%%%%  
 GETTING RID OF EXCESS  
 EQUIPMENT, HARDWARE, SOFTWARE,  
 BOOKS, ETC. FOR BOTH TS1000 AND  
 TS2068. SEND FOR LIST.  
 WILLIAM VOLK, 6015 CARTER AVE,  
 BALTIMORE, MD 21214  
 H301-254-8258

FOR SALE: ON 920509  
 %%%%%%%%%%  
 LOCAL COMPUTER GROUP GETTING  
 RID OF EXCESS EQUIPMENT,  
 HARDWARE, SOFTWARE, BOOKS, ETC.  
 T/S USER'S GROUP, P.O.BOX 614,  
 Johnstown, PA 15907

FOR SALE: ON 911010  
 %%%%%%%%%%  
 CoCo 1 W/64K AND PRO KYBRD .\$.20  
 J&M Controller .....\$65  
 Dual TEAC Disk Drives .....\$80  
 Joysticks .....\$10  
 The whole package with software  
 and manuals: .....\$125  
 CALL TONY SOKOL H708-428-4058

FOR SALE: ON 911025  
 %%%%%%%%%%  
 I have a Sinclair ZX81 with  
 64K Memotech RAM, enhanced  
 keyboard and 300 baud Byte-Back  
 modem. I also have a TS2068  
 with modem, printer, and  
 Spectrum cartridge, along with  
 a dozen old programs from  
 Quicksilver and the like, for  
 both machines. Both are in  
 working order and excellent  
 condition. Make an offer on the  
 whole kit and kaboodle.  
 Peter Paglia, 8802 Partridge  
 Run, Chapel Hill NC 27516

FOR SALE: ON 911015  
 %%%%%%%%%%  
 QL Complete System ..... \$80  
 Gold Card for the QL ..... \$500  
 Call Frank Davis H317-473-8031

FOR SALE: ON 911015  
 %%%%%%%%%%  
 For the AMIGA 500:  
 Platinum Scribble..... \$40  
 Deluxe Paint..... \$25  
 Walt Armstrong H407-433-8822

FOR SALE: ON 910912  
 %%%%%%%%%%  
 4 - 256K 80 nS SIMMS IBM TYPE  
 1 MEGABYTE TOTAL  
 \$15/ea or \$50 for all 4  
 Call MIKE WARNS  
 W708-982-2107 H708-627-9561

FOR SALE: ON 910426  
 %%%%%%%%%%  
 COLOR COMPUTER 3 - DISK DRIVE  
 CM-8 COLOR MONITOR W/PLATFORM  
 SMITH CORONA TP-1 PRINTER  
 JOYSTICK AND 1 DOZ BLANK DISKS  
 SOFTWARE INCLUDES DESK MATE  
 HOME PUBLISHER \$400 OR BEST  
 312-337-3624

WANTED: ON 920901  
 %%%%%%%%%%  
 LarKen LKDOS system. Contact:  
 Bob Swoger, W708-576-8068 or  
 H708-837-7957

## And now, a word from our Vendors

Please remember to support our Vendors. Isn't it time to acquire a disk drive system for your TS2068? Cost can't be the excuse because \$125 will get you LarKen DOS and \$50 more will get you dual drives from feasts! Life just isn't long enough to wait for tape saves and loads!

Running your computer without a modem is like having a sports car with no tires. You just sit there with all that horse power and can't go anywhere! Frank Davis says he has a lot of TS2050 modems and if he can't move them he will donate them away, what a loss to the T/S community that would be! Contact him and order yours at:

**MECHANICAL AFFINITY**  
FRANK DAVIS  
513 EAST MAIN  
PERU IN 46970  
317-473-8031

**MECHANICAL AFFINITY**  
PAUL HOLMGREN  
5231 WILTON WOOD CT  
INDIANAPOLIS IN 46254

Please support our magazine, it's the only one left and is really very good.

\*\*\*\*\*  
OUR ONLY MAGAZINE!  
PLEASE SUPPORT IT!  
\*\*\*\*\*  
UPDATE! COMPUTER SYSTEMS  
PO BOX 1095  
PERU IN 46970  
317-473-8031

AERCO  
BOX 18093  
AUSTIN TX 78760  
512-451-5874  
DOS & CPI'S

**LARKEN ELECTRONICS**  
LARRY KENNY  
DOS & BBS SOFTWARE  
These fine products  
sold by both  
ED GREY & RMG ENTERPRISES

ED GREY  
PO BOX #2186  
INGLEWOOD CA 90305  
213-759-7406

RMG ENTERPRISES  
ROD GOWEN  
1419 1/2 7TH ST  
OREGON CITY OR 97045  
503-655-7484

EMSOFT DIVISION  
PETER HALE  
PO BOX 8763  
BOSTON MA 02114-8763  
617-889-0830

BYTE-BACK, INC.  
PO BOX 112  
LEESVILLE SC 29070

SUNSET ELECTRONICS  
2254 TARAVAL ST  
SAN FRANCISCO CA 94116

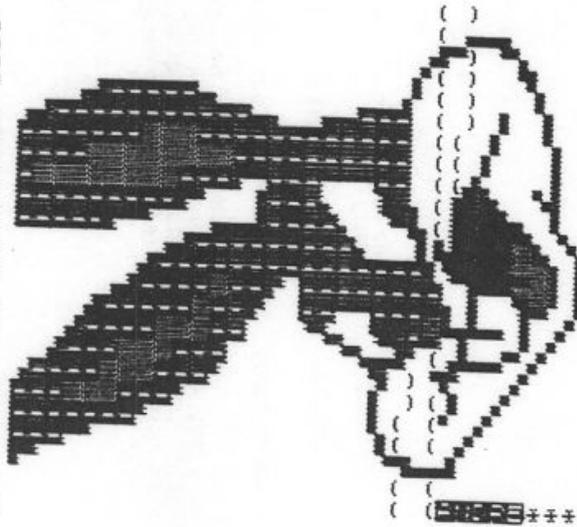
AERCO and OLIGER DOS is very popular also. LarKen DOS can be added to both for \$65 so that you can enjoy two systems at once. the JLO/LarKen system is called super DOS, look for info in past UPDATE! articles by Bill Jones.

Be sure to call or write our Vendors and ask for information on their current stock of products.

Vendors, T/SNUG will run your ads for free, just send us copy of your ad the way you want to see it here. Our members are paying to see what you have to offer, we at T/SNUG feel that this will help you to stay around longer. Just send your copy to Don Lambert. We shall send you this newsletter for free for as long as you and we are 'still around'.

ZX REPAIR  
DAN ELLIOTT  
RT 1 BOX 117  
CABOOL MO 65689

SHARP'S INC.  
BOX 326  
MECHANICSVILLE VA 23111  
804-730-9697 FAX>804-746-1978



Send me the name of the character(s) depicted in here and I will send you the program and the data to have it on your own screen. See also bottom of page 2.

TO

# ZX81

NO. 4

## 10 YEARS LATER

ALL THE NEW NEWSLETTER FOR THE SINCLAIR ZX81 / TIMEX 1000.

ALL YOU SEE, AND WILL SEE, HAS BEEN CREATED WITH, AND ONLY, A ZX81, A 16K RAMPACK AND A TIMEX 2040 PRINTER.

# HI!

April's fool is behind us. I didn't quit. It is Easter and spring time. See graphic on page 1. ZX-91 is reaching more and more believers in the ZX81/Timex 1000. In this issue, I offer a treat to the print-out buffs who were neglected in the last issue. Also I have to cut out the article about PAUSE for lack of space.

Keep reading and asking for ZX-91. All knowledge about ZX81/Timex 1000 belong to all users, ZX-91 spreads it.

IF YOU WISH TO RECEIVE  
 A PRINT-OUT, A CASSETTE,  
 AN INFORMATION, A REPLY  
 OR THE NEXT MONTH ISSUE  
 OF THIS NEWSLETTER SEND  
 A SELF-ADDRESSED ENVELOPE  
 TO: ANDRÉ BAUNE  
 304 SCOTT  
 CHATEAUGUAY, QUÉBEC  
 CANADA J6J 4H5

# KNEE-USE-M-SIRS

Has anyone decoded the above title? Last chance to impress your friends, the answer in the next ZX-91.

### MORE THANKS:

To all of you who have sent me articles, print-out, etc... to be included in ZX-91. It will be used. As you can see, the space is limited.

Also I wish to thank Jay S. Siegel of (F D Newsletter) who sent me a cassette with a program he made to be used with the hi-res module from Memotech.

Also to Pierre Pilon, a director of the 'polyvalente L.P.F.' (high-school) in Chateauguy, who sent me 5 original tapes: two games, a compiler, a de-assembler and FORTH language.

### HI-REZ:

Have you ever seen a high resolution program on your ZX81/Timex 1000? It's fantastic! It's unbelievable! It's real! It's true! No add-on! No program to load first!

I was given the opportunity to see and use the program SER MIMES. You can see the fine details of the sub-marine and the destroyer: the mast, the turret, the cannons, the rudder etc... And I was told for many years it couldn't be done! Again and again we find out there is more and more in our ZX81/Timex 1000.

### NEW FRIENDS:

I have received the last two copies of 'THE RAMTOP', the newsletter from the Greater Cleveland Users Group. It was a double pleasure because I did not know that group existed and, they had used in their two editions the pictures seen in ZX-91 #1 and #2.

To me, it is a great honor (as a newcomer) to be accepted in the grand family of Sinclair Timex. And it should be a great joy to all the believers in the ZX81/Timex 1000 to find out there are more and more users.

FROM PAGE 3...

## NEW FRIENDS #2:

The C.C.A.T.S., the Clackamas Computer Applied Training Society has sent me a copy of their newsletter: THE PLOTTER.

Dick F. Wagner, the editor has also sent me nifty little programs that will appear in a subsequent issue of ZX-91. The technique they uses can be applied in making programs. Look them up in the SUPPORTERS' list.

## FACTS:

The program 'DIPIC' which creates the (great) graphics seen in the pages of ZX-91 is not a 'etch-a-sketch' type nor a drawing program. 'DIPIC' does it all for you. You just have to type in the data. So don't be afraid. You don't have to be an artist, just a user who likes his (or her) computer. If there is a special character you would like to see, send me a request. ZX-91 works for you!

## 'DIPIC' FOR THE 2068:

Tom and Keith Skapinski of L.I.S.T. have created a program for the 2068 that uses the same DATA as the ZX81/TimeX 1000 uses to make the graphics seen in the pages of ZX-91. The program is listed in the L.I.S.T. newsletter of April.

The newer DATA are always available from ZX-91 upon request. Ask for YOUR copy of ZX-91 at the same time.

## TURBO:

In the March issue of L.I.S.T., Anthony U. Farrel from Australia wrote an article (with schematics) on how to add turbo power to our ZX81/TimeX 1000. Interested? Contact the L.I.S.T. group. See the SUPPORTERS' list.

## FROM HOLLAND:

There is apparently an emulator program for the I B M to run the ZX81/TimeX 1000 software. I'll keep my eyes an ears for that info.

TO PAGE 5

# ZXIS #1

FROM PAGE 5...

## PROGRAM DEBUSED:

Arnold Nieuwenhoff of Sutton Mass. asked me to de-bug the program 'TRAINS' listed in the book 'The ins and outs of the Timex 1000' by Don Thomasson.

Here are the corrected or added lines:

```

110 PRINT AT 12,13;"TRAINS"
1040 IF N>15 THEN PLOT 37+10* SIN
    ANG,14+10* COS ANG
1110 FOR N=0 TO 18
2140 LET A(N+30,2)=24-N
2520 FOR N=1 TO 13
6382 LET PA=60
6760 IF PA<>78 OR F<>-1 THEN GOT
    O 6820
7530 PRINT AT X,Y;A#

```

Anyone else having problem with a BASIC program? Contact me through ZX-91.

ANDRE\*\*\*

## \*\* PRINTS-OUT \*\*

The next three pages are 3 different programs. The first one is an educative one and it can run in 1K of memory if you follow the instructions at line 99. If you have more then 1K then just type the lines 100 to 170 and RUN 100. In line 18 the little airplane is made of (graphic 3, inverse =, graphic 0)

On page 8 it is a program from Tim Swenson. It plots the orbit around a planet. By using the keys (5,6,7 and 8) you can modify the orbit. I added line 55 to make a bigger central planet.

On page 9 you have 3 programs for the price of one: RUN 10, RUN 200 or RUN 300. Each of them will generate a screen pattern allowing you to verify and/or adjust your picture, horizontal vertical, focus, brightness, contrast etc.... Line 220 has graphic Y, Line 320 has graphic 5, graphic D.

ONDF2114



'Let us not ask what T / S N U G can do for you, but what you can do for T/SNUG'.

You have not sent your name and address to T / S N U G yet? Let's do it now and... be part of the Sinclair-TimeX family.

FROM PAGE 4...

## HELP #1:

Is there an interface that allows the ZX81/TimeX 1000 to be connected to a Olivetti PR 2300 or a CITHO Printer?

Ike Walker from Florida who is 78 years young is trying to do it. Anybody or any users group out there who could help?

## HELP #2:

I want to know from each US states which are the 2 most popular Lotos in which the buyer can pick his own numbers.

Here in Quebec, we have the 6/49 and the 6/42 where you pick 6 numbers out of 49 or 42. Which are the two most popular one in your state? Let me know.

## STATISTICS:

ZX-91 is exchanging newsletter with 11 users groups and 3 special interest groups. ZX-91 has received reply from 10 dealers who still carry ZX81/TimeX 1000 related product. Now, more than 227 copies of ZX-91 #1 have been sent and more are sent each month.

TO PAGE 6

```

AN ANIMAL
< = GUESS
LIONS NO. TRY AGAIN.
ALMOST. TOO MANY LETTER(S).
    
```

SCREEN SAMPLE

```

0 SAVE "MEM" ***** 92/05
1 LET K=D
2 FOR L=D TO LEN D$
3 IF D$(L)<>" " THEN GOTO N
4 LET U$=D$(K TO L-D)
5 CLS
6 LET C=LEN U$
7 PRINT "C";TAB R;T$;U$(A TO
C-E);U$(C-D);U$(D);U$(C);U$(E);
TAB N;"<= GUESS"
8 INPUT I$
9 LET I=LEN I$
10 IF I<A OR I>R+R THEN GOTO R
11 IF U$=I$ THEN GOTO N-R
12 PRINT I$;" NO, TRY AGAIN."
13 ALMOST. AND (U$( TO A)=I$(
TO A) OR U$(C-E TO )=I$(I-E TO
));"MISSING LETTER(S)." AND I<C;
"TOO MANY LETTER(S)." AND C<I
14 PAUSE N#N
15 GOTO R
17 FOR I=-N TO -C
18 PRINT AT R,I;" AN ANIMAL."
19 NEXT I
20 PRINT AT R,NOT A;U$
21 LET K=L+SQR SQR SQR D
22 NEXT L
23 GOTO D
99 REM
    
```

VARIABLES IN DIRECT MODE.

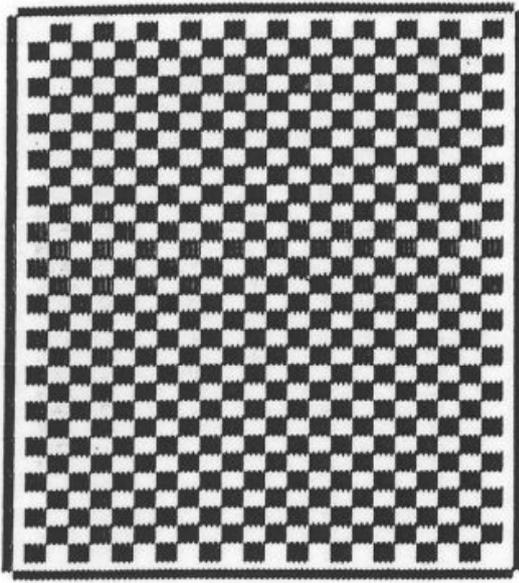
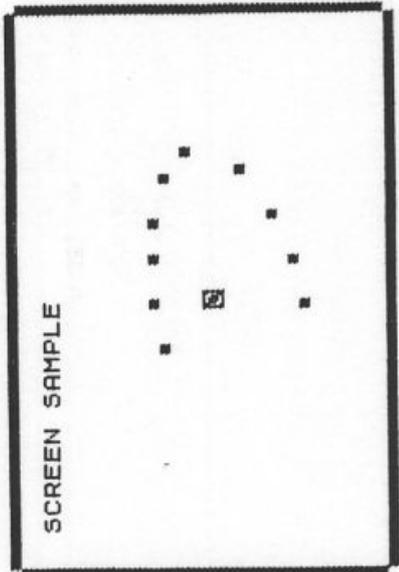
```

100 LET A=3
110 LET N=22
120 LET D=1
130 LET R=5
140 LET E=2
150 LET T$="*****"
160 LET D$="LION,TIGER,GOAT,WOL
F,BEAR,ZEBRA,FROG,HORSE,SHEEP,RA
BBIT,TURTLE,DEAR,MOUSE,BEAVER,HA
RE"
170 GOTO 1
    
```

```

10 CLS
20 T(10,2)
30 LET PX=32
40 LET PY=21
50 PLOT PX,PY
55 PRINT AT 11,16;" "
100 LET XPOS=32
110 LET YPOS=4
120 LET XMOV=4
130 LET YMOV=0
150 LET TOP=0
160 LET LAST=1
200 REM LOOP
210 LET TOP=TOP+1
220 IF TOP>10 THEN LET TOP=1
230 PLOT XPOS,YPOS
240 LET T(TOP,1)=XPOS
250 LET T(TOP,2)=YPOS
260 LET DXPOS=XPOS-PX
270 LET DYPOS=YPOS-PY
280 LET A=ABS (DXPOS) #2
290 LET B=ABS (DYPOS) #2
300 LET TEMP=ABS (A+B)
310 LET DIST=SQR TEMP
320 LET GRAV=6/SQR DIST
330 LET XMOV=XMOV-GRAV*DXPOS/DI
ST
340 LET YMOV=YMOV-GRAV*DYPOS/DI
ST
350 LET XMOV=XMOV-(INKEY$="5")+
(INKEY$="8")
360 LET YMOV=YMOV-(INKEY$="7")-
(INKEY$="6")
370 LET XPOS=XPOS+XMOV
380 LET YPOS=YPOS+YMOV
390 IF TOP+1=LAST OR TOP-9=LAST
THEN GOSUB 1000
400 GOTO 200
1000 REM REMOVE TRAIL
1010 UNPLOT T(LAST,1),T(LAST,2)
1020 LET LAST=LAST+1
1030 IF LAST>10 THEN LET LAST=1
1040 RETURN
    
```

SCREEN SAMPLE



SCREEN TEST NO.1

```

9 REM 92/05/02 *****
--SCREEN TEST NO.1--
10 LET A$=" "
20 LET B$=" "
30 FOR I=1 TO 4
40 LET A$=A$+A$
50 LET B$=B$+B$
60 NEXT I
70 POKE 16418,0
80 FOR I=1 TO 12
90 PRINT A$;B$
100 NEXT I
110 GOTO 110
199 REM
--SCREEN TEST NO.2--
200 POKE 16418,0
210 FOR I=1 TO 768
220 PRINT " ";
230 NEXT I
240 GOTO 240
299 REM
--SCREEN TEST NO.3--
300 POKE 16418,0
310 FOR I=1 TO 384
320 PRINT " ";
330 NEXT I
340 GOTO 340
998 REM
    
```

