UPDATE!

$4.95 January 1989

Annual Subscription: $16.00

ComputerSystems

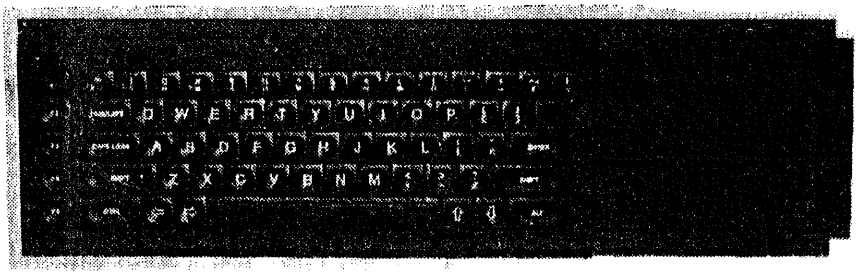
Take it to the Limit

A Quarterly Magazine for the users

OF

SINCLAIR COMPUTERS

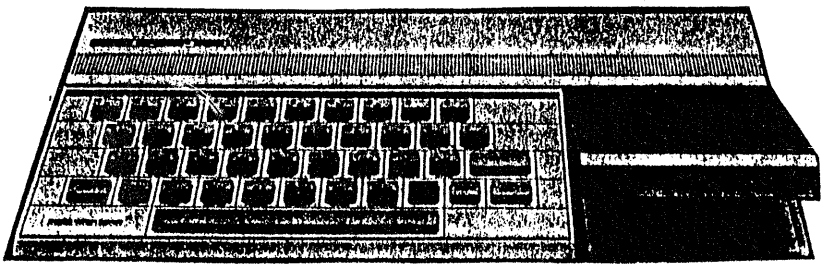
The Sinclair QL
-a 32 bit CPU Powerhouse!



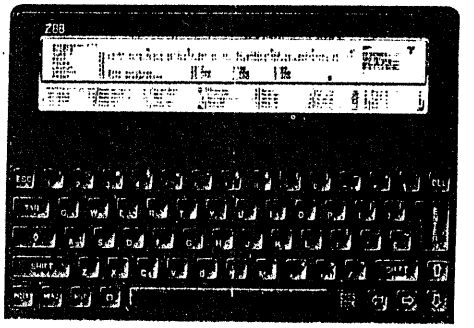
C. A. T. S.
CapitalFest
Coming in
May 6-7, 1989

THE Z88 UNDER 2 LBS.

A Computer Without Compromise



The TS-2068 Workhorse

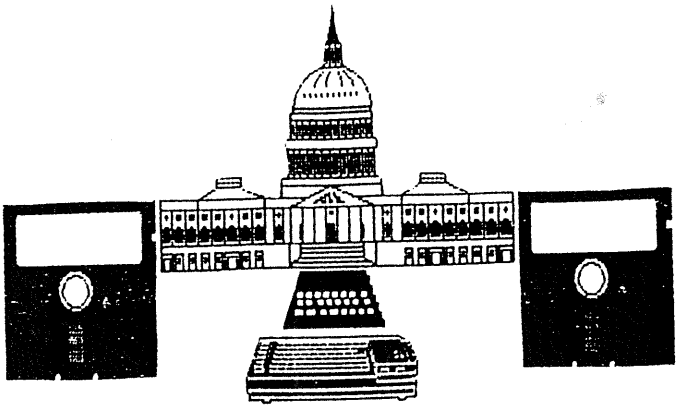


UPDATE Magazine
1317 Stratford Ave.
Panama City, FL 32404

Tel 904 871 3556

NEWS AND NEW PRODUCTS

CAPITAL AREA



TIMEX SINCLAIR USERS GROUP

C. A. T. S.

DEAR TIMEX/SINCLAIR ENTHUSIAST:

WE WOULD LIKE TO TAKE THIS OPPORTUNITY TO INVITE YOU TO ATTEND THE UP-COMING CAPITAL AREA TIMEX/SINCLAIR CAPITALFEST ON MAY 6 AND MAY 7, 1989. BANQUET FRIDAY NIGHT, MAY 5, 1989.

FEST TO BE HELD AT THE HOWARD JOHNSON INN, ROUTE 450 AND THE BELTWAY (EAST-SIDE), NEW CARROLLTON, MD.

HOWARD JOHNSON'S IS CONVENIENTLY LOCATED FOR EASY ACCESS BY ROAD, SUBWAY (NEW CARROLLTON, MD. STOP), AMTRAK FROM NEW YORK AND BOSTON TO THE NORTH AND ALL POINTS SOUTH, AND BY AIR INTO WASHINGTON NATIONAL AND BALTIMORE — WASHINGTON INTERNATIONAL.

CATS, OUR USERS GROUP, CURRENTLY WITH OVER 100 MEMBERS WILL BE HOSTING THIS AFFAIR.

SHARP'S, ZEBRA, AND MANY OTHER VENDORS WILL BE SPONSORING AND ATTENDING.

SEMINARS, DOOR PRIZES, AND MANY SURPRISES AWAIT YOU.

THIS CAPITALFEST WILL BE FULLY ADVERTISED WITH THOUSANDS OF FLYERS BEING SENT ALL OVER THE COUNTRY.

HOTEL ROOM RATE IS $62.00 A NIGHT ALONG WITH ONE FREE ADMISSION TO SHOW.

BANQUET, FRIDAY NIGHT WILL RUN AROUND $17.00.

TABLES WILL BE $25.00 EACH.

IF YOU ARE INTERESTED IN MORE INFORMATION, PLEASE LET US KNOW.

GET THE DETAILS!!!

INDEX

UPDATE JANUARY 1989

General Information

Subjects	Pages
Advertising Rate Schedule	55
C.A.T.S. Spring Fest	Inside Cover
Disk Drive Repairs??	5
In This Issue	6
Publishing Data	6
Sinclair Publications	4, 9
S.N.U.G. Updates	1-3
Subscriptions, Back Issues	6
Support Items	56

TS-2068 Subjects	Page
Aerco FD-68 "FD-68 Update"	30-33
Larken Tips	9
Lets Talk Printers	34-39
LKDOS OFF Switch (MAX DOS)	8
LKDOS Version 3 EPROM	7
MAX DOS Compatabilities	7
MAX DOS Program	22
Software Reviews	40
Supplies and Support	56-57
TS-2068 Power Problems	8, 41-45
TS-2068 Software Library	52-54
VARIABLE File SAVE/LOAD	19-21

Sinclair QL Subjects	Pages
Beginner's Programming	46-48
Cable's Column	24-29
EXPORT Abascus Files	15
IMPORT To QUILL	16
IMPORT IBM Programs	23
The Index Printer Program	61
MDV Cartridge Repairs	49-51
Multiple Quill Letters	11
Printer Control	17-18, 61
QL Repair Sources	11
QL Tips	10
Quantum Levels Magazine	4
Software Library	52-54
Supplies and Support	56-57
Software Review	60

Sinclair Z88

Z88 Subjects	Pages
PIPELINE MAGAZINE	9
Z88 Owner's Report	12-14
Z88 Review	58-59

S . N . U . G .
Sinclair Northamerica Users Group
7515 Arbordale Drive
Port Richey, Florida 34668
(813) 863 - 5552

This is a short update to let all of you know what has happened since last you heard from from us. Since our last Press Release, We have received thirty five individual memberships, and thirteen memberships from Users Groups (which represents approximately twenty four per cent of the known users groups in the North American continent). We have also received a membership from Australia . We would be extreamly pleased if we could establish a group to expand to outside the continent!

So what have we been doing all this time ? Plenty!! Firstly, we drafted a charter that was designed to allow for most provisions including expansion. This was a very time consuming task. The Charter has been sent to the Florida State Secretary of State and at this writing (early December) we are waiting to hear if the Charter has been accepted. All funds up to now have been held as an account cannot be established until a charter has been presented... Catch 22!

We have with the help of the Library Committee established a format to work the Public Domain Software Library. We currently have set up Librarians for the following machines and formats:

ZX-81, TS-1000, TS-1500...Cassette, Larken DOS
Spectrum, TS-2068...Cassette, A&J Microdrive, Wafadrive, Aerco-Larken-Oliger DOS
Quantum Leap (QL)...Microdrive, Floppy Disc

We are currently assessing what programs qualify for Public Domain and we are gathering programs at this time. We cannot give an accurate number of programs available, but we hope to have between 250-300 before January 1, 1989.

We also have acquired not one but two Editors for our publication ! We have also been trying to put together a Publication committee to determine how our newsletter will look and and its contents. Several of our respondents expressed interest in writing articles, so we should have several first time writers with some new applications.

Mel Mathewson

THE CAMBRIDGE Z88 PERSONAL COMPUTER
LESS THAN TWO POUNDS, MORE THAN THREE MEGABYTES

The Cambridge Z88 is the first personal computer that fits **inside** a regular briefcase. It measures only 11 1/2 inches by 8 1/4 inches (almost exactly the same as this sheet of paper) and less than 7/8 inch thick, and weighs less than two pounds.

The Cambridge Z88 has a multi-tasking operating system, allowing users to have several applications open at the same time, and to move quickly from one to another, without saving, exiting or loading - even after the computer has been turned off. This means that the user can begin work **immediately**, without waiting for the operating system, the applications **and** the files to be loaded.

Built-in applications include word processing, spreadsheet, database, communications, diary, calendar, calculator and alarms. The Cambridge Z88's software features pop down menus, and on-line context-sensitive help.

With the Z88 PCLink, users can download Wordstar, Lotus 1-2-3 and ASCII files to the Cambridge Z88 from a desktop PC.

The Z88-to-Mac peripheral enables MacWrite, Microsoft Word, WriteNow, Fullwrite Professional, Word Perfect and Excel files to be transferred to the Cambridge Z88 from any Apple Macintosh computer.

The Cambridge Z88 has a battery life of 20 hours on 4 AAs, and a silent keyboard, so it can be used **anywhere** - on a plane, in a meeting, at a seminar.

One reason for the Cambridge Z88's compactness is that it doesn't need disk drives. The memory consists of three separate solid state memory modules, one of which can be an EPROM and removed like a diskette. The Cambridge Z88 can address more than **three megabytes** of internal memory.

The Cambridge Z88's supertwist LCD display has eight lines by 106 characters. This enables the Cambridge Z88 to show a full eighty columns **and** a page map (a thumbnail image of the full page).

The suggested retail price is $549, and the Cambridge Z88 is available through major computer and retail stores. A full range of peripheral products - including memory modules, parallel and serial printer cables, PCLink, Z88-to-Mac and modem - is also available.

The Cambridge Z88 was designed for Cambridge North America by a team led by Sir Clive Sinclair, who has created several innovative electronics products over the past twenty years; and is manufactured for Cambridge North America by SCI Corp., one of America's largest electronics manufacturers. It is already the best-selling portable computer in Britain.



Cambridge Z88 NewsNotes™

Volume I, Number 1 *Published by Cambridge North America* *September 1988*

Taking the Z88 Advantage - an Editorial

The Z88 is being compared with all the other portable or lap-top computers. Most often, the Z88 is being compared with the Tandy 102. We decided to spend a little time with a Tandy 102 to see for ourselves.

The Tandy is thicker and heavier, this is both good and bad. It makes it feel more "real", yet somehow more fragile if dropped. (It is a *lot* heavier!) Also, the Tandy 102 keyboard has room for coffee to get between the keys and it seems more like a regular computer. In many respects they are about even, even to about the same amount of RAM in the basic unit.

The Tandy looks more like a shrunken computer-- yet another copy on an old theme. The Z88, in comparison, looks more like something totally new, more modern.

Z88's Pluses:

The Z88 comes with a spreadsheet! (In other words, a real-live important function.) Both have a word processor, but the Z88 is more lively in terms of built in application power.

The Z88 also has a built in Z80 Assembler! Which leads to a really powerful Basic and Assembler one-two punch for developing even more applications. The Tandy has Basic, but given the ability to use a powerful BASIC that can access user written assembler routines, it is a far more versatile machine.

The Z88 keyboard is sealed, unlike the Tandy's which appears to be open to the environment-- not good for a true take-anywhere portable.

The Z88 screen is a full 94 characters wide for applications, instead of the 40 characters on the Tandy. Even better, when doing word processing, the Z88 displays an image of the finished page on the screen, laid out the way it will print!

The Z88 really shines in its treatment of the user. It provides friendly navigation from application to applications, with suspended applications for work in progress. Its operating system technology is far more advanced.

It is totally solid state! The Tandy has no slots for plugging in extra memory and applications via RAM and ROM slots. This creates a **dramatic** superiority for the Z88, where the user can purchase real applications (such as ZBASE, an upcoming dBase II look-alike) that plug in and go. Also, with large TSS (Total Solid State) ram, keeping a lot of data in a directory structure is imperative. The Tandy is too simplistic to need such amenities.

While the Z88 costs about the same as the Tandy 102, it's still a lot more bang for the buck. This will continually become more obvious as its power is made manifest via more and more applications on plug in cartridges, such as ZBASE. Z88

Welcome to Z88 NewsNotes

And welcome to what is certain to become the most popular portable computer in the world! Sir Clive Sinclair has done it again, with his constant desire to squeeze ever more power into ever smaller space.

Although the Z88 is small, it is not weak. Our job here at *Cambridge Z88 NewsNotes* is to make sure you get the maximum power out of your Z88.

We will make sure you are kept abreast of the latest developments, and we will also provide insights on how to squeeze all the power out of what you already have. Some of these ideas will come from us. Most of the ideas will come from you.

Authors and Publishers:

Do you need more technical information so that you can develope applications for the Z88? It is on the way. But unless you tell us who you are, we will have no way of getting it to you.

More documentation is coming on how to use BBC Basic, how to write Z80 assembler programs using the built in assembler, and how to directly interface the operating system and build EPROM applications.

Send a letter to Al Baker, Cambridge North America, 615 Academy Dr., Northbrook IL 60062, and as technical information becomes available, you will be contacted as to the best way to obtain it. Z88

Cambridge Z88 NewsNotes *Copyright 1988 Cambridge North America Service Corporation*

SINCLAIR PUBLICATIONS

QUANTUM LEVELS STILL KICKING

Before Christmas rumors abounded that QL's and Sincware News were quitting. QUANTUM LEVELS will continue publishing and will expand to absorb their sister publication Syncware News to support all Sincliar Timex system users. This word came to UPDATE directly from Tom Bent, publisher of Quantum Levels Magazine. Now for some comments about Sinclair Publication in North America.

Originally there were several Monthly and bi-monthly Magazines. These were PROFIT MOTOVATED publications having regular office staffs. As advertising potential evaporated, so did the magazines. Now ALL are published by avid Sinclair users who do it more as a hobby than for profit. We just ignore the fact that there is no money in it and do it out of a desire to sustain publication support. Any business accountant would spend a few minutes and tell each of us to pull the plug and chop wood instead.

Watch your attitude! Sinclair publishers, because of their devotion, are easily hurt and discouraged. Me? Heck, I'm conditioned by long and tough experience and I absorb it. But consider a guy who is holding down a 8-5 job and publishing on spare time. The "thing" takes a lot of time and it isn't paying even minimum wages. It does not take much flack to influence the decision "To Heck With It"! We have the "late syndrome". Most Sinclair publications are always late. So what! If an issue comes before the next one is due, then thats par for the course. What's the ole saying? "Better late than never"!

I have received a few letters saying that the subscriber is not renewing with another publication. Let me tell you that this is not good news. It's like the user shooting himself in the foot. I did not start Update Magazine over a year ago to compete and take away subscribers from other publications. UPDATE began because I perceived that MORE support was needed, not LESS. If the results were that other publications were hurt I would be dismayed. I subscribe to every Sinclair publication, and I believe that every serious user should. There is not enough in each magazine to fill one's needs. But there is adequate support if one subscribes to all.

Quantum Levels Magazine is a key publication for the Sinclair QL users. There is the magazine itself, plus its franchise with the Quanta Library, plus ole Tom Bent himself, who is the leading technical authority on the QL computer. This support package is very valuable to us and I want to see Quantum Levels endure for years to come. As Quantum Levels increases its scope to cover the TS-2068 it will have something for everyone.

TIME DESIGNS is not to be slighted in this discussion. Tim and Stephanie Woods have done a magnificent job in supporting Sinclair users. I treasure TDM back issues and look foreward to the next.

"QLui is another fledging publication that specializes in QL support. I feel that my $15 is well spent. I believe that Bill Fischer will make QLui a valuable addition to our information sources.

Now for a bit of levity in this set of epistles. A new COMPUTER VIRUS has been developed by Update Magazine to share with the other Sinclair publications. "SCLD ZAPPER" is a retribution software that works via satellite. The INPUT is just a Telephone number or a mailing address. Then the software homes in on the house and zapps all SCLD CHIPS under the roof. ZAPPER was designed for users who allow their subscriptions to lapse. Better watch it Guy!

Disk Drives, the Repair thereof, and analogies

The first time I got interested in Disk Drives, I moseyed around town and looked at some State of the Art DD's. They were big ole 8 inch jobbies for the early CP/M computer systems and their price tags were over $800 each. Even at that price, my mouth watered for one. Then I found out that they broke quite often and to get one fixed they'd look at it for $200 and tell me what the price to fix it would be. Then came along the 5 1/4 inch DD's, still prone to quit after a few hours of operation, and still v e r y costly to get fixed. Some of these early 5 1/4 inch drives are offered by mail order for as low as $25.

I thought that I had located a Disk Drive Repair service that I could recommend to Update subscribers. I had one of those oldies that quit on me. A young fellow in town has a good shop equipped with diagnostic test equipment for DD's. So I took the sick DD to his shop and a week later it was fixed. The price tag was $55 plus tax. A quick look in Update Magazine found NEW drives advertised for $50.

Now thats kinda like tother day when my Grand Son called with a deal. I had tole him that when the used car lot that he works at gets a HEAVY car with LOTS of POWER, to call me. I wanted something to tow a boat with. The thing that he had for me was a eight year old Lincoln Lemonzine that had been owned by a 92 year old lady who had a hired driver / male nurse combo. The only times the Lincoln was ever used since new was to take the lil ole lady to Church services on Sundays. Tom allowed that the price was $800 fer the Lincoln if I took it direct from the lady afore the car lot got holt of it. Now dont that sound like a used car salesman a talkin? I said, "bring it on over Son, but iff'n you're lyin at me I'll dis-enherit you". Well, that thing took up alla the driveway and looked like somebod musta died at the house and the Funeral director was inside. But it a WAS a HEAVY car and it had LOTSA power, and the speedometer said 48000, but you and me knows that a speedometer readin is about as reliable as politician's promises. I lifted the hood and gazed at a motor bout the size of a Nuke power plant that was so clean you coulda had lunch on it. Somebody had paid bout 40 grand for this bundle of bolts about eight years ago. I checked the oil and it was right on full, so I decided to give it the ole BJ test. The BJ test calls fer lockin the gas pedal to the floor board for exactly an hour to see if the thing flies apart or uses oil. Now Dothan ALA sits up thar bout 60 mile up in the Alabam peanut patch. I made the trip up and back in a few minutes shy of an hour. Durin that hour chickens were scatterin every which a ways and some Canadians turnt around and went home thinking that FLA aint the place to be iffen that guy's hurrin that much to get away frum it. Talk bout speedin, I used to take off in a F-101 from a RCAF base at Whitehorse in Canada at 12 noon and get to Fairbanks Alaska at 10 AM, two hours afore I took off, cause I went through three time zones in an hour of flight. So, I'm kinda usta going faster'n ole Speedy Gonzales, but the natives aint usta seein a car the length of a football field that peers to be an airplane without wings the way it's skinnin along. And since I'm gone afore they get a good glance, they dont know whut they sawed. There was a piece in the paper next day bout a grey cigar shaped flyin saucer reported by several folks up on Hwy 231. Well let me tell you that the dip stick still showed full when I got back, and now I keep my Boat towin car in the garage to keep the folks from thinkin I'm dead as a mackerel. Course, I had to extend the garage so's the Lincoln would fit in it. Thet didn't cost me but about $24000. But iffn the lemonzine ever needs fixin, I'll jest let it slide into the drink at the launchin ramp. Didja ever take a Lincoln to the shop for fixin?

Alla that may have some hidden wisdum about disk drives. They're cheap now and the repair cost usually exceeds new replacement cost. But the real rezon fer tolen you this wuz to getcha laffin with me so's you'll enjoy the rest of the magazine.

PUBLISHING DATA

UPDATE MAGAZINE is published Quarterly on the first day of October, January, April, and July. Annual subscription is by "year of issues" beginning with the October issue and ending with the July issue. All subscriptions expire with the receipt of the July Update Issue. A subscription renewal notice will be included in each July issue, and a prompt renewal will be appreciated. (Address on front cover).

Subscription is $16.00 per year.

Issue Mail out is during the first week of the issue month and is via bulk mail, except for Canadian mail which is via parcel post rates. Subscribers should receive their issue by the 15th day of the issue month, but sometimes mail service is delayed. If not received by the 20th day, the subscriber is requested to call a supervisor of mail at the central post office. Postal delivery personnel have some lattitude in the handling of BULK mail, but excessive delays should not be tolerated. If a postal complaint does not result in the receipt of the magazine by the 24th day, a second copy will be sent upon request.

BACK ISSUES are available in "four packs" only and the price is $16.00 for the year of back issues.

TEN PACKS of current issues are available for Dealers and News stand sales at 30% off the cover price, or $34.65 (postpaid). Ten packs may include mixed issue dates.

FREE line advertisements for subscribers, one per issue, will be published. Such free ads must be non-commercial and for computer related components or software that is surplus. Please include a statement as to the operating condition, price, and telephone number. Several items may be included in the "3 line limit" of 76 characters per line. The deadline for insertion in the next issue is 20 days before the issue date. See Index for DISPLAY ADVERTISEMENT RATES.

Orders from the "Issue Disk / MDV Library" that are received during the month prior to a magazine issue month may be delayed until the magazine mail outs have been accomplished. Timely mail out of the magazine takes priority.

UPDATE Magazine is "User Group Oriented", and will publish announcements and promo from TSUGS free of charge.

EXPLANATIONS about this Issue

UPDATE is getting lots of mail from the "Subscriber Family". Most of the letters have some real good TIPS and Programming information. I studied and studied about how to present the data and decided that the best way is to just print some of them exactly as they were received. This way I wont chance disturbing the meaning, or lose some of the detail. If the reader desires more information about the subject he can write to the author direct. And, if the reader has MORE information about the subject, for goodness sakes send in the information to be published!

QL or TS-2068 or Z88??

Last issue UPDATE decorated the pages with nice little pictures of these fine computers. The idea was that if a minature computer appears at page top, then there is something on that page about the bugger. You may have to look pretty closely to find the reference, but it's there. (Maybe just an ad?) OR, if the PROGRAMMING given in the article can be used with more than one computer, then the page top will show more than one. The article may be about QL programming, but may also be applicable to the TS-2068 or the Z88. We will continue this because I like it, it saves writing explanations, and many subscribers have said that they like it too.

Magazine SIZE

Now last issue was too durn big! To keep that up would require revenue enhancements. Now when politicians say "revenue enhancements", you and I know that they mean MORE TAXES. But for UPDATE it means that ole Bill would have to dig further into personal finances to publish the rag. So, I'll try to settle down at about 50 pages and hold at that. Anyway, last issue was a splurge to publicise our fine User Group newsletters. I shot the budget with that, so will have to regroup.

By the way, some have been worried about UPDATE's status. We're at about the break even point now, with over 400 subscribers and more coming in every

day. I lied a bit about "near 100% renewals of subscriptions, but it "came true". There were about 75 subscribers who hadn't renewed. A copy of the october issue was sent to each of them with a renewal notice "betting on the come". I can tell you that all except three responded.

One wrote and said, "I appreciate what you are doing, but I'm 79 years old and I cannot understand a word in the magazine. I guess that I am too old to learn, so I'll have to drop out". I wrote back a thank you note and said "I'm no spring chicken either, and this is helping me to ward off senility".

Quite a few have ask for some more fundamentals, so this issue will present some earthy articles on programming. Hope you like it. Now I'll give you a short review on the LARKEN LKDOS VERSION 3 EPROM.

LKDOS Version 3

One can upgrade to Version 3 by ordering a new EPROM for the LKDOS. When it arrives it is just a matter of prying up the old EPROM and installing the new V-3 EPROM in its place. WARNING: Before removing the old one, note the placement of the end that has the little "U", and be sure to line up the new one with its "U" at the same end of the IC socket. Murphy's Law sez, "If there is a 50% chance for getting it right, the results will be 100% wrong".

Larry Kenny (Larken Electronics), released the Version 3 EPROM in November 88. As of this writing not many have it. It provides a raft of GREAT improvements to the LKDOS. Among the improvements are:

-Sequenntial File handling. -Rename Command. -IMPROVED PRINTER DRIVER. -Improved NMI SAVE. -Improved Print and Lprint Command. -Peek routine for the Cartridge EPROM. -User Defined command. -RAMDISK COMMANDS. -Faster start up initialization. -many other smaller improvements.

I have done some intensive work with Version 3 and find that it provides substantial improvements. In particular, the PRINTER control is outstanding. All of the extensive printer driver code except 50 bytes are stored in the EPROM. The other 50 bytes are initialized automatically in RAM. So, one need not load any code from either disk or cassette to have complete control of the printer. New features include LEFT MARGIN set, Line feed or no line feed, Line Length set, Simple set up for any type of Parallel interface. A single POKE sets up for interfaces by Aerco, Oliger, Tasman, A & J, or a "user defined interface". Also, the printer control system allows either separate use of a Parallel printer or the TS-2040, or for simultaneous printing with both. This is likely the most versatile printer driver available today. I am very impressed with it and say, "Well Done Larry!".

But Larry is most proud of the new SEQUENTIAL FILES feature. One may send data from the keyboard to disk in the same manner as is done to the screen or printer.

Then data may be read back from disk "either by lines", or by entire files. A 'read back' can be to screen, to printer, to a modem for telecom out. The ramifications of this are great. Imagine, sending a 100K file directly out of disk, and not worrying about the limitations of FREE memory!

Version 3 also includes a "detoken" feature that allows all 255 characters to be sent to disk.

Another feature has been added to the NMI SAVE. Now we have the choice of saving a Screen along with all memory. Or, we can Save all Memory without the screen, or we can shorten the SAVE by reducing RAM TOP and save just the program for auto run.

The MAX DOS Saga

Some are having problems with conflicts. The key words for LKDOS commands are "RANDOMIZE USR 100". Use that instead of PRINT #4 when the Oliger DOS is active. PRINT #4 uses some of the same EPROM addresses as the Oliger EPROM uses, and you may notice a slight flicker of the Oliger LED. So it is best to avoid the PRINT #4 command and use the slightly longer command RANDOMIZE USR 100: before the LKDOS command. The two DOS "NMI" functions clash completely. Therefore, the "opposite EPROM" must be turned OFF manually. A LKDOS OFF switch is diagrammed in another article in this issue. Other than these little difiuguties, I have

operated hundreds of hours with MAX DOS, with great success.

Typical was the task of converting Smart Text from Oliger DOS to LKDOS. Disk 0 contained the Oliger DOS version. Disk 1 contained a LKDOS disk that had the FORMAT program. Disk 2 was the LKDOS Destination disk. FORMAT was accomplished between disk 1 and 2. Then program loading and transfer was accomplished between disk 0 and 2.

Some 20 screen files were transferred with a simple direct command: FOR N=1 TO 20: LET/d=0: CAT: INPUT "TITLE?";A$: LOAD a$SCREEN$: RANDOMIZE USR 100: GO TO 2: LET A$=A$+".C1":PRINT #4: SAVE A$SCREEN$:NEXT N. Actually, it is best to put the above in a line 9999 program line so that if you make a key in error you can get going again by GO TO 9999. For Screen file saves RANDOMIZE USR 100 pushes the line off and the screen up a line, so PRINT #4 must be used. So far, no problem!.

TS-2068 POWER WARNING

I believe that about 150,000 "former" TS-2068 users left the family due to Voltage Regulator failures, and a lack of knowledge about were to get the TS-2068 fixed. And I believe that I could take a quick look at YOUR TS-2068 system and count up more than ONE AMP of +5 Volt current usage from the "5V 1 AMP" regulator. When the TS-2068 first came to us there were only two devices to connect to it. One was the TS-2040 printer and the other were some Dock Cartridges by Timex. Thats about all that the little Voltage regulator was designed to handle. As more devices began to be hung onto the back I/O port, the rated output of the Voltage Regulator has been stretched to the limit and beyond. A comprehensive article in this issue deals with the problem and offers solutions-- to keep you from becoming # 150,001 of the "attritted". POWER HOGS are: The A & J Microdrive, The Aerco FD-68 Disk Controller, EPROM devices (in that order).

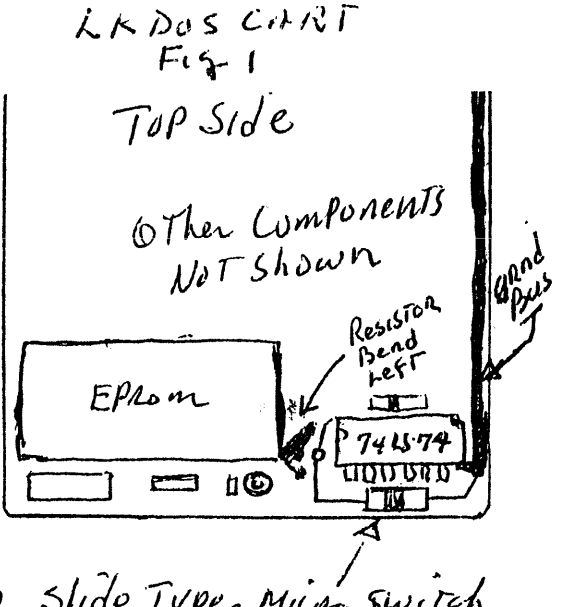
Early signs of power problems are: Sometimes have to ON OFF the computer a few times to get the copyright display. Display jumpy. Unreliable cassette load "of programs that YOU have Saved".

--------BJ----------

LKDOS OFF Switch

(For MAX DOS Operation)

To allow the Oliger NMI functions to work. Larry Kenny suggests the addition of a tiny slide switch to be connected as shown in figure 1 below. UPDATE has added this switch and it works fine. There are two holes to the left of the 74LS74 chip. A resistor is standing at 45 degree angle and in the way. Push the top of the resistor toward the EPROM so that a wire can be soldered to the vacant hole nearest the 74LS74 chip. The slide switch connects between that hole and the ground strap that extends along the right edge of the circuit board. I had trouble getting the tip of the soldering iron in that small space, so I soldered to the underside of the plated through hole. Before soldering the wire, the paint was scraped off of the hole with a exacto knife. The switch was fastened to the circuit board with epoxi glue "after the electrical connections were made. Be careful not to short out the pins of the 74LS74. I prefer the switch be mounted as shown because it does not cover up any circuit traces, but since circuit board lay outs may be slightly different an alternative place for the switch is shown. This would be behind the 74LS74 and between it and the next IC. You should be able to find a tiny micro switch at Radio Shack. The smaller the better. If you find a micro switch small enough it can be stuck on so that it does not extend beyond the edge of the circuit board, thus allowing the dock door to close. --BJ



CLUB Z88

PIPE•LINE

From: Paul Bingham, PO Box 2034, Mesa, AZ 85214.

Dear Bill,

If this stationary has caught your attention then let me explain. Last month I was talking with Tim (Time Designs) Woods about his Z88 newsletter. I've done some art work for Tim in the past in addition to articles. I ask him if I could help and he said sure. Well, since that conversation Tim has sent me everything and made me Managing Editor! I've already gotten articles and programs from Tim, Ken Wildman, Charles Finn, and Rob Curry. The first issue ought to go out by Thanksgiving.

How's about one year's subscription of PIPELINE (six issues -- $24.95 value) for UPDATE for a year? And if I get some Z88 submittals that duplicate or wont fit in an issue I'll send them your way. Sound O.K.?

The PIPEDREAM format will be different than other Sinclair publications. We have a larger PC crowd and we decided to go upscale as the price indicates. The typesetting will be done on a Mac II and output to a Apple Lazer printer. The look will be something between USA TODAY, a Congressional Newsletter, and the Wall Street Journal. More later. --- Paul Bingham.....

UPDATE Commentos: Sounds like PIPELINE will be an outstanding new publication that will be of interest to both Z88 and QL users. I had written to Tim Woods asking for a subscription to the Z88 newsletter and was getting impatient. So, you can bet your boots that I'll trade subscriptions with you for PIPELINE. Good Luck in the publishing venture and I'll help in any way that I can.

UPDATE now has about 50 subscribers who own the Z88. Most also have either the TS-2068 or the QL. The Z88 user group is definitely developing, and will likely become equal in numbers to all other Sinclair users by the end of 1989. It appears that most intend to stay with a larger Desk Top computer and transport files back and forth. UPDATE is betting that our TS-2068 and QL users who have the Z88 will remain committed to using their "mainstay" systems. But we recognize the utility of the Z88 when operated in conjunction with other computer systems. But for some the Z88 will be as much computer as they need with its built in software ensemble and its ability to use common periphreals. UPDATE will bring as much information as can be garnered to support the Z88 users in the operation of the Z88 itself, and its capabilities for file sharing with the TS-2068 and the QL.

PIPELINE and UPDATE will both be pursuing goals of helping to develop North American programming support, periphreal development, and informing the users. And, we can do a better job through cooperation and sharing of information. UPDATE has already provided a QL program for review by PIPELINE (if it is needed), and will share other information in the future. This policy is extended to the other Sinclair publications.

More about PIPELINE will be published as the complexion of the magazine is known. As of this writing we have not seen the first issue. In the meantime a hearty GOOD LUCK is given to Paul Bingham and his cohorts in the PIPELINE venture. --BJ

LARKEN TIP

Didja ever dream that you went to Church and discovered that you'd forgotten to put on your pants. There you are afore God and everybody with shoes and supporters but no pants! You wake up and say "Phew! Ain't I glad that was just a dream!". Well, thats kinda like a LKDOS owner who doesn't subscribe to SINC LINK. Something important is missing. SINC LINK is the newsletter of the ONTARIO, CANADA TSUG, and it likely has more LKDOS tips and programs than any other publication. Coverage of the QL is picking up too. LKDOS users espically need the NOV/DEC 88 issue. SINC LINK, 14 Richome Court, Scarborough, Ontario, Canada M1K 1Y1. Order the NOV/DEC issue to check out the value. Then decide upon a year membership subscription. Send $2.00. U.S. checks accepted at par. -BJ.

QL TIPS

Some of the best operational tips comes in letters to UPDATE. A bunch of these are given in this issue, nuff to help almost everybody with at least 2 or 3 head scratching problems.

John Juergens, Pacifica, California uses Quill with a typewriter---------

Your October issue (my first) just arrived. I'm very glad I accepted your recent invitation to subscribe.

There are a few things I have found to make life easier when working with QLWP:

1. One of our printing devices is a typewriter. One of the difficulties with both a typewriter and a dot-matrix printer is starting out; that is, does one line up the top of the paper, start printing and hope to catch it under the paper bail on-the-fly or is there an easier way? Go into Design (F3, D) and set Upper Margin to zero and Bottom Margin to 12 - assuming you wish a one inch margin top and bottom. When ready to print align the top of the paper at the print line and press the Line Feed button seven (if the paper is one below) or six (if on) the print line - this is the top one-inch margin. Paper bail down and start printing. Multi-pages can be done easily if tractor paper is used on the typewriter and the required number of pages is left connected (you can then use Continuous Forms YES when configuring the printer_dat for your typewriter and print the whole thing out at once without stopping for the Insert New Page and Press Enter interrupt.) If a Footer is desired (with or without pagination) put it in but be sure to deduct the lines used for the Footer from the 12 lines designated for the Bottom Margin in Design.

2. The setting up each time of the margins, header, footer, tabs, gaps, etc. has always been a pain. I set up a blank page with all desired settings or a number of blannk pages for different settings or devices and Save it/them to mdv1_ on the backup QLWP. Each blank page requires 5 sectors; if more than one is used be sure each has a different name. After the first month, the on-screen Help via F1 was never used - so, I deleted it from mdv1_ giving me more room there for things of more help.

3. With more than one printing device one must configure, usually, more than one printer_dat. Without the assistance of a ram-disk doing more than one tends to be a chore. What I did was to bring up install_bas (or is it INSTALL_bas?), do the configuration changes and then replace the cartridge in mdv1_ with another and install the replacement. If there are more than two to do replace with another and install it. Make sure you know what is on which though because they all have the same names: printer_dat and install_dat will appear on each. What you are interested in though is printer_dat. Get back to SuperBasic and put your QLWP backup in mdv1 and the other/first in mdv2_. Then, copy mdv2_printer_dat to mdv1_ptr_dat (mdv1_typ_dat or any name and extension you choose); do the same for the second (or the third if you have one or both.) In QLWP once you are ready to print go to F3, (O)ther, (F)ile, (D)elete mdv1_printer_dat; ESC, (B)ackup mdv1_ptr_dat (or mdv1_typ_dat) as mdv1_printer_dat and you are ready to print to your favorite device.

4. If you are really set on making life easier, committing all of the pre-sets loading, (D)elete and (B)acking up to a single keystroke and speeding up QLWP very noticeably, purchase Turbo-Quill + (about $35 from an UPDATE vendor) and follow the directions; T-Q+ will even do it all automatically (without even the keystroke) upon start-up by using the CTRL S defined key.

I share your view concerning the reliability of the microdrives and their usability for around the home tasks. One of features which attracted me to the QL was that it took up so little space and had a minimum of wires and cables strung around. I have often considered a disk system which would make QL-life even a easier but the used-space and clutter is just not worth it.

I also had a problem with a Procedure named SORT (Bob Hartung's thoughts, page 44, UPDATE, Oct 88.) I would guess that somewhere in the QL ROM is something named SORT which was supposed to do something but design and marketing consideration aborted the effort - and it is still there causing problems for the unwary. SRT, SRTE (Fr?) or ST will work but not SORT. It was a neat name for what I was doing and I hated letting it go - sort of like how George Gobel felt when he remarked that by the time he was recognized and the time came for him to pick out a disease to sponsor all of the good diseases were taken.

Again, I enjoyed the issue, thank you and keep up the good work.

Very truly yours,

John E. Duergens

To John and others-- MULTIPLE LETTERS in QUILL: As can be seen, UPDATE's letter volume is quite heavy. Most letters deserve a reply and that is time consuming. The average letter output is about four per day. What I do is to type in 4-5 letters into Quill and pad out with ENTER's to the end of a page. Then the next letter begins. Once I turn Quill loose for printing, the letters print in daisy chain fashion. So if you should get a letter that starts on page 3, you'll know why. While the 4-5 letters are printing there is time to stamp the envelopes with return address and write in the persons' name and address. Since I type about 682 WPM (kidding) the daily letter production time is about 4 minutes. Trouble is, I type faster'n I think, and the literary composition "think time" is the msf (most significant factor).

SLS: Once in a while the SLS gets me and I have to re-think and re-type 4-5 letters. (Sudden Lock Syndrome). Fortunately my QL locks up only once or so a week, and usually it is during QUILL operation. But I operate mostly with Quill and maybe the software has nothing to do with SLS? Sometimes I can attribute SLS to a flock of blackbirds landing on the power line coming into the house. Other times the Wife turned on the microwave oven, and SLS grabbed me. The ole heat problem ain't it because a re-set gets another week of free operation. Does anybody have an understanding or a generic fix for SLS?? --BJ

QL REPAIR SOURCES
TS-2068 REPAIR SOURCES

UPDATE has mentioned these sources before, but there are many new subscribers and it wont hurt to be repetitive. There are two "Fair and Square" sources for repairs for the QL. These are: 1. Dan Elliott, RT-1 Box 117, Cabool, MO 65689. 2. Tom Bent, 9016 Flicker Place, Columbia, MD 21045. Both provide EXCELLENT repair service, and the turn around time is about 2-4 weeks, depending upon work load. I have personally dealt with both and can recommend both for reliable service at very reasonable cost. Dan Elliot also repairs the TS-2068. Also, if you have a need for a computer modification which is recommended by one of the Magazines or suppliers, Dan will do the modification if you furnish the article or technical write up. One can never pin down an exact cost estimate because of the unknown time and materials factors. This is even true when you take your TV to the shop. So TRUST is the key. You can trust these two individuals and each will get in touch if the repair cost will be higher than normal expectations.



Bill Jones, Publisher
UPDATE Magazine
1317 Stratford Ave.
Panama City, FL 32Ø4

Dear Bill:

Thanks for the reminder. I did indeed forget to send you my renewal and am inclosing it with this letter.

I find this new issue impressive in size and content. I often have problems finding time to read all of the TS publications I now receive, but now that I am out of school and winter is fast approaching (hopefully, I am a skier), I hope to find much more time to spend on my hobby.

You discussed briefly the Z88, which I personally bought about two months ago from Sharps (a more helpful company I can't think of). I use it to transport work between my office and home, and also find myself by the pool and backpacking with it on a regular basis. In case you have not had a chance to play with one yet, and if your readers need more info on it, I would like to briefly express my opinions on the Z88 here.

Having degrees in both Electrical Engineering and Computer Science, it is a pleasure to find a system that is properly thought out. The Z88 is a prime example of user friendliness, compactness, and usefulness- a perfect example of good design.

The market that it was designed for, low-cost portable computing versus heavy, expensive, and power hungry MS-DOS compatibility (I know of very few people who need to actually run MS-DOS specific programs on a portable), should fit the needs of many TS computer owners. I myself also own a ZX81 (semi-retired), TS2Ø68, and a QL- sort of like having a musuem of personal computing in my own house. And I use each of them periodically.

The only problems with the Z88 is the lack of support so far in this country. Even though many dealers now handle it and there is a user's group (based in England), technical information and additional programs are still short in coming. I understand the technical manual is on the way (Sharps is still waiting to receive them) and several

programs are in the works (the on-board software may be enough for many people). To illustrate this problem, a spell checker has been announced- using English English, not American. I don't mind the spelling 'colour' in manuals, but I don't think that I can get away with it in my reports.

If the Z88 is properly supported (it seems to be off to a good start, despite the temporary problems and delays), it should find an appreciable nich in both the European and American markets.

A comment on your plans to include programs on disks that only have reviews published: please don't if at all possible! I feel that your disk service is excellent (I until recently could not afford to take advantage of it but might do so in the future). For those people who don't mind typing in programs or can't afford to buy the disks, you would just be depriving them (not to mention driving them crazy with the descriptions of what they can not get). For long programs, I find it acceptable IF NECESSARY to spread them out over two issues. If you still feel that you need to do this, may I suggest that you offer disks with just these unpublished programs, not those printed in the magazine.

Again, keep up the good work on the magazine, and thanks for reminding me about my renewal!

Sincerely,
James Hunkins

James Hunkins
836 W. Fig Tree Place, Apt. 1014
Salt Lake City, UT 84116

Oct. 25, 1988

P.S. The number of advertisers you have is encouraging. I am ordering from two of them at this time.

Dear Jim,

Thanks for renewing your subscription, and THANKS for the input about the Z88. I will use all of what you wrote in the January issue. We need continuing supporting articles about the Z88 and I will anticipate more from you as you have the time.

It is intriguing to me that a new computer comes out using the Z80 CPU! I believe that our TS-2068 programmers and hardware developers will pick up on the Z88 and do some good work with it, because of their existing comfort in Z-80 CPU assembly programming. I want to fully support the Z88 users in UPDATE and will try to develop wider writer support. We already have about 20 Z88 subscribers. (UP THAT TO OVER 50 NOW!) Cont Nx Pg.

About the LISTINGS in UPDATE: I believe that you misunderstood. We will continue to publish listings and tutorials. The problem is that some of the FULL FLEDGED softwares for the QL are so long that it isn't practical to publish the listing. Some are as long as 200K bytes of programming, which would take up 40 pages for just the listing. But others, like Bob Hartung's "Address File" program, are ideal for publishing both the Listing and the documentation. Some longer programs and their listings may be published over two issues. But two issues are separated by a three month time period, which makes it essential that each episode of a continued presentation have a stand alone capability. When some Machine Language programs evolve, their whole code tables can likely be included in one issue. I discussed this at great length with Bill Cable. His Refield program is just too long to be listed. Nothing else will fit into one MDV cart. This really is a tough nut to crack, but the problem provides a solution for another UPDATE objective.

Another objective of UPDATE is to sponsor the development of North American Software sources. The issue disk series is designed to support both the users and the programmers. Update takes only the expenses involved in copying and distribution, and the money left goes to the programmers. The small compensation that a programmer receives from disk sales may be just enough to entice him to continue to work and support us. You hit it on the button! There will be one article in almost every issue designed to "drive you crazy to buy the issue disk"! Later we will carry the principle into Z88 support.

Peter Hale, the editor of BOStug Newsletter, has a little software house called EMSOFT. He has the identical objectives as given for the Issue Disk program, "to assist programmers and to develop North American Support Sources". If we can do that we will have good QL and Z88 softwares that sell for around $20-30 instead of being tied to English software that sells for twice that amount. Then we will have American flavored spelling of such words as colour and enclose, and we wont be tied to the Pound.

One Z88 dealer, Mike Fink, 355 W. 39th St., NY, NY 10018-1401 (tel 212 695 8589), is working on a "Z88 User Guide". Mike saw the need for better and clearer instructions and went to work on the project about 3 months ago. It may be finished by now.

Thanks again for your input, and best wishes. Dont break a leg skiing. My last skiing was at Aleska (near Anchorage Alaska). That slope is awesome.

Sincerely,

Bill

Bill Jones

Creating EXPORT DATA FILES with PSION Softwares (Abascus-Quill)
Then IMPORTING them to QUILL

Mr. Charles Reise wrote a nice letter from the Gateway City. He discribed a nice way to use Abascus for keeping his Bank Account straight. But the importance of Charles' letter (to me) was not what he intended it to be. He stated, "I have not yet learned to use QUILL, so I am PRINTING THIS LETTER USING QLSS". Now here is ole Charles using the SPREAD SHEET (Abascus) for a word processor "as well as" using it as a spread sheet to keep his checks from bouncing! Right off I thought of two questions. 1. How can he do that? 2. How can I help ole Chuck to slip his Abascus data files into QUILL.

Now, since I'm a QL Novice too, I had to take time out from alla this scribe work to READ THE DURN MANUAL, and then "trial and error for to answer them two questions". Chuck helped by providing his letter both on paper and in a MDV cart as an ABASCUS FILE. What is an ABASCUS FILE? Ans; It's a Spread Sheet Data file SAVED by the Abascus program. It is distinct by its FILE EXTENSION, which is ".aba". In other words, a SAVE while using Abascus will show up on MDV or Floppy as "FRED_ABA". (Pretty soon we'll be saying ABBA DABBA DO, like ole Fred does.)

B-R-D (before reading manual) I put QUILL in MDV1 and Chuck's in MDV2. I LRUN MDV1_boot, (to get Quill started). Then I used F3 and punched O for Other to get the second command set at top of screen. Then "F" for Files. Then an input of the title with the .aba extension tagged on started the load in of Chuck's letter. W R O N G !! The file appeared to load, but only five characters appeared in the Quill screen. Then it was either MAN THE LIFE BOATS, or Study the Manual!!

ARD "after reading manual" I discovered the steps necessary to EXPORT an Abascus Data file "FROM ABASCUS", and then IMPORT the file TO QUILL. The emphasis is important. Now if we should want some fancy Asian carved furnature, we can IMPORT the goods ONLY AFTER some industrous Asians have made the furnature and then put it on a boat to EXPORT it to us. "You can't import something unless it has been BUILT right and then exported, kinda like the chicken and egg deal. In this case, the file must be built right FIRST, and that is done with the software Abascus.

Now that we have the Thais happy, and a business principle established, let us proceed with doing at it; ie, we will first prepare ole Chuck's letter, which is an Abascus file. To do that we need to be in the Abascus environment. Remember where the MDV"s are? Chuck's letter is in MDV2_ (Abascus), and QUILL is in MDV1. I'll step it out.

1. LRUN MDV2_boot ENTER. This gets Abascus up and running.

2. Use the "L" for LOAD and enter the title letters only for the letter file. Abascus "assumes" the ".aba" extension, and loads the file.

3. Use the "F" for Files command, and then "E" for Export. Refer to the top menu for guidance. If you get confused, punch F1 for HELP and the help file will guide you. If still confused, keep this step in abeyance while reading up on the Abascus and Information sections of the manual. (The QL will wait right here until you're ready).

The significant point of this step is that the data in this Abascus file will be SAVED with a new extension. If the file name that we are working with is "FRED_ABA", it will be saved as "FRED_EXP". Since you have selected FILES and then EXPORT, the Abascus program has been told to save the data file with an EXP extension.

4. When the above works out for you, and MDV2 whirrs, you have EXPORTED the FRED_EXP data file, and it is in the ship "MDV2", waiting to be IMPORTED.

5. Use the "Q" for QUIT command to Quit Abascus.

6. Type DIR MDV2_ ENTER, to see the FRED_EXP file in thar. If it ain't thar, then you dude somethin wrong and start over at 1 above. First, have a cupa, while casually reading some more of the manual. ABBA DABBA DO! More's ah comin--

IMPORT FRED to QUILL

You DO remember where the MDV's are? Well, OK I'll tole ya a-gin. Quill is in MDV1 and the Abascus cart (with Fred_exp) is in MDV2. (Also When is on third base and Why is in Center Field). Got it? Lets keep on truckin.

7. Type LRUN MDV1_boot ENTER, to get Quill up and running.

8. Use F3 key to get the Quill Command menu at top. Now what we're lookin fer ain't thar. We need the FILES command, which is hiding on the next page of Commands. We get the next page by touching "O" for Other.

9. Touch "F" for FILES. Now we're gonna havta work in the dark. Our next needed command ain't up thar in the top menu. You kin study up some more, but I'll e'sist you a bit. What we're tryin our durn best to do is to IMPORT a FILE. We done used the FILE command, so now we need to use the IMPORT command.

10. Now Quill is kinda smart and has done figured out what we're stumblin around tryin to do. It already knows that we want MDV2, and we want to load in a FILE.

11. Touch "I" for IMPORT. Now type the name of the file. Maybe it is FRED. Then ENTER. The bottom prompt line changes about as we do alla these things. If you want to study at it, then fool with F1 (HELP) as long as you want to. But I'll tole you rat now that you're almost home free. Touch ENTER twice and the FRED_EXP file will IMPORT into QUILL. Iffn it dont, then you dint pay tenshion and done sumthin wrong. Have nother coffey break and study up some more. Then start over at item seven above.

12. Now that the data in FRED_EXP file is in QUILL, it is sitting there in the same FORMAT that it was when it was SAVED from the tother program (Abascus). If'n you dont like that format you can use the regular Quill command (Hit the F3 key to do it), then "M" for MARGINS. You need to run the cursor up to the first line FIRST, so that your new Margins will re-format the WHOLE gob of text. Otherways, the new format will begin where the durn curser is.

13. PRINT ole FRED by using F3, then "P" for PRINT. When you do that, ENTER to get past the first confusing step in the bottom prompt. Then I usually input a "one" to start printing at page 1, then another "one" to tole it to stop printing at the end of page one. When page one prints, keep on doin it with F3 till all of FRED prints out.

---Now Chuck, you ort to be able to step through alla that and start using Quill fer yer printing. But I want to tole ya that I learn't quite a lot frum yer letter. I'll step out what I learn't and dint learn'd.

14. Abascus CAN be used as a word processor, and it does a pretty good job at it, but not with nearly as much printing control as Quill. I can think of cases where Abascus would be useful to store a half dozen letters or Business invoices in its spread sheet pages to selectively print each one as needed.

15. There are some limitations about how to prepare files for EXPORT. I found some fuzzy stuff about how some characters in an .EXP file will STOP a Quill IMPORT "right there", so I'll be ah studyin at the manual some more fer shore.

16. Now Chuck, since you're one of the few who started working with Abascus afore you did Quill, YOU can tole us a lot of us about the ins and outs of Abascus. You're welcome to do just that. Now to kid you a bit. I was travelling up in mid PA once and saw a horse PUSHING a wagon. Most QL users get started first with Quill. But thats alright, as gettin at the destination is whut's important an it dont matter none wher's ye's a pushin or a pullin, eh?.

17. Nother piece'a wisdum is that once'st a guy's larn't about one'a the PSION jobbies, most of the stuff'll be used when he gets inta nother of the PSION pieces. When I loaded up Abascus (the first time), its way of trapsin round in the procedures wuz all very similiar like to Quill's way of a dunin at it, and vice versa, same fer the tothers. Alla this is real good fer us an we ort to be's ah learnin at it. ABBA DABBA DO!! We dude it!! Fun, eh? --BJ.

ANOTHER (*#@^%$+!) QL BEGINNER TIPSTER

By: Oscar Sensabaugh, R.O.C

Well, Old Bill suggested I might want to take up where he left off in the new "QL BEGINNERS COURSE" in the October '88 UPDATE!. Bein the onery cuss I am, my counter-suggestion is that seein as he is doin real great so far, I druther put my two-bits worth in the next issue, givin my views on more or less what he done commented on in the first place. That way you get two fer the price of one, more or less.

Just to set the record straight, what I got is a plain old unexpanded QL, QL and Smith-Corona printers, Magnavox RGB Monitor 80, and the bundled Psion software. I like QL Quill, but. More on that later.

The QL printer is usually the one hooked up to "ser1", as it is one heckova lot more versitile than the S-C daisywheel. But I'm kinda hooked on the "Tempo ASCII 10/12" print wheel I can use on the S-C. Same cable serves both printers, provided the S-C dip switches are properly set and the S-C print driver is installed in the QL Quill "work copy". I use two of them dang "work copies" of Quill, properly labeled, forcing myself to decide which printer I'm gonna use B4 I load up.

With the S-C driver installed and the dip switches properly set, the S-C printer will do bold and underline from the Quill TYPEFACE menu (F4).

The QL printer gets more complicated, but dang well worth the effort! (It will be somewhat easier iffen you can buy, beg, borrow, or steal a copy of Mike De Sosa's book! I agree with Bill that the QL manual aint what it outta be.) Anyhow, the dang "Epson" driver hidin out on the Quill cartridge will work with many of the current dot matrix printers. Where the trick comes in (and where Mikes book kinda leads you by the hand) is in settin up the TRANSLATE options, using CONTROL CODES from your particular PRINTER MANUAL (some of which aint much better than the dang original QL manual). This throws a strange symbol or two on the screen when invoked, but not to worry-it don't print, just shifts gears in your printer! Fer example, to start this off, I hit a (three-fingers-all together) CTRL-SHIFT-H, which showed a "C" with a dang tail on it on the screen. This when combined with the BOLD option from the TYPEFACE (F4) menu will give a printout that old Bill can reproduce no sweat. An option I use frequently is CTRL-SHIFT-I (which produces italics). It may be combined with BOLD for great results or combined with LOW and BOLD to produce a small but very readable type I find to be very attractive for footnotes! I even got one that puts well over 100 chars per line on standard letter-size paper, leaving decent margins. (And dija know that with the MARGINS option from the COMMANDS (F3) menu you can run that right cursor right past 80 and keep on truckin on up to 120? Took me a while to discover that accidentally! Does make it a bit confusing to edit the result on-screen...)

Also took a while to figger out that the way to zap that dang automatic page number was to consider it a FOOTER, and select "F" and "NONE" from the COMMAND menu (F3).

Quill can do some sneaky stuff, like change typeface while you aint lookin. Aint figgured that out yet, but one cure is to go back to start of the document before you print and reset BOLD and PAINT both and paint the whole document iffen that's the way you want it.

And watch out on long documents!

The first time, somewhere into the third page of an important document, I looked up from my notes to the screen and saw that Quill was gonna save what I had to mdv2, dang it, it was freak out time! Naturally, no cart. in drive plus no FORMATTED cart. available! To make it a short story, in the confusion some good poop was lost, and forevermore there IS and WILL BE a supply of FORMATTED CARTRIDGES readily available! My preference is to use a basic FOR-NEXT loop program to format at least 5 times, and run it again if the report does not stabilize.....and actually, doin a save every coupla pages IS cheep insurance.

Early on, mdv2 went kaput. It always had a different sound from that of mdv1...who knows? A coupla spares were ordered from Sharps Inc. (should have ordered more, they aint that cheep nowadays) and after many trials and tribulations (aint a heckuva lotta open space inside in that corner, which probably contributes to the heat problems that have been reported) mdv2is back in action. Still aint got the same sound as mdv1....

When I get one of them famous round TUITS this dang QL is going to have a coolin fan added. What I got in mind is one of them 3 to 6 volt motors and one of them inexpensive power supplies from Radio Shack, a home-brew blower (cut outta a Coors Lite can maybe), and a chunk of the XYL's discarded panty-hose fer a dust filter. If anybody's got a better idea, send it along to old Bill and maybe he'll print it.

BCNU.

TS-2068 VARS Save and Re-Load
For Larken LKDOS or Cassette

UPDATE Donates this utility to Public Domain.

```
9900 RANDOMIZE USR 100: OPEN #4,
"DD": RANDOMIZE USR VAL "100": O
PEN #3,"lp": LET elin=1: LET var
s=1: LET h80=1: LET x$="111": LE
T y$="111": LET z$="11111.C1": L
ET l$="11111"
9910 LET vars=PEEK 23627+256*PEE
K 23628: FOR n=1 TO 1: NEXT n
9915 LET elin=PEEK 23641+256*PEE
K 23642
9920 LET x$=STR$ (PEEK 23627): L
ET y$=STR$ (PEEK 23628)
9925 IF LEN x$<3 THEN  LET x$=ST
R$ 0+x$: GO TO VAL "9925"
9930 IF LEN y$<3 THEN  LET y$=ST
R$ 0+y$: GO TO 9930
9935 LET l$=STR$ (elin-vars-1)
9940 IF LEN l$<5 THEN  LET l$=ST
R$ 0+l$: GO TO 9940
9945 LET z$=l$+".C1"
9950 LET h80=PEEK 23641+256*PEEK
 23642-1
9965 PRINT "elin=";elin;TAB 12;"
Eadr=";PEEK 23641+256*PEEK 23642
''"vars=";vars;TAB 12;"Vadr=";PE
EK 23627+256*PEEK 23628''"Length
=";l$''"Length verif=";(PEEK 236
41+256*PEEK 23642)-(PEEK 23627+2
56*PEEK 23628)-1''"Vlsb=";x$;TAB
 14;"Vmsb=";y$''"Vlen=";z$;TAB 1
5;"is Ser # of SAVE"''"h80=";h80
;TAB 14;"Verif=";PEEK (PEEK 2364
1+256*PEEK 23642-1)
9970 PRINT ''"ENTER When Ready":
 PAUSE 0: RANDOMIZE USR 100: SAV
E z$CODE vars,VAL l$
9972 REM Pad xxxxxxxxxxxxxxx
9980 CLEAR : RANDOMIZE USR 100:
OPEN #4,"dd": RANDOMIZE USR 100:
 OPEN #3,"LP": RANDOMIZE USR 100
: CAT "",
9985 DIM k$(8): INPUT "Input 8 c
hr Title of Vars CODE  ";k$: DIM
 v$(VAL k$( TO 5)-8)
9990 POKE 23297,INT (VAL k$( TO
5)/256): POKE 23296,(VAL k$( TO
5)-PEEK 23297*256): RANDOMIZE US
R 100: LOAD k$CODE (PEEK 23627+2
56*PEEK 23628):
9995 LET n=PEEK 23627+256*PEEK 2
3628+PEEK 23296+256*PEEK 23297:
POKE n,128: LET n=n+1: POKE 2364
2,INT (n/256): POKE 23641,n-PEEK
 23642*256: POKE n-1,128
```

TS-2068 VARS SAVE and RE-LOAD

A Useful Utility, and one to Learn with.

While designing software I got kinda used to providing a quick Data CLEAR, and re-LOAD of a program variable file. This lets the user zap out data that has already been printed, or is otherwise useless, and start afresh.

When I got involved in converting some softwares to use with LKDOS, the missing vars SAVE-LOAD was not a BIG deal, but was missed. Now I have always taken the position that ANY THING that can be done in Machine Code programming can also be done in BASIC, albeit slower. Most times a routine in BASIC can be installed with less memory usage. Advantages of BASIC also includes the reduction of EPROM chips. So, the VARS Save-Load utility was designed to prove the point. It turned out to be useful enough to add to software as a GO TO Subroutine.

MOVING TARGETS, are System variables VARS and ELINE. Also, while piddling around I discovered that ole Larry Kenny had fiddled with PROG. I'll get that one out of the way in a hurry. PROG isn't one 'o them amphibian reptiles, but is a System Variable that denotes "the memory address where the first Basic Program line starts" in RAM. Apparantly Larry needed 50 bytes of extra space for part of his new VERSION 3 DOS Printer driver. So he just shifted PROG up 50 addresses.

LKDOS users who do not yet have the Version 3 EPROM, are in about the same shape the girl whose strap broke. LKDOS VERSION 3 kinda holds all of the good curves together. The V-3 EPROM is a substantial upgrade and can be purchased for about $15.

Anyway, when the LKDOS printer driver is initialized via RANDOMIZE USR 100: OPEN #3, "LP", that frog (PROG) jumps up from address 26710 to 26760, not a big hop, but enough to make a programmer pay attention. Now if PROG has your mind jumping, try PRINT PEEK 23635+256* PEEK 23637. Thats where your program begins in Memory. Where does the program END? Ans: "one address below VARS".

To find VARS, PRINT PEEK 23627+256 * PEEK 23628. Now thats where your VARIABLE file BEGINS. Normally the

frog (PROG) sits at adr 26710. So the Version 3 LKDOS printer driver moves it up 50 spaces. That doesn't hurt anything, but at the same time, VARS also is moved UP 50 addresses. Programs to work in Dock Bank Memory shifts PROG up to adress 32776. When trapsying around in programming we need to know what log the frog (PROG) is sitting upon.

So, now we know where the Basic Program starts in memory, and where the Variable file starts (or how to PEEK and find out).

Where does the variable file END? Ans: one address below ELINE. To find ELINE, PRINT PEEK 23641+256* PEEK 23642. ELINE is the next memory address UP from the END of the VARS file, so if we PEEK ELINE with the above formula, and subtract 1, we get the TOP address of the Variable file. ELINE starts a small area called "The Edit Buffer". The edit buffer is where a program line is when you pull it down to the bottom with EDIT.

There is one important address in this discussion. This is one address BELOW ELINE. This is the address that the TS-2068 uses to END "lookin at for Variables". The TS-2068 puts a "80h" there. You can peek it if you like. PEEK 23641+256* PEEK 23642-1 should return 128, which is decimal for 80 hex. We could say that this is the last address of the variable file, but it does not contain a variable. The TS-2068 puts a 128 there as a "marker signal".

Lets PEEK and find that "80h" or 128 decimal. PEEK 23641+256* PEEK 23642-1. If you dont get 128 your computer is sick.

Try POKE 23641+256* PEEK 23642-1,0. Now that will mess things up. Doing that eliminates the 128 and the TS-2068 forgets where to store the next variable. After doing that any new variable wont take. Like, LET z1=1. Then PRINT z1 will get "varable not found".

Now POKE the 128 back where it belongs and your computer will work right again (POKE 23641+256* PEEK 23642-1,128).

COPING with Moving Targets, VARS and ELINE-

Everytime a new variable is initialized, ELINE and "80h" moves up. So, in order to SAVE the variable file one must tie it down so that it doesn't wiggle around during the SAVE. Then upon RE-LOAD, new variables cannot be introduced to allow the "80h" and ELINE to escape.

PROGRAM ANALYSIS:

The underlined lines are LKDOS syntax. To use with Cassette, change these to regular TS-2068 commands for LOAD or SAVE.

Line 9900 begins by initializing all of the variable that will be used in the program. String variables, such as Z$ must contain exactly the number of characters in the initialization as the string will contain later in the program.

RANDOMIZE USR 100: OPEN #4,"dd" initializes LKDOS. Then RANDOMIZE USR 100: OPEN #3,"LP" initializes the LKDOS V-3 Printer Driver. At that command, Systems Variable PROG jumps up from 26710 to 26760, and a programmer's life is made tolerable by knowing where these goodies are.

Lines 9910 through 9950 assigns the variables to work with. These vars will be SAVED with the existing variable file, and after re-loading a file from disk they can be used to tie up where "80h" and ELINE must be set. It is significant that Assigning these Varibles does not change the SYSTEM VARIABLES "VARS and ELINE". This is because they were already initialized to the proper lenght at line 9900.

Line 9965 may be deleted. It is screen print given for understanding the essential variables and to show their correlation.

Line 9970 SAVES the variable file from "VARS", which is (now) at address 26760 with the Version 3 initialized- to the address that contains "80h". Remember that 80h is at one address BELOW ELINE.

Since none of these addresses are FIXED, the program PEEKS and finds them "wherever they are".

It is sigficant that although the contents of address of 80h is included in the CODE SAVE, somehow that address content

changes, and a RE-LOAD of a CODE variable file must be followed by finding and POKING that elusive address with 128 (80 hex).

Also note in line 9970 that the CODE file is saved with a NAME that is a number. Z$ contains the "byte length" followed by the LKDOS file extension ".C1". Upon re-LOAD of a vars file this file name will be used in computations by extracting the five digits. We will do that with the VAL and STR$ functions. For example, if the file name were "02340.C1", then the file would contain 2340 bytes. We can extract the 02340 by "PRINT VAL Z$ (TO 5). Try this for proof: <LET z$="02340.C1": PRINT VAL Z$(TO 5).

So, the variable file is SAVED with a "File Serial Number" which signifies its Byte Length.

Now note that line 9972 has a REM pad of several characters. This is to let you add more variables if you like, and STOPS, in order to make the utility more flexible. If you add vars, be sure to add their initialization (with their proper length) up in line 9900. You can add a STOP to check out the computations. Compensate for STOP: by deleting two x's in order to keep ELINE from moving. Add two x's when you remove the STOP:.

RE-LOADING a Vars file

Note that imediately after the SAVE, line 9980 picks up and operates. First, the vars are CLEARED. Then LKDOS and Version 3 Printer driver are initialized.

Then the LKDOS Disk Catalog is presented on screen for a new Vars File Load.

Line 9985 begins a fancy bit of footwork. We know that all vars file "names" will contain 8 characters, the first five of which will be the data length of the file. So, we DIMENSION K$(8). Then an INPUT is put on screen to INPUT the file name.

Next in line 9985, we DIMENSION V$ to be the length of the code file "minus the length of K$. So, the total dimension of both k$ and V$ equals the byte length of the code file as told by the file name.

Later, when the code file is loaded, it will wipe out (write over) K$ and V$, so we need to preserve the five numbers contained in the title. We do this at line 9990. The five digit number in the title, and now in K$, is factored into a 8 bit word. The most significant byte is poked to address 23297 and the lsb is poked into address 23296. These two addresses are in the TS-2040 Print Buffer, and safe from CLEAR.

For better understanding of the POKES, you can check these formulas out in the Direct Mode with PRINT instead of POKE.

Next, with our file length safely tucked away in the print buffer, Line 9990 continues and LOADS the code file starting at VARS. As the code file loads in it completely writes over both K$ and V$.

Line 9995 applies the Coupe de grace, by using PEEK to assign variable N the value of VARS. Then the byte length of the code is PEEKED out of the print buffer and added to N. N now is the address where "80h" belongs, so it is POKED 128.

N is then incremented by one, to become the address where ELINE should be set.

Then the Most significant byte and lsb of ELINE are POKED the two values of "N address", so that the TS-2068 will know how we stirred it's porridge. Finally, for good measure, we POKE the 80h address again.

In line 9995 there appears to be a contradiction. We use "variable N", and that changes things, doesn't it? Well, it would, except for the fact that "N" is one of the variables previously initialized in the program that SAVED the variables. See line 9910.

The VARS SAVE and LOAD Utility may be MERGED to any Basic Program and used as a Sub-Routine. Add line 9999 RETURN, for a GO SUB routine, or 9999 GO TO line x, for the routine if GO TO is used. The routine allows a menu item to be included within a program to elect CLEARING the PROGRAM and RE-LOAD of a selected vars file to be added back to the program. These can be either a file to re-initialize for a CLEAN program, or to LOAD a DATA File.

----------BJ---------

THE OCTOBER 87-JANUARY 88 ISSUE
LKDOS DISK

Disk Name : OCT87/Jan88

FORMAT.BO	001	Hcode.Co	001
AUTOSTART	002	Purity.Bl	001
ml.A$	005	LLOOK.Bl	001
fm.Cl	002	pg.Cl	002
fo.Cl	002	ml.Cl	002
cpr.Cl	002	prog.Bl	001
J-UTIL.Bl	002	vars.Bl	001
pseudo.Bl	001	MMRG.Bl	002
USING.Bl	001	PROMPT.Bl	001
MENAG.Bl	001	PSTAT.Bl	001
BRIEF.Bl	001	BRIEF.B2	002
mterm.Bl	001	mterm2.Cl	002
mterm.CT	002	PGMOV.Bl	001
pgmov.B2	001	PROG.Bl	001
PROG.B2	001	USA.Bl	001
HUMOR.Bl	001	HR.Cl	002
GAME1.Bl	002	PrgADD.Bl	001
Kmath.Bl	001	GAME2.Bl	002
Pscren.Bl	001	TESTER.Bl	002
TIP.Cl	002	TIPS-1.Bl	006
TIPS-2.Bl	006	cp.Cl	002
A-MEM.Bl	001		

LARKEN LKDOS 1986
Track/Side 040/002
Total Files 043
Free Blocks 005

The following MAX DOS program lines did these column printing and the LKDOS CATALOG of the October 87-January 88 Issue Disk

Note that line 10 first initial-izes the Oliger Printer driver, then pokes a line length, then prints the Header.

Next, the LKDOS is initialized, and disk #3 is selected. Then CAT "", gets the directory.

Since Channel #2 is OPENED in the conventional manner, PRINT goes to the printer instead of the screen (LIST also).

RANDOMIZE USR 100 is used in lieu of PRINT #4 to preceed the LKDOS commands. Actually both work in most instances, but RANDOMIZE USR 100 is less likely to introduce conflicts between the two DOS EPROMs.

Now we will LIST the program and then CLOSE #2 so that the next PRINT will be to the screen

THE MAX DOS PROGRAM LISTING

```
 10 LET /p=o: POKE 23323,32: OP
EN #2,"P": PRINT "THE OCTOBER 87
-JANUARY 88 ISSUE"'"LKDOS DISK"'
': RANDOMIZE USR 100: OPEN #4,"D
D": RANDOMIZE USR 100: GO TO 3:
RANDOMIZE USR 100: CAT "",: PRIN
T "------------------------------
---"'"The following MAX DOS pro
gram"'"lines did these column pr
inting and the LKDOS CATALOG of
the    October 87-January 88 Iss
ue Disk"'
 20 PRINT "Note that line 10 fi
rst initial-izes the Oliger Prin
ter driver, then pokes a line le
ngth, then  prints the Header."'
'"Next, the LKDOS is initialized
, and disk #3 is selected.  Then
  CAT """", gets the directory."
''
 30 PRINT "Since Channel #2 is
OPENED in    the conventional man
ner, PRINT  goes to the printer
instead of   the screen (LIST als
o)."
 34 CLOSE #2: CLS : PRINT "Adju
st page for Col 2"'"Tnen ENTER"
: PAUSE 0: CLS : OPEN #2,"P"
 40 PRINT "RANDOMIZE USR 100 is
 used in     lieu of PRINT #4 to
preceed the LKDOS commands.  Act
ually both  work in most instanc
es, but     RANDOMIZE USR 100 is
 less likelyto introduce conflic
ts between  the two DOS EPROMs."
'': PRINT "Now we will LIST the
program andthen CLOSE #2 so that
 the next  PRINT will be to the
screen"'" THE MAX DOS PROGRAM L
ISTING"': LIST
 42 CLOSE #2
 50 LET /d=1: CAT : INPUT "Ente
r Title to LOAD";a$: LOAD /a$: R
EM Cat the Oliger Disk and LOAD
a Oliger Disk Program.
```

GALE HENSLEE 4411 W 2nd St. Amarillo, TX 79106
(806) 359-3219 October 19, 1988

Mr. Bill Jones
UP-DATE MAGAZINE
1317 Stratford Ave.
Panama City, FL 32404

Dear Bill,

The July August issue of Time Designs Magazine contains a review of PC-IMPORT, in which Michael E. Carver describes a recent package designed to import IBM or Microsoft BASIC Programs to the QL. The problem is that, while PC-IMPORT does convert some of the BASIC commands to SuperBASIC, the crossover list is quite limited. Of course, many of the commands will transfer perfectly without any syntax changes, too. However, I have downloaded several IBM compatible BASIC programs to the QL, (I don't have PC-IMPORT) and there are almost always a lot of "Mistake" (as flagged by SuperBASIC) lines to correct. It sounds like PC-IMPORT will correct only a few of them. PC-IMPORT adds several other capabilities and I'm sure it would be a welcome addition to my toolkit.

The enclosed listing contains three SuperBASIC FUNCTIONS to merge with IBM BASIC files that eliminate the need to translate the MID$, LEFT$, and RIGHT$ commands. They accept the same procedure name and arguments as the IBM program. It would be useful with PC-IMPORT, but if you have a modem and a download program, you can still put these to good use. The first few lines simply illustrate how they are used in a program.

The SAVIT PROCedure is a one liner that I almost always add to programs under development. It replaces the whole routine of deleting and resaving your program each time you make a backup. It also ensures that you don't misspell the name, a frequent source of errors, at least for me. Of course, the name could be changed to "S" for a single character backup, but I can remember SAVIT.

Sincerely,

Gale Henslee

Gale Henslee

IBMtoQL_bas page

```
  100 n$="Pennsylvania and Texas"
150 PRINT n$
200 PRINT RIGHT$(n$,5);MID$(n$,13,5);LEFT$(n$,12)
11000 DEFine PROCedure savit:DELETE mdv1_IBMtoQL_bas:SAVE mdv1_
IBMtoQL_bas:END DEFine
12000 DEFine FuNction LEFT$(NAME$,LL)
12010 ANS$=NAME$(1 TO LL)
12020 RETurn ANS$
12030 END DEFine
12040 DEFine FuNction RIGHT$(NAME$,LL)
12050 START=LEN(NAME$)-LL+1
12060 IF START=0 THEN RETurn ANS$=""
12070 ANS$=NAME$(START TO LEN(NAME$))
12080 RETurn ANS$
12090 END DEFine
12100 DEFine FuNction MID$(NAME$,ST,LL)
12110 ANS$=NAME$(ST TO ST+LL-1)
12120 RETurn ANS$
12130 END DEFine
```

THE CABLE COLUMN

WOOD AND WIND COMPUTING

Bill Cable : RR-2 Box 92 : Cornish, NH 03743 : 603 675 2218

Dear Bill,

At the end of this letter you will find information about changes I made for the Cable issue disk. I feel that with these changes the overall quality will be greatly improved.

The Cable Column looked very good. You did a nice job in laying it out. It is nice to get so much material in one issue. Most publications are limited in space so yours really stands out for its size.

I am making a new version of REFIELD plus adding a few new ARCHIVE utilities into a package. I wish that I knew of a way to start up an Archive Program automatically but unfortunately it takes two steps. First you must boot up Archive, and then type 'RUN (program)' from the Archive Menu.

Your idea about having all of the PSION softwares on a disk with a menu to boot whichever one needed is good. But, you have to be careful what you INITIALIZE, because I, for one, do not have Speed Screen in ROM, so your first line crashes with my system with the '_SPEED' statement. If you initialize anything you'll have to trap possible errors by using WHEN ERROR. Then a user who does not have the capability that you try to initialize wont experience a crash.

There was a good series in the Curry Report about using WHEN ERROR. If you dont have all of the issues of the Curry Report I would suggest that you get them. They have lots of good tips and also give a nice chronology of the QL in North America.

I dont like to use "FLP_USE MDV_" because then you cannot use the real MDV when you want to. Instead, run the CONFIG_BAS program supplied with the PSION programs and specify which floppy or mdv that you want to use as the default device. One thing is clear. We have to be very careful and try to spell out very carefully what QL configuration is needed to run a particular piece of software. There are so many ways of setting up the QL. Up until now all of my software has been designed to work on any system, but there is a need for Trump Card Specific software because so much more power is available with Trump.

The TRUMP CARD tool kit is very powerful but the manual leaves a lot to be desired. Do you know that '<ALT><ENTER>' retypes your last line. That 'SDP_KEY p<ENTER>' will allow you to do a screen dump every time you press '<ALT>p' (it takes 20 seconds to begin). Try running the program I put on the disked called 'quill_hotkeys' and after running it start up QUILL. then

<ALT>p	will print out your document
<ALT>t	will take you to the top
<ALT b	will take you to the bottom
<ALT>l	will activate load
<ALT>s	will activate save
<ALT>f	will activate find(search)

How to set this up is under 'ALTKEY' in the TC manual. A series of articles on all the features of the TRUMP CARD would be very handy.

Changes for the Cable Issue Disk and Cartridge

I made changes to 3 files and you should update your copies of them to go out on the Cable Issue Disk. They changed files are : scan_prg, helper, and helper_doc.

Scan_prg has only a very minor change. A little 'bug'. Nothing really needs to be mentioned about the change.

Helper has had a major revision. It does everyting it use to but with more flash and it does a few new things. I wasn't really happy with the old helper so I made it into something that is much more professinally done. You should definitely mention that it has been improved to anyone who buys the disk.

Helper_doc has been enlarged to explain in more detail. You might want to include a listing of it with each disk otherwise make clear that they should print it out because there are major differences from the magazine text.

(Signed, Bill Cable)

Editor's notes: Bill's letter refers to a disk that I had sent to him, where I had stuffed all four of the PSION softwares into one floppy, along with his HELPER Tool Kit program. Each of the PSION BOOT programs was changed to "Qboot (Quill), Sboot (Spread Sheet), Dboot (Data Base), and Bboot (Bus Graph). Then HELPER was saved as the "BOOT" program. The whole stew worked fine for me, but the porridge had too much sauce for him. I had initialized both TK2_EXT and SPEED 2, and made the mistake of locking out Micro Drive with "FLP_USE MDV". He did a good job explaining this novice's mistooks, dont you think?

Bill's updates and improvements to the Cable Disk (MDV) programs came in time to update the disks and mdv's before orders were received. So, all of the improvements are included. I like the HELPER program so much that I always boot it in first, no matter what software I intend to use. When HELPER boots in, all of the tool kit functions are available, and the HELPER Menu serves as a "Master Menu" for all other softwares in my disk and mdv library. I can quickly "check out" a disk or mdv by popping it in and selecting DIRECTORY at the HELPER Menu. This allows one to quickly check the contents of as many mdvs or disks as necessary to select the one that has the program desired. If I want to run a program, that disk or mdv directory is presented in a screen window for easy selection.

Update rates HELPER as an OUTSTANDING group of management utilities, useful to both those who DO HAVE disk drive and those who DO NOT have disk drive. HELPER is a friendly program and I have not found any "Gotcha's" in it that cannot be overcome by a simple RUN command to get back the main menu. HELPER is extensively documented within the program by reading files that can be selected from menu. These help files may also be printed to paper. The use of split screen windows presents complete information about two disks or mdvs plus all of the functions available. WHOLE copy of all files from any storage device to any other storage device is just one of the options. When ready one can quickly boot in another operating program from menu.

HELPER is only one-fourth of the contents of the Cable Issue Disk (MDV). See the discription of the other programs contained in the Cable Issue Disk in the "library page" near the back page of this issue.

HELPER

A SUPERBASIC Program for the QL by Bill Cable

The HELPER program is a set of useful toolkit-like functions presented in a menu format. Most of the functions deal with file handling. It will work with all configurations of QLs, expanded or unexpanded, toolkit or no toolkit, floppies or no floppies. It carries out its functions with single key presses where possible, so it is very quick and easy to use. It provides multiple windows of directories and menus to keep the user visually informed on what is happening. This makes it much easier for the beginning QL user to develop a grasp of file usage in the QL environment. Although the PSION programs (ARCHIVE,QUILL,ABACUS,EASEL) have file maintenance commands, they are cumbersome to use and HELPER can be run before or after them to clean up directories or make backups.

To Run :

type : 'lrun {}helper' where {}=device holding HELPER

You are presented the HELPER Menu. Experiment a little and get a feel for how the commands are presented and carried out. The functions that make serious changes are deleting files and formatting cartriges or floppies. You can play with the other functions without harm. Stop the program and return to QDOS (option 8) when through.

HELPER Menu Options :

1. Directory of a device with file copy,delete,view options. The directory is constantly displayed while the functions are being carried out.

2. Copy medium either all(clone) or selective. The source and target mediums are both displayed. Select 'all copy' to copy all files from source to target(clone source). Select 'selective copy' to pick certain files to copy from source to target. You are then prompted about each file with a '[y/n/a/q]', which means press 'y' to copy, 'n' not to, 'a' to begin 'all copy', 'q' to quit copy.

3. Print a file to a printer attached to ser1. All text in a file will be faithfully printed. All nontext will print as '*'. It works fine for listing SUPRBASIC programs and many other files, although slower than normal because of the character translation. Quill _doc files have all the text printed plus a lot of '*'s and the form is not the same as printing from Quill. It is handy,nevertheless, to see what is in any file and the print can be aborted if desired.

4. Set time and date. You will notice the date and time and the elapsed time HELPER has been running in the lower right of the HELPER menu screen. When you first start your QL (cold boot) the date and time are incorrect unless you have a battery clock. Once you set it with this option it will remain correct even if the QL is reset (warm boot).

5. Load and run a program from a specified device. You can start one of the PSION programs from its boot program or any named SUPERBASIC program by naming its file name.

6. Open for your own additions.

7. Also open.

8. Quit HELPER and set windows. Either have the normal <F1> windows or have full width #1 and #2 overlapping windows after leaving HELPER. After returning to QDOS type : 'run<ENTER>' or 'helper<ENTER>' to restart HELPER. To clear HELPER from the QL memory type : 'new<ENTER>'.

9. Hints about HELPER. Very briefly describes the program.

0. Format a medium 1 to 9 times. All new cartridges should be formatted 5 times. Floppies need only 1 format. If you want to reuse an old cartridge or floppy you can reformat it, as long as you don't mind losing whatever is on it. You are forced to give a name for the formatted medium. Use a name up to 8 characters that describes what the medium will be used for. If the sector count varries a lot when a cartridge is formatted several times, reformat it until you get a smaller count and be wary of it.

Hints :

The QL has a WHEN ERROR routine to trap errors but in the standard QL it is flawed. In order to keep this program simple and universal, I avoided trapping errors. I am planning a more complex version of this program that will trap errors that will be available later. There is a fair bit of input checking to prevent errors happening but not every one can be prevented. Trying to copy a nonexistent file somewhere will stop the program or trying to copy to a file that already exisits will also. If the program stops you will be in QDOS and you should note the cause of the error and restart the program by typing : 'run<ENTER>' or 'helper<ENTER>'s. The difference being that the elapsed time (bottom right of HELPER menu screen) is reset to 0 when you 'run'. You should always 'run' or 'lrun' the first time.

HELPER Documentation page 3

A device is a piece of hardware that reads and writes information to a mass storage medium. So microdrive 1 (mdv1_) is a device that holds a microdrive cartridge (a storage medium). The QL comes with mdv1_ and mdv2_ built in. You can add 2 floppies (flp1_ and flp2_) and some toolkits and software allow you to use computer memory (RAM) as a simulated device (ram1_ and ram2_, etc.). All devices except RAM devices retain their information when power is turned off. The mediums that go in devices must also be formatted before first use. If Ram is formatted it is called static (fixed size) and if it is not it is called dynamic (its size grows with need).

All information stored on a medium is done so as a file. A file is the collection of your information in a structured form. A file is accessed by specifying its name. The QL is very flexible about names and the '_' (underscore) is used as a handy divider for parts of names of a file. In many computer systems the '.' (period) is used in exactly the same way. A QUILL file would be totally identified as : mdv2_letter_doc. Where 'mdv2_' gives the device location, 'letter' is the main name, and '_doc' is QUILL's extension for easy identification.

The PSION programs are not as flexible about the names of files they allow. Their file names can have a main body of only 8 characters and each usage has a specific extension. ARCHIVE uses '_dbf' for database files. QUILL uses '_doc' for documents. ABACUS uses '_aba' for spreadsheets. Others are '_exp' and '_lis'. That means that when you save(create) or load(open,look) a file with one of these programs they will assume those extensions at the end of the main part of the file name.

When a directory is shown in a window, the top line is the name given to the medium at the time of its formatting and the second line has 2 numbers separated by a '/'. The first number is the total sectors still available for use (not used up by files) and the second number is the total sectors on the medium. A sector is 1/2 k. As the sectors available approaches 0, you need to use care. You may try to save a file and there will not be enough room. You will get a 'drive full' message from QDOS or in the PSION programs it is a more cryptic 'incomplete i/o transfer'. If you are short of room on a medium you will have to delete some files on the medium to make room or use a different medium with enough room.

If you want to copy a file with a new name (rename) you have to use option 1 (Directory) and type the new name in when requested. If the name is to be the same you can also use option 1 and just <ENTER> when the name is prompted for or you can use option 2 (Copy) and choose selective copy and just press 'y' when prompted about copying that file.

If you want to see what is in a file you can use option 1 (Directory) and view it. It will be scrolled on the screen for you. Press the <CTRL><F5> keys down to pause it and just the <F5> key to restart it. If you are not using a toolkit you can end the view by pressing <CTRL><space bar> while it is scrolling. If you have it paused and do it you will stop the program and must retart by typing 'helper<ENTER>'. Othewise you will have to wait until the scrolling is done. It can take a while for long files.

The code is straight SUPERBASIC. I indented the multiline IF statements for easier reading. The single line 'IF' statements don't require and 'ENDIF' but I prefer using them for easier program reading. You will should find it easy to add your own customized options to the program. You may want to borrow some of the procedures to use for your own purposes.

Numbers 6 & 7 are left unused in the menu. One nice addition is to make HELPER your boot program for Quill so you can do file maintenance when you start up and have option 6 be starting quill. You can call the Quill boot program 'bootq' and have option 6 'lrun' it. Alter the Quill boot program so that it restarts HELPER (now called boot) when you quit Quill so you can do file maintenance as you finish up.

If you have a toolkit activated while using HELPER, it may control the directory windows by stoping them when the window fills until you press a key (<F5> is the best key to press). That is why you often see the message 'Press <F5> if paused'. If drives are running then things are probably not 'paused'. If you don't have a toolkit, you can ignore the message.

I hope you find this program useful. If you find any 'bugs' or think of good additions let me know.

Bill Cable
Wood & Wind Computing
RR2 Box 92
Cornish, NH 03745
603 675 2218

Our Aerco FD-68 GURU Returns

Mr. Syd Wyncoop is one of the most expert of of FD-68 users. Syd began writing for UPDATE last year, and then the roof caved in upon him. His Job disappeared. Now, after some months of stress, landing a new job, and moving the family, Syd is back with us. A hearty WELCOME BACK, Syd!!

The FD-68 Update

First, let me apologize for missing the last few issues and leaving the FD-68 readers high and dry. I was in the process of relocating and all of my computer gear was in storage with the moving company for nearly 4 months. Talk about withdrawals! At any rate, the shakes have subsided and I have warmed up the old keyboard.

I promised Bill that I would do something for you CP/M fans. CP/M will open vast horizons for our humble doorstops but, it is definitely not a 'user-friendly' operating system. Perhaps the largest advantage to learning CP/M is the enormous amount of public domain software that is available.

But, I am getting ahead of myself. First, if you have not obtained RP/M, then get it. RP/M is truly an amazing bargain and well worth the price, ($25.ØØ in the last flyer I recall) even if you just want to experiment. RP/M is virtually the same as CP/M 2.2 and I have not found any CP/M software that will not run. Due to this, I will use the terms CP/M and RP/M interchangeably.

For those of you are using the Zebra disk system, much of this will be applicable. However, I do not own a Zebra system to test therefore, you should verify all addresses with whatever information you have for your system.

It is a much different experience to boot a computer and not be in a Basic interpreter. CP/M is an operating system and the letters stand for Control Program for Microcomputers. RP/M is Revised CP/M which is not written by Digital Research and has a few nice enhancements. Instead, RP/M was written by a company called Micro-Methods, as a direct replacement for CP/M.

There are many good books on CP/M at your local library, so I'll not go into its history. The large and lasting mark that CP/M has left is to merge microcomputers with disk drives. CP/M was the first popular DOS for micro computers and is in fact, the grand-daddy of the popular MS-DOS operating system.

As an operating system, CP/M provides all I/O. This means that each device is controlled and accessed via CP/M. The natural or 'resting' mode is similar to your familiar Timex prompt and is similarly a command parsing loop. CP/M will load and run any program from disk but, it does nothing else. For example, if you want to run a Basic program, you must first load the Basic language from disk. Basic will use the CP/M I/O routines to load your program and then you are finally 'in Basic.'

While CP/M at first seems limited, due to this method of operation, it is really very versatile as you can load and use any language or any application that is on the disk. The only big shortcoming of CP/M is that it was written to run on eight bit CPU's, such as our Z8Ø, and therefore can only directly access 64K of memory. For us, this is not a problem. We are accustomed to this memory size and to having 38K of available RAM. CP/M gives us approximately 55K of available RAM, plus random and sequential filing!

CP/M is also an assembly language programmer's dream come true. Many beginning assembly language programmers have a difficult time interfacing their programs to the Timex Basic operating system. CP/M simplified this by providing function calls to do much of the hard work for you. I have included a table of these calls and we will discuss their use, as time and space permit. These function calls are similar to the theory that spawned the idea of the function dispatcher in the normal Timex operating system. See the Timex Technical Manual for details (they are available from Time Designs Magazine).

Other than the additional burden of learning CP/M, CP/M is an excellent tool for learning assembly language programming. This is due to the fact that an assembler was provided, as well as the function calls. In fact, if CP/M could be said to boot any language, it would be assembly language.

There are some important addresses and terms associated with these addresses that we should be aware of and that are detailed in the following paragraphs:

ØØØØh This address contains a jump instruction to the warmboot address of CP/M. Many CP/M programs end with the instruction, JP ØØØØh, which effectively means, GOTO CP/M. The warmboot routine resets the CP/M stack, and reboots the CCP from the disk by performing a disk reset function to disk A. Addresses ØØØ1h & ØØØ2h are the actual start location of the CBIOS.

ØØØ3h This address contains the I/O Byte. This byte tells CP/M where to direct the standard I/O and is bit-mapped as follows:

list	punch	reader	console
bits 7, 6	bits 5, 4	bits 3, 2	bits 1, Ø

The value in each two-bit field can be Ø-3 and has the following meanings:

list
- Ø = the teletype device (TTY:)
- 1 = the CRT device (CRT:)
- 2 = the line printer device (LPT:)
- 3 = the user defined list device (UL1:)

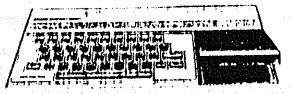
punch
- Ø = the teletype device (TTY:)
- 1 = the high speed punch device (PTP:)
- 2 = the user defined punch #1 (UP1:)
- 3 = the user defined punch #2 (UP2:)

reader
- Ø = the teletype device (TTY:)
- 1 = the high speed reader device (PTR:)
- 2 = the user defined reader device #1 (UR1:)
- 3 = the user defined reader device #2 (UR2:)

console	Ø = the console printer device (TTY:) 1 = the CRT device (CRT:) 2 = batch mode (BAT:) use reader device as the console for input use list device as the console for output 3 = the user defined console device (UC1:)
ØØØ4h	This location contains the default disk drive designation. The values Ø-15 equate to drives A-P. You must be careful as CP/M will use 1-16 in other places and reserves Ø to mean the current drive.
ØØØ5h	This address contains a jump instruction to the entry of your BDOS. This is the entry point to the system function calls and will prove very useful. The actual address of the BDOS is held in ØØØ6h & ØØØ7h and is the lowest address which is used by CP/M. Note: the CCP resides below BDOS however, it can and often is overlaid by applications programs.
ØØ38h	This is the entry to RST 38h (RST 7 in 8Ø8Ø code) and is used by the CP/M debugger, DDT, for single stepping but is not otherwise used by CP/M.
ØØ5Ch-ØØ7Ch	These addresses are the default FCB for transient program use by the CCP. If a second filename was entered on the command line, it will begin at the address ØØ6Ch.
ØØ7Dh-ØØ7Fh	These addresses contain the default random record position.
ØØ8Øh-ØØFFh	The default 128 byte disk buffer is located here and is referred to as the default DMA. This is a very important buffer for disk I/O and we will be discussing the DMA in greater detail, later.
Ø1ØØh	The Transient Program Area (TPA) starts at Ø1ØØh and is the address into which CP/M loads all programs. This is also the start of available or 'free memory' and all memory from Ø1ØØh to the CCP or to the BDOS, if the CCP is overlaid, is available for your use.
34ØØh	This address is not used by CP/M but, it forms the base address for the original stock CP/M and is the address from which CP/M is moved. This moving or relocation of CP/M from 34ØØh is done to customize CP/M to your memory size. Originally, the minimum configuration of CP/M was 2ØK which was thought to be a lot of memory at that time! Fortunately, this relocation was planned for.
D4ØØh	This is the start of our CCP (Console Command Processor). It is found by the formula: 34ØØh + ((memorysize - 2Ø) * 1Ø24)
DCØ6h	This is the start of our BDOS (Basic Disk Operating System) and provides the entry to the CBIOS routines. The BDOS is not hardware dependent and functions as the system manager. The BDOS always starts at CCP + 8Ø6h
EAØØh	This is the start of the BIOS (Basic Input/Output System) or more properly the CBIOS (Customized BIOS) and is the workhorse. This is the hardware dependent portion of CP/M and must be customized for CP/M to be useful. The BIOS always starts at CCP + 16ØØh.
FFFFh	The usual top of memory.

That should be enough to absorb this time. I leave you with the CP/M function call table. Keep this table handy. We will discuss it further, as we proceed with CP/M.

Syd Wyncoop
15951 Rosalita Drive
LaMirada, Ca 9Ø638



CP/M 2.2 BDOS Function Table

Function # Dec	Hex	Function Name	Inputs	Outputs
Ø	ØØ	System Reset	none	none
1	1Ø	Console Input	none	A=Ascii char
2	Ø2	Console Output	E=Ascii char	none
3	Ø3	Reader Input	none	A=Ascii char
4	Ø4	Punch Output	E=Ascii char	none
5	Ø5	List Output	E=Ascii char	none
6	Ø6	Direct Console I/O	E=FFh (input) or Ascii char (output) or FEh (status)	A=Ascii char or status
7	Ø7	Get I/O Byte	none	A=I/O Byte value
8	Ø8	Set I/O Byte	E=I/O Byte value	none
9	Ø9	Print String until $	DE=string address	none
1Ø	ØA	Read Console Buffer	DE=buffer address	console chars put in buffer
11	ØB	Get Console Status	none	A=status
12	ØC	Return Version Number	none	HL=version #
13	ØD	Reset Disk System	none	none
14	ØE	Select Disk	E=disk number	none
15	ØF	Open File	DE=FCB address	A=dir code
16	1Ø	Close File	DE=FCB address	A=dir code
17	11	Search for First	DE=FCB address	A=dir code
18	12	Search for Next	DE=FCB address	A=dir code
19	13	Delete File	DE=FCB address	A=dir code
2Ø	14	Read Sequential	DE=FCB address	A=error code
21	15	Write Sequential	DE=FCB address	A=error code
22	16	Make File	DE=FCB address	A=dir code
23	17	Rename File	DE=FCB address	A=dir code
24	18	Return Login Vector	none	HL=login vector
25	19	Return Current Disk	none	A=current disk number
26	1A	Set DMA Address	DE=DMA address	none
27	1B	Get Record Allocation Address	none	HL=allocation address
28	1C	Write Protect Disk	none	none
29	1D	Get Read Only Vector	none	HL=read only vector value
3Ø	1E	Set File Attributes	DE=FCB address	A=dir code
31	1F	Get Disk Parameter Block Address	none	HL=DPB address
32	2Ø	Set/Get User Code	E=FFh (get) or user code (set)	A=user code
33	21	Read Random	DE=FCB address	A=error code
34	22	Write Random	DE=FCB address	A=error code
35	23	Compute File Size	DE=FCB address	random record bytes=filesize
36	24	Set Random Record	DE=FCB address	random record pointer set to the selected record
37	25	Reset Drive	DE=drive vector	A=Ø
38	26	Access Drive	not supported	
39	27	Free Drive	not supported	
4Ø	28	Write Random with Zero Fill	DE=FCB address	A=error code







Let's talk about PRINTERS and Bit Image Graphics

by Stan Lemke
Lemke Software Development
2144 White Oak
Wichita, Ks. 67207

When I bought the printer for my TS-2068, I took the first step in computer hardware expansion. A cassette recorder and used TV monitor had been easy to get. But a printer??? This was a more serious problem.

Well, how does one select a printer? I started by asking around. A friend at work (with a TI-99 computer) had a Star printer that he really liked, another was using a Star with his Commodore, and also liked it. So, based on this, I bought a Star printer. Quite by luck, I got a very good deal!

The Star SG-10 (and hundreds of other dot matrix printers) are advertized as IBM compatible. But, as I got into graphics more and more (first with the Pixel Sketch and Graphics Editor, and later the Pixel Print Desktop Publisher), I soon came to realize that **NOT ALL** Printers are created equal, even if they all claim IBM compatability!

When it comes to printers and graphics, there is very little standardization! However, IBM compatible printers all use a common command FORMAT. This is a series of 4 to 8 bytes that "tells" the printer two things:

1) the printer dot density
2) the number of dots/line

Most printers provide at least 2 graphics densities, my Star can print in no less than 6!

The IBM graphics format syntax looks like this for the Star...

(ASCII)	ESC,	K,	n1,	n2
(dec.)	27,	75,	n1,	n2

where "K" identifies the density (in this case 60 dots per inch, or 480 dots per line). n1 and n2 are used to tell the printer how many dots are to be printed, up to 480 for this density.

To define n1 and n2, you need to solve these equations:

```
n2 = INT (number of dots/256)
n1 = number of dots - n2 * 256
```

One variation on this format is to use a 2 byte density command:

(ASCII)	ESC,	*,	48,	n1,	n2
(dec.)	27,	42,	0,	n1,	n2

where the "*" byte is a generic graphics identifier, and the following byte (in this case 0) defines which density is to be used.

The C. Itoh (Prowriter) printer implements a very loose form of this format using:

(ASCII)	ESC,	S,	n1,	n2,	n3,	n4
(dec.)	27,	83,	n1,	n2,	n3,	n4

where the "S" identifies the printer density, and n1 thru n4 are the ASCII codes for a 4 byte number defining the number of dots to print. For example, to print 256 dots, you would use:

byte	dec.	code
n1	0	48
n2	2	50
n3	5	53
n4	6	54

I have included the ASCII and decimal forms of these commands for a reason, namely, that while we primarily use the decimal form when communicating with our printers, most printer manuals like to use the ASCII form, and some use it exclusively! Hardly what I would call useful when you are just getting started.

Once you have conquered the graphics command syntax problem, you are ready for the next hurdle: adjusting the line spacing. This also is a non-std. command. Most printer print heads are built with a 1/72 inch space between pins. Also, most IBM compatable printers of the class used by the Timex community use 8 pins to print graphics. So, an 8/72 inch space between lines is needed to prevent print gaps or overlap. The format for this command usually looks like this:

(ASCII)	ESC,	A,	n
(dec.)	27,	65,	8

where the "A" defines a line spacing with a multiple of 1/72 inch, and "n" defines what that multiple is.

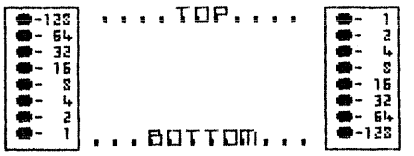
The last commands are: Carriage Return and Line Feeds. There are some standards here in that "13" is usually a "CR" and "10" is a "LF". But, some printers will give a "LF" when the "CR" command is received, others do not. Still others can be set either way. So, if your printer advances the paper twice for each printed line, and leaves big gaps between lines, it may be that your graphics program is sending your printer a "LF", while your printer is automatically advancing on the "CR". Hopefully one or the other can be adjusted easily.

So, how is it all put together? Your printer driver must pass the following information to the printer like this:

1) send the line spacing cmnd.
   (this is only sent once)
2) send the graphics cmnd.
3) send the Bit-Image data
   (the dot patterns)
4) send the CR and LF cmnds.
5) repeat 2 thru 4 until the
   whole page is printed.

The picture (Bit-Image-Graphics) byte patterns are created by testing each "dot" on the screen to see if it is "ink" or "paper" and then relaying this to the printer. This "testing" can be done in a variety of ways, and even how the dots are assembled and sent to the printer is somewhat non-standard.

Each of the 8 pins in the printer print head is assigned a numerical value. When the printer gets a command for that value, that pin is fired, and a dot is placed on your paper. Two variations are common:



If a "1" is sent, in each case the "1" pin fires. If a "3" is sent, the "1" and "2" pins both fire. If a "255" is sent, then all 8 pins print, etc... But, if both printers are going to print the same picture, your printer driver must "know" which pin assignment/arrangement your printer uses. Notice, also, that since the pins on the print head are aligned vertically (up and down) and that the print head moves left to right, top to bottom, one must test the screen, starting at the upper-left hand corner, in 8 dot columns. Unfortunately, this is not the same form in which the computer stores the picture data, or printing pictures would have been made very simple.

Now, with this printer tutorial completed, I'd like to move on to the next phase, a somewhat practical application: an all BASIC BIT-IMAGE-GRAPHICS printer driver program you can use.

LISTING A is a TIMACHINE-ready Basic Bit-Image-Graphics printer driver. (TIMACHINE is a BASIC compiler written by Novelsoft).

This program **MUST BE USED** with an **AERCO** type printer interface.

If used in BASIC, each line takes about 30 seconds to print. Compiled, each screen takes about 30 seconds to print!

LISTING B presents a simple way to use this program... just LOAD a SCREEN# and PRINT it.

LINE 1: Copyright Notice
Please use and distribute this program freely, but leave this notice in for identification.

LINE 10-50: TIMACHINE Directives

LINE 100-120: PRINTER COMMANDS
Please see notes relative these lines below.

LINE 200: Sends Line Spacing command (LINE 100) to the printer.

NOTE: The AERCO CPI uses a very simple OUT 127,VALUE command to transfer information from the computer to the printer. Also, IN 127,VALUE is used to transfer information from the printer to the computer (see LINE 510).

LINE 300: Pixel row counter. Most TS-2068 graphics programs use the upper 176 pixel rows to display pictures. This counter starts at 0 (zero) and counts to 175 incrementing by 8. The "Y" variable defines the vertical screen coordinate associated with the upper pin of each 8 dot column. NOTE that the screen coordinates go from 175 (top) to 0 (bottom).

LINE 310: Sends the Graphics command (LINE 110) to the printer.

LINE 320: Pixel column (X coordinate) counter. NOTE: the TS-2068 screen has 256 dots per row.

LINE 325: This line is optional, and should be DELETED from your final program version to SPEED up your printer. This line prints the Pixel Row and Column currently being tested at the BOTTOM of the screen.

LINE 330: Assemble byte (value) to be sent to the printer.

LINE 340: Send "CR" and "LF" commands (LINE 120) to the printer.

LINE 350: DONE.

LINE 510-560: Check the status of the printer.

.....

DO THE FOLLOWING TEST: WITH YOUR PRINTER TURNED ON AND THE READY LIGHT ON, TYPE: PRINT IN 127

.....

The value printed is the value YOU should use in LINES 520 and 550 in the place of "229". "229" is the value I get with my STAR printer.

IN 127 is tested. If the printer is ready, printing continues. If the printer is not ready, a message is placed at the bottom of the screen until the printer is ready.

LINE 1010-1090: An 8 dot column is tested using the POINT(X,Y) command to see if each dot is INK or PAPER. The value of the variable "BIT" is determined by adding the values of each dot that is "INK". NOTE: this arrangement is for the upper pin using a value of 128. To switch to the other system, simply change the value in each line preceding the POINT function.

Now for a few words about those 3 lines of **DATA**. To make the program flexible, the first number that is read from each line "tells" the program how many bytes are to be sent to the printer for this specific cmnd.

For example, Line 100 we have:

```
DATA INT 5, 27, 65, 8, 27, 50
```

(INT is used by TIMACHINE to identify all of these as integer numbers). The "5" says that this printer command needs 5 values. And you see that there are 5 numbers remaining. LINE 110 also has a 5 byte command, LINE 120 has a 2 byte command.

Here are some examples of LINEs 100, 110, and 120 for a variety of printers...

STAR SG-10 (IBM Compatibles)

```
100 DATA INT 5,27,65,8,27,50
110 DATA INT 5,27,42,5,0,1
120 DATA INT 2,13,10
```

STAR SG-10 (STAR Mode)

```
100 DATA INT 3,27,65,8
110 DATA INT 5,27,103,5,0,1
120 DATA INT 2,13,10
```

C. Itoh (Prowriter)

```
100 DATA INT 4,27,84,49,54
110 DATA INT 6,27,83,48,50,53,54
120 DATA INT 2,13,10
```

Spirit 80, Legend 880
Star SG-10X

```
100 DATA INT 3,27,65,8
110 DATA INT 4,27,75,0,1
120 DATA INT 2,13,10
```

Epson RX+

```
100 DATA INT 3,27,65,8
110 DATA INT 5,27,42,4,0,1
120 DATA INT 2,13,10
```

Epson FX+
Seikosha SP-1000A/1200AI
Smith Corona Fastex 80
Datasouth I/II
Sakata SP-1500
Panasonic P1091/1092
Mannesmann Talley 85/86

```
100 DATA INT 5,27,65,8
110 DATA INT 5,27,42,5,0,1
120 DATA INT 2,13,10
```

One of the nice things about having a **BASIC** printer driver program for your printer, is that now you can experiment with this printer driver, and learn more about how your printer works. Modifications in BASIC are simple to make compared to a machine code program!

Some of the "enhancements" one might make are: double size printouts, mirror-image, up-side down printouts, inverse video printouts... etc. Each of these enhancements can be achieved with relatively simple program modifications. Try some.

There are a few things to watch for however. For example, if you are printing your pictures with a dot density of 60 dots per inch (480 dots per line), you will not be able to print a full double-width picture since the TS-2068 screen has 256 dots, and a double wide requires 512 dots!

Also, if you are printing pictures with circles, at 60 dots per inch density across the page and 72 dots per inch down the page, your circles will print as ellipses! So, for such pictures, use a 72 dot per inch (576 dot per line) printer density. Note: this will print a perfectly round circle, and will allow you to print a full double wide page too!

So, just how should one go about selecting a printer? Most important, know what you want to do with it! If you want to print graphics or do Desktop Publishing (print combined text and graphics), then you want a printer that can provide you the flexibility you need for graphics. This means a variety of printer densities! including (as a MUST HAVE ITEM) a 72 dot per inch (plotter mode) density.

Stan Lemke

Listing A:

```
  1 REM ************************

    Basic Bit-Image-Graphics
         Printer Driver

     @ by    S D Lemke      1988
     Lemke Software Development

**********************************

  10 REM ! INT A,BIT,I,J,K,R,X,Y
  20 REM ! LIST
  30 REM ! LPRINT
  40 REM ! OPEN #
  50 REM ************************

 100 DATA INT 5,27,65,8,27,50
 110 DATA INT 5,27,42,5,0,1
 120 DATA INT 2,13,10

 190 REM ************************

 200 GO SUB 500: RESTORE 100: RE
AD J: FOR I=1 TO J: GO SUB 500:
READ K: OUT 127,K: NEXT I
 290 REM ************************

 300 FOR R=0 TO 175 STEP 8: LET
Y=175-R
 310 RESTORE 110: READ J: FOR I=
1 TO J: GO SUB 500: READ K: OUT
127,K: NEXT I
 320 FOR X=0 TO 255
 325 PRINT #0;AT 1,0;"ROW =";R,"
COLUMN = ";X;TAB 31;" "
 330 GO SUB 1000
 340 NEXT X: RESTORE 120: READ J
: FOR I=1 TO J: GO SUB 500: READ
 K: OUT 127,K: NEXT I
 350 NEXT R: STOP

 500 REM ************************

 510 LET A=IN 127
 520 IF A=229 THEN RETURN
 530 PRINT #0;AT 1,0;"PRINTER IS
 NOT READY..........."
 540 LET A=IN 127
 550 IF A=229 THEN PRINT #0;AT 1
,0;TAB 31;" ": RETURN
 560 GO TO 540
1000 REM ************************

1010 LET BIT=128*POINT (X,Y)
1020 LET BIT=BIT+64*POINT (X,Y-1
)
1030 LET BIT=BIT+32*POINT (X,Y-2
)
1040 LET BIT=BIT+16*POINT (X,Y-3
)
1050 LET BIT=BIT+8*POINT (X,Y-4)
1060 LET BIT=BIT+4*POINT (X,Y-5)
1070 LET BIT=BIT+2*POINT (X,Y-6)
1080 LET BIT=BIT+POINT (X,Y-7)
1090 GO SUB 500: OUT 127,BIT: RE
TURN
9990 REM ! CLOSE #
```

Listing B:

```
 100 LOAD "PRINTER" CODE 64339
 200 LOAD "" SCREEN$
 300 RANDOMIZE USR 64339
 400 STOP
```

NOTE: When LISTING A is compiled with TIMACHINE, you will have a PRINTER DRIVER code that will be 1001 bytes long, at 64339.

Lemke Software Development
QUALITY PRODUCTS FOR THE TS-2068

Join the world of Desktop Publishing with the *Pixel Print Professional!*

v3.2	Aerco Disk Version
v3.3	Cassette Version*
v3.4	A&J Microdrive*
v3.5	Oliger Disk Version*
v3.6	Larken Disk Version+
v3.7	Zebra FDD Version*

* NOTE: these versions require at least a 32K RAM cartridge for BANK-SWITCHED memory.

+ NOTE: the LARKEN version needs at least a 64K RAM DISK memory expansion.

Pixel Print PLUS!.....$19.95
(BASIC DESKTOP PUBLISHER PRG.)

Pixel Print Professional!.....$29.95
(SEE ABOVE, W/BANK-SWITCHING FOR FULL-PAGE DESIGN/PRINTING)

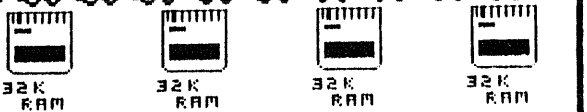
72 to 90 Dots/inch, IBM/EPSON format graphics compatible...



Masthead Package #2
33 Great Graphics!!

(33 GREAT, EYE-CATCHING PICS TO REALLY ADD 'CLASS' TO YOUR DESKTOP COLUMNS! JUST LOAD THEM INTO THE DTP... ADD TEXT)

Masthead Package #2....$14.95



(32K RAM EXPANSION CARTRIDGE: VOLATILE MEMORY, PLUGS INTO CARTRIDGE DOCK. NOT LIMITED TO USE WITH THE DTP.)

32K RAM Cartridge:.....$44.00
(WITH THE PURCHASE OF THE PIXEL PRINT PROFESSIONAL... PURCHASED SEPARATELY, $47.95)

1989 Personal Calendar PLUS!
(LOAD INTO ALL VERSIONS OF THE PLUS! AND PROFESSIONAL. ADD FAMILY BIRTHDAYS... AND MORE!! COMES WITH 80 CUSTOMIZING HIGH RES. ICONS! CALENDAR COVERS A 14 MONTH PERIOD, JAN '89 THRU FEB '90!)

====ONLY $19.95====

Lemke Software Development
2144 White Oak
Wichita, Ks. 67207

This ad created w/Pixel Print.

MORE on Printers and Printer Buffers

Now I will editorialize about PRINTERS in general. Just a couple of years ago ANY dot matrix printer that had a "Near Letter Quality" mode would cost a guy upward of $500. Then along came the CLONES. I bought a Seikosha SP-1000, an Epson Clone, for $225.00. That was in 1986. It replaced a Okidata ML 82 that I had worn out. How do you wear out a printer? Well, the print head is the weakness. The maker guarantees them for a few million characters, which sounds like forever. But consider that a page usually has about 3500 characters, and then a million characters takes on a smaller meaning. So, why not just replace the print head when one wears out? Yep, good idea, but a print head runs around $90-150 depending upon the printer type. Generally I find that the Clone printers have smaller print heads than the printers that they emulate. The smaller print heads naturally wear out sooner, but are not as expensive to replace.

But, 7 pin printers are now becoming obsolete, and is it cost effective to spend $90 to replace a print head? Nine pin printers are also becoming obsolete. New 7 and 9 pin printers are now being sold at good discount prices. I've seen my Seikosha 1000 advertised for as little as $149.95 recently. The 24 pin printers are now taking over. Prices range from a low of $350.00 upward to over $1000.00. So, one has a choice of buying a good 7 or 9 pin printer at a discount price, or going for the newest. The 24 pin printers are reputed to have TRUE letter quality at high speed, and high resolution graphics printing. But, some of the older model printers do a very good job in NLQ mode. But one can expect about 25 characters per second speed of printing in the NLQ mode.

Me? Well heck! I have tried NLQ dot matrix print and it doesn't measure up to the quality needed for publishing a magazine. So I'm using two Daisy Wheel printers, one on the TS-2068 and the other on the QL. One cost $179.00 and the other cost $275.00 from mail order sources. Daisy Wheel printers lack the Graphics that a dot matrix printer has, and have fewer Type Fonts to choose from. But a Daisy wheel printer produces "TYPEWRITER QUALITY" print, actually better than most typewriters. But the printing is slow, about 17 characters per second. I have my eye out for a good bargain in a new 24 pin Dot Matrix, mainly for quality graphics printing.

A PRINTER BUFFER can mitigate the slowness of a printer. The printer buffer is hooked up "in line" between the computer and the printer. When the computer directs a print operation, the printer buffer takes the data (which has the printer control codes mixed in) as fast as the computer can send the data. Usually a 64K printer buffer will store as much data as most people want to print at one time (about 20 pages). The computer and its software sends the data quickly to the printer buffer, and then the computer is ready to do other things while the data is being printed. One can just STORE the data in the buffer until ready to print it. And, some buffers have the capability of keeping the data intact to print several copies if desired. A 64K printer buffer costs approximately $150-225. (Read the fine print.)

SERIAL AND PARALLEL PRINTERS: The QL can use either with the software that it uses. A Serial printer is hooked directly to either of the Serial Ports of the QL. The use of a PARALLEL printer with the QL requires a small in-line Parallel Interface. Most of the available interfaces connect directly to the data input of a printer. Generally, a Centronics Parallel printer has wider capabilities than does serial printers and it is worth the extra $40.00 cost of the interface. The TS-2068 and almost all of its software and hardware is designed for Centronics PARALLEL printers.

ALL WE NEED to know about printers? Hardly! We all need to know more about the adaptability of both the TS-2068 and the QL for 24 Pin Printers.

SOFTWARE REVIEW
By James F. Brezina

MONEY MACHINE, PUZZLE MAKER, and additional comment on MONEY MACHINE II
ABBA Software Productions

The original MONEY MACHINE is a little different than MONEY MACHINE II. It does not have Banna Brite. It does not have the enlarged type printout that MONEY MACHINE II has. It has 400 puzzles and provides for loading in new puzzles of which one set is also recorded on the tape after the main program. It will also print out an award card for your work in solving the puzzles. You can also copy that card on the 2040 printer.

MASTER PUZZLE MAKER is a program that shows you how to enter your own money machine puzzles and also provides the facility to do that. This came in handy, as I wanted to use the puzzles from MONEY MACHINE in MONEY MACHINE II which I liked better. The puzzles are stored in a Character Array (DIM) and that can be saved separately from the main program. These can then be loaded into MONEY MACHINE II through the MENU choice. The additional puzzles on the MONEY MACHINE tape can be loaded into MONEY MACHINE II through the MENU choice.

In Tex Faucettes review of MONEY MACHINE II, he didn't mention a few things that I think might be of interest. Banna and her movements are stored as UDG's plus the backward B in the A*B*B*A that is printed to the screen. Stored on the tape is a machine code program which he uses for the enlarged type. Herb Bowers says that that is public domain but his way of invoking it is his own. That code is stored on the tape as "et"CODE.

Herb had a program to print out a tally sheet on the 2040 printer on which you checked off the puzzles played. If you had already played a game, you could choose another puzzle before playing. Through my correspondence with Herb, he told me a way I could accomplish that procedure without the use of the tally sheet. Each puzzle has been assigned a number. When that puzzle has been chosen randomly, the number appears at the bottom of the screen and is stored in a numeric array. If a later puzzle choice is the same number, the program will not print that number, but, will choose another number. You can save this numeric array by entering, SAVE "USED"DATA p() . Likewise, you can load the array back into the program with LOAD "USED"DATA p(). There is a bit of a trick involved in either SAVEing or LOADing the numeric array. You must choose to quit the program through the MENU listing. You will then get the closing screen and the playing of the NBC chimes. After the third chime, you key number 6 and the program STOPs. At that point you can do your saving or loading of the numeric array. After loading in the numeric array, you can play the game by entering GO TO MENU, and, when the MENU appears on the screen, choose to play another game.

I have played all the games in MONEY MACHINE II, but have not completed all the games in MONEY MACHINE. I have not even started on the additional games on the MONEY MACHINE tape.

The programs are available from Herb Bowers Sr. (A*B*B*A SOFT), 2588 Woodshire Circle, Chesapeake, VA 23323. I will not quote prices as they may have changed. According to TIME DESIGNS a SASE will probably get you a listing of what Herb has available. Also, if you have AERCO FD-68, some of them may be available from Chia-Chi Chao, 73 Sullivan Dr., Moraga, CA 94556. SASE.

2068 POWER SUPPLY PROBLEM ??

James W. Dowell, 735 Myra Ave., Chula Vista, CA 92010

From my own personal experience, information gleaned from various articles in the Timex-Sinclair field of literature and comments from Bill Jones (TDM), it is clear that the method of powering the 2068 (i.e. the use of a switching regulator for the development of the regulated 5 volt bus from the 15-20 volt unregulated supply) has serious problems. This method has merit if the computer is to be used in a mobile application where operation would be from a 12 volt battery supply as it can supply the necessary 5 volt bus at a far greater efficiency than the alternative LM-309K/7805K regulators. However, for the more conventional computer uses, where operating power is not a restriction, and several peripheral devices are to be used, this method leads to the following problems:

1) Production of back-ground noise and critical cassette SAVE/LOAD operations, especially when the regulated 5 volt bus is heavily loaded with peripherals;

2) Noise induction from Switching Regulator to Data lines;

3) Limited regulated 5 volt supply at rear edge connector;

4) Possible 5 volt bus voltage spikes;

5) Excessive heating of the computer after prolonged usage;

6) A proliferation of transformers and power cords for all of the necessary peripherals.

Of the foregoing, Item 3 is by far the most devastating. With severe loading of the 5 volt bus by add-on peripherals, the switching regulator blows and puts 6-9 volts DC ripple on this line, blowing the RAM chips of the computer, the number of chips destroyed depending on how quickly the power can be turned off.

I have measured the power consumption of various 2068s and peripherals with the following results:

Device	5 volt load	12 volt load
2068	510 ma	60 ma
A & J MicroDrive	100 ma	10/170 ma
JL Oliger Ptr/IF	20 ma	
JL Oliger D-D/IF	300 ma	
OS-64 cartridge	25 ma idle, to 100 ma active	
2764 EPROM in Dock	20 ma idle, to 100 ma active	
27128 EPROM in Dock	25 ma idle, to 100 ma active	

Bill Jones says that, to his knowledge, the AERCO D-D/IF is one of the worst power hogs, but he did not provide its actual power consumption. It may be assumed that any memory expansion boards will draw significant amounts of power. Disk drives draw

considerable power, but this is normally supplied by a dedicated power supply. My TANDON 55D-4s each draw 250 ma @ 5 volts and 480/850 ma @ 12 volts. The 3.5" drives draw much less.

The problem of the 5 volt bus loading can be solved by cutting the 5 volt Vcc trace of "the first add-on device". Then splice in, on the out-board side of that trace, +5 volts from an auxiliary supply. There are several individual power supplies available which will provide a regulated 5 volts at about 1 Amp. A COLECO power supply is available from Edlie Electronics, their catalog # RS5732-140, and from American Design Components, their catalog # 1882, outputs of +5V @ .9A, -5V @ .1A, +12V @ .3A, $4.95 plus shipping. Whatever supply is used, the output must be regulated between +5.25V and +4.75V. This solution will add to the proliferation of power cords, however, and does nothing to resolve the noise problems associated with the switching regulator circuit.

My solution to these problems is to provide a husky (5V 3A, 12V 3A, and 18VAC 1A) linear (rather than switching) power supply to power the 2068 computer, 2040 printer, A&J MicroDrive and Oliger Printer Interface and Disk Interface as well as the two 5.25" disk drives. One unit appropriate for this use is a general purpose computer grade external power supply, outputs of -5V @ .5A, +5V @ 3A and +12V @ 6A, American Design Components catalog #9501 @ $24.95. This unit comes in a very presentable enclosed cabinet and should have sufficient space for the addition of necessary switches and sockets. If a disk drive power supply is already in use, it might be readily adaptable to this task (refer to figures 1 and 2).

The unit I selected for this task is the COLECO ADAM Printer Power Supply, American Design Components catalog #6642 @ $14.95, also available at various electronic surplus stores (Any other unit of similar characteristics could be used). This item comes exposed on a metal frame from which it was removed and installed in an enclosed metal box (3.5" x 6" x 10") with one side cut out to clear the heat sink. On one end of the box I installed a 3 pin CB microphone jack for computer power, a 3 pin miniature Molex socket for D/D power and a coaxial DC power jack for the 2040 printer power. On the opposite end I installed a DPDT switch for the D/D 12V and 5V supplies and a SPST switch for the 2040 printer 18VAC supply. The computer power, 12V unregulated (about 20 volts) and 5V regulated, is unswitched, as is the power unit itself, these being controlled from a switched power socket. A paragraph at the end of this article will discuss the switching for the D/D power.

The modifications to the computer, which disables the switching regulator, are as follows (refer to component placement chart):

1) Remove the power jack J1;

2) Remove Power transistor Q1- D43C1;

3) Remove diode CR1- 1N5821;

4) Remove resistors R1- .110 ohm 3W (blue ceramic, brown-brown-silver), R2- 68 ohm .2W (blue-grey-black), R4- 330 ohm .5W (orange-orange-brown), R5- 3.32 kohm .2W (orange-orange-red-brown-brown), R6- 1.10 kohm .2W (brown-brown-black-brown-brown), R9- 62 kohm .2W (blue-red-orange);

5) Remove capacitors C36- 1000pf (.001K100 green MYLAR), C37- .1mf (CGW 104 Z5J green tubular), C59- 120pf (121 ceramic disc)

Locate pin 5 of the switching regulator, U1- uA78S40. Using very small snips, cut it at the PC board, bend up from the board and jumper it to the + lead of C41- 47uf 16V. Run the power lead (I used a 6 conductor, 3 leads for ground, 2 leads for 5V regulated and 1 lead for 12V unregulated) through the Power hole in the case. Connect the ground lead(s) to the front pad where power jack J1 was removed. Connect the 12V lead to the rear pad where J1 was removed. Connect the 5V lead(s) to the pad where the cathode of CR1 was removed. Double check and Triple check to insure that the 5V lead goes to the cathode pad of CR1, otherwise ALL of the computer chips may FRY!!! While the computer case is open, and since the computer can no longer be RESET with the power switch, a SPST NO push button switch should be mounted on the back panel of the computer in line with the SCLD chip and connected to pins 26 and 29 of U19, Z80A-CPU; and C21, 1uf 16V, located between U14 and U9, should be replaced with a 5 to 10 uf 16V capacitor to provide more reliable reset on turn-on.

Now for the Disk Drive power switching mentioned earlier. The bane of all Disk Drives is the corruption of disks when the disk drive power is activated with a disk in the drive (it happens to the most experienced of us). This corruption is caused by the current surge/voltage spike created by the instantaneous application of power to the inductive load of the motors in the drive. I have found that if the 12V is applied to the drive in an exponential ramp rather than square wave, there is no current surge/voltage spike generated, thus no disk corruption. Figures 1 and 2 show how this is achieved by the charge/discharge curve of the 100uf capacitor and 2.2kohm resistor in the base circuit of the 2N2222 transistor. The circuit switches the 5V instantaneously and the 12V with an exponential rise.

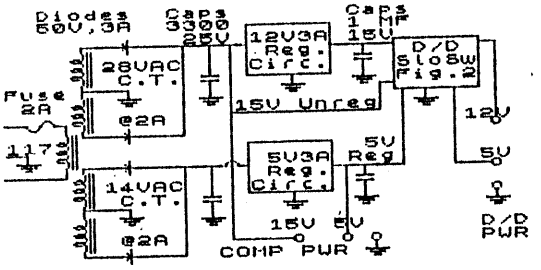


FIG.1 Typical 12V/5V Reg Pwr Sup

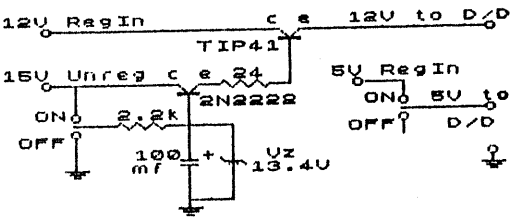
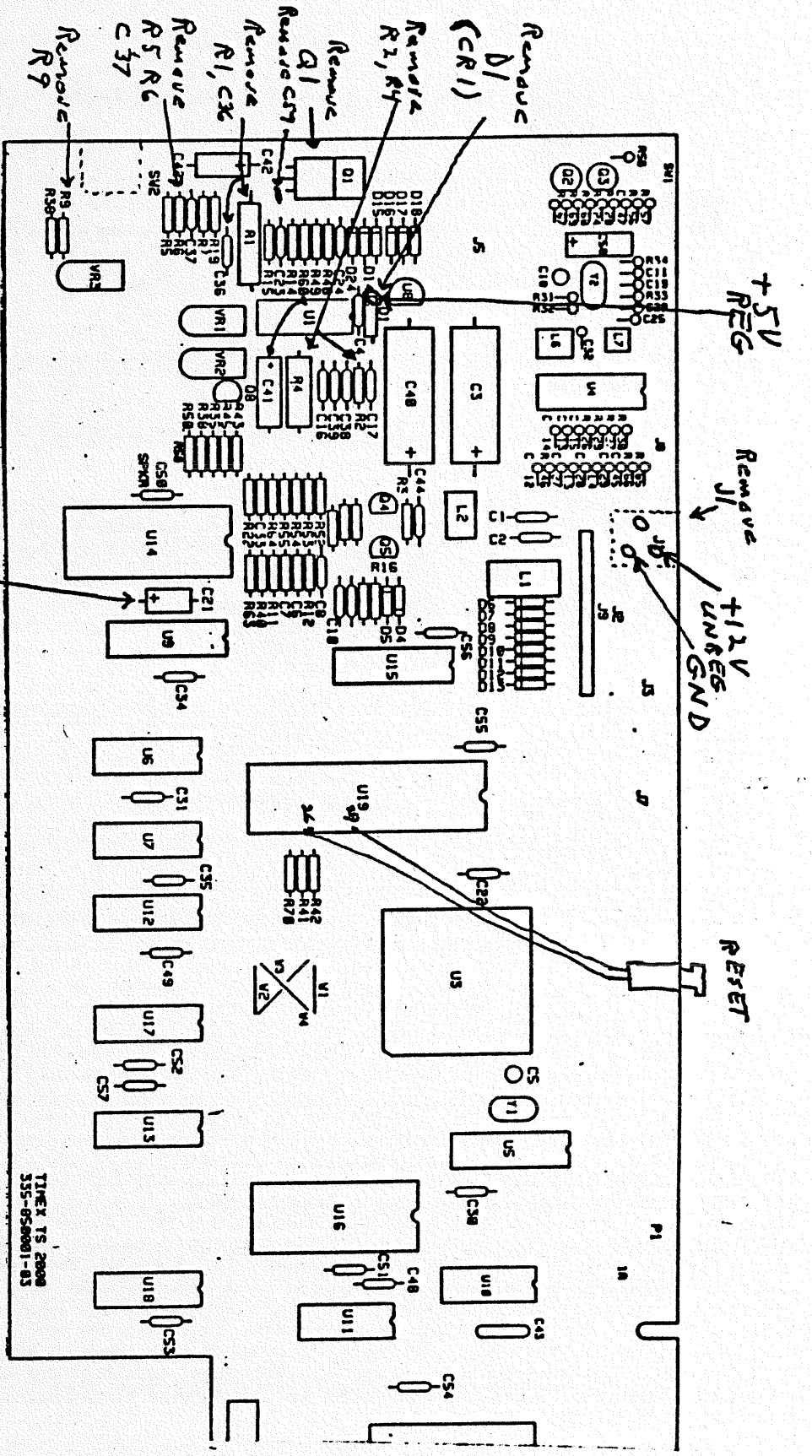
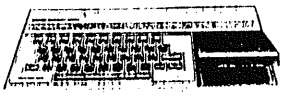


FIG.2 NO-SURGE Switch Disk/Drive 12V Regulated Supply



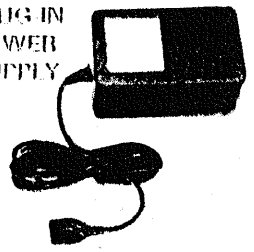
TS2068: PC BOARD COMPONENT LAYOUT



American Design Components
62 Joseph Street
Moonatchie, NJ 07074
800-524-0809

Edlie Electronics
2700 Hempstead TPKE.
Levittown, NY 11756
800-645-4722

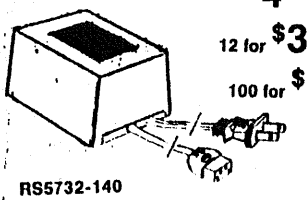
COLECOVISION PLUG IN POWER SUPPLY



DC Output: +5V @ .9 amp.
−5V @ .1 amp.
+12V @ .3 amp.
Input: 120 VAC/60 Hz., .25A.
Coleco #55416
Item #1882 **$4.95** New

Coleco Power Supply

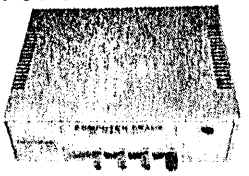
$4.95 EA.
12 for **$3.95** EA.
100 for **$2.95*** EA.



RS5732-140

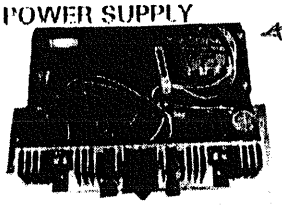
Our table top style power supply is a versatile workhorse. Boasting 101 different uses it's priced right. Check out these specifications: **Input:** 120V AC -60HZ .25A. **Output:** +5 VDC @ 900 MA, -5 VDC @ 100 MA, +12 @ 300 MA. Grounded. Measures 4½"Lx3"Wx2⅞"H. *An extra freight charge will be added.

GENERAL PURPOSE COMPUTER GRADE EXTERNAL POWER SUPPLY



Other uses — runs CB & car radios. Comes ready to plug in!
DC Output: −5V @ .5 A.
+5V @ 3 A.
+12V @ 6 A.
Input: 115 VAC/60 Hz.
Dim.: 9¼"L x 3¾"H x 7½"D
Item #9501 **$24.95** New

ADAM PRINTER POWER SUPPLY



DC Output: −5V @ 200ma.
+5V @ 3 amp.
+12V @ 2.9 amp.
+18V @ 1 amp. (inductive)
Dim.: 11"W x 4"H x 8"D
Item #6642 **$14.95**

← American Design Components CAT # 6642

Editor's note: While Jim's total change out of the TS-2068 power supply is a very worth while project, a cheap and alternate solution is to buy one of the small Coleco power packs and splice in to the "first add-on" device normally used in your TS-2068 system. It is essential that the +5 V trace from the computer is cut in order to isolate the two voltage regulators for each other. POWER ON sequence would be to first turn on the external supply, and then the computer. There are other possibilities for thought. Since the aux power is separate from the TS-2068, a simple additional circuit could be added to supply REFRESH voltage to any external RAM, thus making the RAM Non-volatile (Memory that does not forget). Then one could just leave the external power supply ON to keep the data that may be contained in external RAM. UPDATE has not tested any of the External Power applications presented, but the theory is sound, and the existing problem is real.

Another alternative is to use the External Power circuit given by Charles Bothner in his continuing articles about EXTRA MEMORY. This one has been tested (by Charles), but that power supply involves "home put-together" on a proto board.

Symptom of overload are: A 'fairly warm' spot on the top case of the computer; jumpy screen; Have to occasionally OFF and back ON to get Copyright display; Trouble loading from cassette "programs the you have SAVED". The fact that "we have been operating for years" with an overloaded TS-2068 voltage regulator means two things. 1. The amazing capability of the voltage regulator to exceed its rated output. 2. The luck of the Irish in getting away with it. In my case TWO failures have been experienced. The first resulted in the frying of all TS-2068 RAM chips. Ole Dan Elliott came to the rescue and fixed both computers. I wonder how many "Former TS-2068 users" have been attritted due to Voltage regulator failures. I believe they number in the tens of thousands. Thanks Jim, for a good analysis of the subject. Ed.

The QL Beginner's Column

by: Bill Jones

"Software Dependant" Software

Confused title? Nope! We need to understand that the bread and butter for QL computing are the many new softwares, AMERICAN MADE, and INEXPENSIVE, that depend upon the PSION group for operation. This article will help us to prepare for ARCHIVE DEPENDANT software, of which there are several excellent titles available for around $20. Two such softwares by Bill Cable were given in the last (October 88) issue of UPDATE ("REFIELD" and "SCAN"). Another is the "Mailbag" software currently advertised by EMSOFT in this issue.

EMSOFT has several other titles that use ARCHIVE as a "towing vehicle". I know that you have seen a small car pulling a HUGE recreational vehicle down the interstate. Some of these RV's are 35' long and weigh five times the weight of the towing vechicle. The corollary to that is our new softwares, made in North America to be towed by the PSION vehicles.

Is this trend in software development good or bad? Answer, "GOOD"! Why? Ans, "Why re-invent the telephone just to carry new messages?" A less facetious answer lies in the understanding of the principles adopted in the development of the four PSION softwares. Each of the PSION softwares contain their own "command structure". The combination of these software commands forms a very powerful new "language" that can be used by other softwares. Using the corollary, "why buy an engine and steering mechanism for the Recreational vehicle when we can tow it to the camp with our car?". The new softwares use the engine of the PSION group of Programming Languages". We will now explore the "ARCHIVE BRANCH" of PSION functions.

Most of us thought that ARCHIVE was just a little data base program "thrown in" with our QL. We loaded it a few times and got past a few menus until it stopped. Then we set it aside until the time when we could get roundtuit. Likely rountuit hasn't come around as yet.

Archive is not just a little DBM program. It is that, plus a RAM based extension group of new function commands similiar to Super Basic. We could call these "Archive Language" in the same sense as we think of Super BASIC Language. Too complicated? Not if we want to have about 20 times the capability we can achieve without Archive! And, it wont be as difficult to learn as some of our contemporaries are experiencing with their IBM software "Data Base 3". In fact, there is now a IBM version of the QL's Archive that is becoming quite popular within that user group. I'll bet that the IBM users pay more for Archive than we did for the QL, plus the four PSION Softwares.

One of the nice things about learning to use Archive is that the command functions are displayed during all of its operation, right at the top of the screen, in plain view. Another nicety is the HELP instructions which are always available at the touch of the F1 Key. So, the Archive program was designed with a lot of built in features to help us learn it. We CAN learn it if spend a little time and effort trying.

The results of our getting comfortable with Archive will be the ability to use the many new inexpensive softwares that are developed for use with the Archive Language. These new softwares are excellent, but cannot be loaded and operated alone. We must load Archive first, and then use an Archive command to load the other software.

All of these new Archive Dependant softwares are excellent and they are inexpensive. More and more will be coming as our North American programmers get into high gear. Some are for un-expanded QL's. Some are huge programs that require extended memory. All can be used with disk drive. So, it is imperative that we learn to use ARCHIVE! And why not? The PSION group is a very valuable set of programs, more valuable than the money paid for the QL and the software. I would place Archive right up there with the $450 IBM title "Data Base 3" as to effectivity. It is even more valuable than DB3 if one considers its ability to "sponsor" other softwares loaded to it.

LEARNING ARCHIVE

With that heavy hype, we should now be itching to learn it durn it! First, lets start by spending an afternoon or two reading the Archive Section of the QL manual. Just read it without doing the exercises. Then I suggest a reading of Bill Cables article "Why use Archive", page 56 of the October issue of UPDATE. Tackle the little exercise given in the Cable article, page 59. Dont worry much if you get tripped up. Then come on back to "exercise 1" given next.

ARCHIVE EXERCISE 1

I know that you Disk Drive users have noses up in the air and an acquired haughtiness about using Micro Drive, but suppress that and lets use Micro Drive. It wont hurt you and the practice will help. Now I could just tell you to do the exercises given on page 6 of the Archive section, but this will have some more detail and explanations. Instead, lets keep the book handy and open at page 6 for reference. I hope that by now you have the UPDATE issues in a note book so that you can just remove a page to work with and put it back when finished. That helps when working with the computer. Please follow me through step by step, reading it and doing it with the computer.

1. Situation: The QL is OFF. The Archive cart is in MDV1. A FORMATTED cart is in MDV2. Everything that follows involves using the ARCHIVE LANGUAGE.

2. Plug IN the QL to power, and use F1 to auto load the ARCHIVE program. When the Archive program loads in, it will display the COMMAND list at top. These are the Archive Commands that we have been talking about. Each is a "FUNCTION" command that causes a series of things to be accomplished. The first command will be used to transfer a file in MDV1 to MDV2.

3. Notice the ">" prompt at bottom of screen. This is the place that Archive commands are entered. Lets use the command > backup. Type: backup then ENTER.

4. Notice that the prompt line at bottom changes and adds some ""quotes. This is a convenient way of asking for the next input. The input needs "device number", title of the file, and file extension. This is information about the "source device", which is MDV1. The title of the file that we want to transfer is "gazet_dbf", so type: mdv1_gazet_dbf ENTER.

5. Again, the bottom prompt will change. Now ARCHIVE is expecting an input of DESTINATION information. Since we are transferring the gazet file to MDV2, type: mdv2_gazet_dbf ENTER.

6. It takes a little while for the gazet program to transfer, so lets reflect upon what we have done. We have begun to use a new programming language, the ARCHIVE language. The Archive program assisted us by displaying a list of possible commands to use. We used the Archive command "backup". When we typed and entered "backup" Archive took over and prompted for further information. This is typical of the way Archive treats us as we use its command structure. If we get confused, a touch of F1 will bring up a HELP file to help us out.

7. Now that the gazet file has been moved into MDV2, lets reflect upon how a Archive file can be used. We cannot LOAD it "outside of the PSION software environment". We could load it to QUILL to print it. Or, we can use the Archive commands to do other things with the file.

8. Since Archive has finished with the last instruction, it is now waiting for the next command. Lets explore one of the other commands given at the top of the screen. "Look" is an Archive command used to look at a file. It is a SAFE command, ie, it allows you to read a file, but not change it.

9. Type: look ENTER. Note the typical stepping given in the prompt line. Archive now expects a file title- no device number or extension, because Archive assumes that MDV2 is the device and "dbf" is the extension. But we will do something else instead.

10. Touch the F1 key for HELP. Note that the help file that loads in is about the last command that you used, which is the "look" command. Some of the information may not be very intelligent to you right now, but as Archive is used the help information will become more understandable.

11. To get back to the "look" function, just touch ENTER.

12. Now we will look at the gazet file that we just moved into MDV2. Type: gazet ENTER.

13. The gazet file loads into Archive, but nothing seems to have happened. Its in thar but Archive is waiting for instructions.

14. Type: first ENTER. This sets up the first data base record to be acted upon.

15. Type: display ENTER. Now we have hit pay dirt. The Data Base file, gazet, is a demo file about countries of the world. It has eight topics of information about each of the records. Note the "name$" left column of the record. We can use these with some of the Archive commands to find things.

16. We are looking at one record of the gazet dbf file, but we could be looking at any other named dbf file created by use of Archive or one of the North American softwares that use the Archive program language. It could be a "Mail File" and the record could be "John Hancock" with 7 information lines about ole John.

17. Remember, we are still operating under the "look" command. To look at the next record, type: next ENTER.

18. To go back one file, type: back ENTER.

19. Type: next ENTER several times. See how you can step through the records?

20. Tired of looking at foregn countries? Lets use another of the commands at top. Type: find ENTER. Then type: Canada ENTER. Type: United States ENTER. Uh Oh!

21. Can't find United States! Try: United ENTER. Now we're in Arab countries! This is an example of the need to construct a data base that is easy to find things in.

22. Lets use the SEARCH command, and a little bit of inguenity. Touch F3 to get a new set of commands at top. Search is one of them. Type: search ENTER. Archive expects another entry of somehing to search for.

23. Since we know that the dollar is the currency used, lets try that. Type: currency$="$" ENTER. -and we get Trinidad. Now we can use the step command to step through the countries that use dollar as their currency.

24. Type: next ENTER. Now we find how U.S.A. is set up in the data base file.

----------end of exercise----------

Archive starts off seeming to be very complicated, and turns out to be easy to cope with. It's kinda like the kids game "Simon Sez". It gives you the commands at top of screen, and when you are explicit in how you use them, you are rewarded with action. Better still, when you make a mistake Archive just ignores that and presents another prompt line for a "good" command to be entered.

To keep on learning Archive, follow the other steps given in Chapter 4 of the Archive Section. Keep on working until you have learned how to construct a file, how to open it for modification, and how to create different types of files. It wont be difficult now that we have stepped through the principles of the Archive command structure. It will take a few days to get comfortable with the Archive program language, but the rewards will be great.

Only after becoming comfortable with Archive can we begin to take advantage of the excellent new softwares that are becoming available here in North America. These softwares are inexpensive because they take advantage of the existing language structure of the Archive software.

----------BJ----------

MICRODRIVE CARTRIDGE REPAIRS

BY GALE HENSLEE

I recently encountered a "stuck" microdrive cartridge. I mean, it was working one minute, and suddenly, all I could get from my QL was "not found", whatever that means. What it means is that the tape is inserted incorrectly and not moving. In my case, reinserting the tape did not help, so I started looking for some other problem. By placing my index finger on the roller on the left side and rotating it toward the cartridge handle, I found that the tape had jammed and would not move. It had a definite resistance to movement. Although you wouldn't normally do this, a properly functioning tape would pull through freely.

I didn't want to stretch the tape by pulling too hard, but the tape had all my most useful programs on it. I decided to take the cartridge apart to see if it could be salvaged.

The cartridge case consists of three parts. The grip, the top and the bottom. Inside the case are two rollers, a spring to hold the tape against the head, and the continuous-loop tape on a flat reel. If you ever have to repair a cartridge, just remember it's likely that you will be at least partly sucessful salvaging your data. It's also likely that parts of the tape won't work again due to mechanical damage (wrinkles, stretching, etc.).

You'll need a small jewelers screwdriver or knife blade and plenty of patience. Start by prying the grip away from the rest of the cartridge. Use the knife blade or screwdriver to pry up the edges all around the back side of the cartridge. Then insert the tip of the screwdriver in the slot at the right side of the handle and pry it out from the end a little. Work back and forth from left to right until it comes loose. Mine broke in the center where it was glued. A little damage here to the case is not critical, but remember, you'll need to be able to put the cartridge back in a microdrive later.

Once the handle is off, (it won't be reused and it could be carved or ground off if absolutely necessary), you need to split the case halves. Insert the screwdriver blade into the seam at one of the rear corners. If you slip and jam it far into the case, you may scratch the tape (or worse). Work carefully down both sides toward the front. The seam drops from top to bottom just in front of the write-protect tab. Work carefully here to avoid the tape as much as possible. Also, try not to use a magnetized screwdriver.

Carefully separate the halves of the case and try not to drop the tape reel. You would need more patience than anyone since biblical times to rewind one of these reels, but it could be done if you wanted it bad enough. Call me and I'll tell you how, if you really want to try.

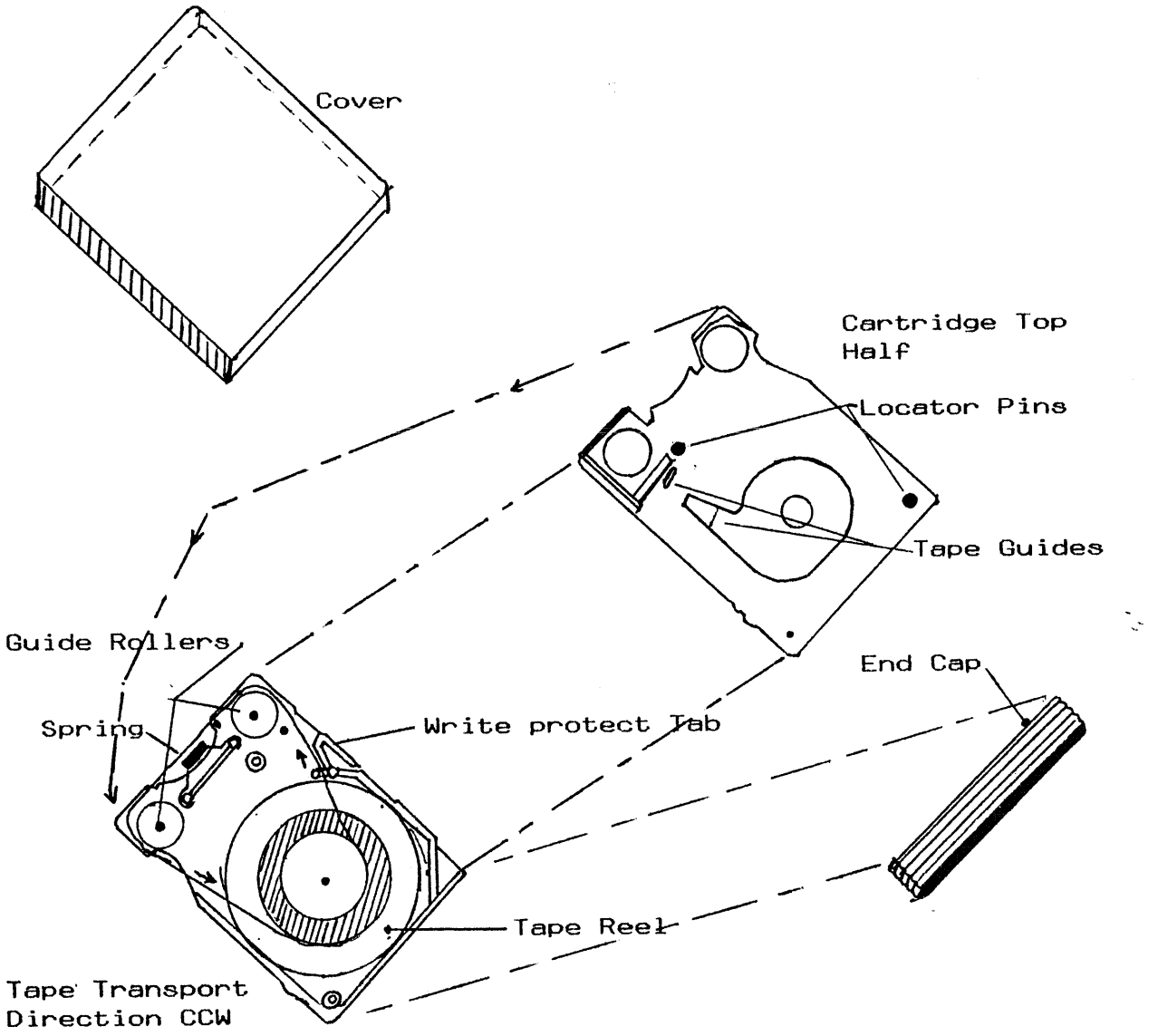
Now, if you're lucky and the tape isn't jammed too bad, all you have to do is tug on the tape where it comes out of the center of the reel to free the tape. Carefully reposition the tape in its guides and put the top back on the cartridge. Check for free movement and the worst is behind you.

If the tape is badly jammed, you have a couple of options. Either way, you'll damage some tape. First, continuous loop tapes have some "slack" built in. This is required to let the tape transport properly. You can observe this in a properly wound tape as a slight looseness at the center of the hub, where the tape feeds out. Sometimes, the slack pulls out, tightening the center and resulting in looser winding on the outside of the reel. If it gets bad enough, the tape gets stuck. What you have to do is restore the slack to the center of the hub. If it's only a little snug, you can probably fix it by just manually advancing the tape through several revolutions of the reel. Be sure the tape take-up doesn't get twisted. If this won't work, you have to cut the tape, pull out a couple inches (about 5 times around the center hub), splice the tape, and then manually advance the tape until the extra tape loop is taken up on the outside of the reel.

To splice, you need scotch tape, scissors or x-acto knife and a steady hand. Cut the tape diagonally to facilitate alignment later. (This is exactly like splicing any magnetic tape, or movie film, but the tape is very narrow.) I tape a piece of adhesive tape, face up, to the tabletop with more tape. This way it stays in one place and you don't get your fingers on it so much. Lay one end of the recording tape on the adhesive tape and press down. Be sure the tape is not twisted. Then carefully align the other end of the diagonal cut and press down. You need to trim away the excess adhesive tape carefully using an X-acto knife. Take up the excess slack as above and reassemble the cartridge. There will be a rough spot at the splice that won't be readable. Be sure that the copper spring that pushes the tape out against the head (yes, that's what it is for) has not been misaligned, and adjust it if necessary by referring to a good cartridge.

Stick the damaged cartridge in a microdrive and get a directory listing. It may help to tape the halves together. The tape will probably rattle horribly, but hopefully, the directory will read, possibly after a few tries. If this works, then you have a good chance of recovering most of your files. There are utilities that will even recover files from tapes with corrupted directories. Use any available means to make a copy of everything you can on a new cartridge. Then, you can try for partial file recovery on any files that are corrupted, if you still need them.

MICRODRIVE CARTRIDGE



Cartridge Bottom Half

B.W.H.
11/11/88

THE UPDATE SOFTWARE LIBRARY

Separate libraries for the Sinclair QL and TS-2068

Most of the diskettes and micro drive cartridges contain the softwares and utilities described or listed in a quarterly issue of UPDATE Magazine. Most will contain more than one software plus all of the utilities given in the quarterly issue. Some will also contain other programs not given in the pages of UPDATE. Each disk or mdv cartridge is "unconditionally guaranteed to please". The price of each named disk or mdv is $20.00 (postpaid).

The Sinclair QL Software Library

Both Disk and Micro Drive are supported. All softwares presented will run on the UNEXPANDED QL. But some may contain extensions for utilizing extra memory and tool kit functions. Disk format is DS/DD 80 track 96 tpi. Due to the cost of mdv carts and availability, orders for a issue series on mdv cartridge must be accompanied by a mdv cartridge. UPDATE then records the programs and returns the cartridge. UPDATE is Just getting started with the QL Library and only two Issue Series are offered at this time. Individual Issue Series are as follows:

OCTOBER 88 "Cable Issue"

The CABLE issue, on disk or mdv cart, contains the FOUR softwares given by Bill Cable in this current issue. Two of these are softwares to enhance and extend the capabilities of the PSION ARCHIVE software.

"REFIELD", runs under ARCHIVE to allow you to ADD, RESTRUCTURE, and DELETE fields of the ARCHIVE DATA BASE.

"SCAN", an ARCHIVE program, lists three selected fields on a line for each record, and SUMS the numeric content of the fields. The output can be sent to the printer.

"HELPER", is a Superbasic program which provides a new "TOOLKIT" set of functions. These functions are; Directory with Copy, DELETE a file or program, TOTAL COPY of a MDV or Floppy, Multiple FORMATTING, Screen Window Set-up, and Date-time setting.

"ARITHMETIC DRILL", in Superbasic, is a simple program to help learn programming and let the kids use to drill in math.

The above FOUR programs, and their annexes, come on TWO mdv Carts or one Diskette. The REFIELD program alone takes up a whole mdv cart, and the other three take up all space available in another mdv cart. So, no room for the other October issue programs and utilities. This is an outstanding value at $20.00.

OCTOBER 88 "Hartung Issue"

The HARTUNG issue, on disk or mdv cart, contains Bob Hartung's "QL Address File" program, plus all of the utilities of the October issue which could be stuffed into a mdv cartridge. "Address File" is a simple, quick and easy program to use. Also, it can serve as a Inventory data base. Its printing ability makes loading up to print labels a easy chore. Screen listings and print out can be by alphabetical or by last name. Individual names may be searched out. In his article, Bob gives full instructions and even allows for modification to use the 40 column TV display. This is a good program to study for simple basic programming.

UTILITIES are added to fill up the mdv cart. Some of the utilities that are given are not included in the UPDATE magazine pages. (Just had to quit at 76 pages!). The Hartung Issue comes on either one MDV cartridge or one Diskette.- same price $20.00.

THE TS-2028 Disk Software Library

TS-2068 Disk Drive Systems supported are, Oliger Safe, Larken LKDOS, and Aerco FD-68. Disks are available for these systems on 5.25 inch DS-DD 40 or 80 Track. Some individual programs in disk will be for a specific DOS and will be identified in the listings below. Most of the programs and utilities are those published in UPDATE Magazine issues, but some will be other programs not given in the issues, included to add value. Price is $20.00 per disk (postpaid). Orders for more than one disk may take 10% off total price. Individual issue series are listed as follows:

The October 88 "SMART TEXT" ISSUE

For Larken LKDOS, Oliger DOS, Aerco FD-68 Your scribe decided to donate the Smart Text software to the UPDATE Library. Since the Smart Text manual is 70 pages in length, and the program listing is a quarter of a mile long, it isn't practical to give the documentation in the magazine. Smart Text is the most extensive software ever offered for the TS-2068. It is a Multiple Data Base, and a Disk Integrator, that has a Word processor. Also included is MAIL MERGE. These four main systems are integrated to provide many automatic functions not present in other softwares. For instance, a thousand letters of the same or different text may be printed NON-STOP. Or, one can just type and print some data. Or, one may elect to print one or a thousand labels from the mailing list; a 1 page or a 100 page document, an outline, an inventory listing. Smart Text uses disk as if a whole package of diskettes are extensions of TS-2068 FREE Memory. The Smart Text issue comes on either two 40 track diskettes or one 80 track disk and includes a 70 page manual. $20.00 (postpaid).

Earlier buyers of Smart Text may want to combine an order for this Newest version, which has column printing option, alternate format for using pre-printed letterhead stationary, elective for Dot Matrix or Daisy Wheel printers, Full Edit during input typing, mail file sorting, and postscript option for letters. Earlier buyers, add only $10.00 to another disk order to receive this version.

The October 88 "HARTUNG" ISSUE"

This is for OLIGER DOS ONLY, and is a collection of 10 "Disk Management" programs presented in four issues of UPDATE Magazine. Bob Hartung started with a early program given by John Oliger and worked for a year expanding to provide a most capable disk management system. Bob named these programs "The DOSDEX" System. This October 88 UPDATE Magazine issue documents the last of this outstanding group of programs. Earlier magazine issues documents the others. This disk issue includes all of the DOSDEX programs on a single disk that will let you index and manage a complete Diskette Library, or to re-organize the individual diskettes, programs, or files, in any manner that you choose. OR- Each of the individual programs may be merged to another program to give that program new capability. This is an outstanding group of programs! $20.00

The Apr/July 88 "MITCHEL DISK" Issue

For Oliger DOS, Larken LKDOS, and Aerco FD-68. Two UPDATE issues were required to present the listings and documentation of Bob Mitchell's excellent HOUSEHOLD BUDGET software, which is included in this issue disk. Also included are all of the utilities given in both the April and July 88 issues. These are; MS-TAS, a utility that prints out either Mscript or Tasman Data files "without need for the host word processor", PEEK VARS utility, some printer code initialization utilities, a Disk Menu that can be converted, and several modified public domain programs. All of these programs and utilities maxes out a 40 track disk. $20.00 (postpaid)

The Oct 87/Jan 88 "UPDATE" Issue

For Oliger DOS, Larken LKDOS, and Aerco FD-68. The programs and utilities of the two first UPDATE issues are consolodated into one issue disk to give an outstanding value. The main Software is:

MAIL MERGE, a data base and printing software to create and print out mailing lists, inventories, and other data files that need arrangement in a format of from one to 7 lines per field. Another data base "Outline" allows "school and Church" type outlines to be produced and printed in indented format for "major topics, and sub topics". Two sorting routines allow sorting by 'first or last' name of the mailing list. Then other nicities, such as "letter heads" may be printed. The print products are: Complete print out of the mailing list, print out of selected fields, print to labels of the entire list or individual fields. All printing may be to your elected TAB position, and formatted to your elected number of lines between fields. Automatic page control is optional so that the printing can be either continuous or under page control.

Two annexes of the Mail Merge program are included:

"Purity", a program that takes a mailing list produced by Mail Merge or Smart Text, and purifies the listing by eliminating duplicate names and skips in the listing. PURITY also allows you to break down the larger listing into smaller groups of mail files that may be processed by the Smart Text software for continuous printing of automatic personalizes form letters.

"LIST LOOKER", is a program that supplements both Mail Merge and Smart Text. LIST LOOKER loads a Mail File, tells you the Dimension of the Character array, lets you screen print the listing, or print the listing to paper. Print out is to your elected format. Also, Label Printing is an option.

ALL THREE of the above programs work automatically in the disk drive environment and supplement each other.

EXTRA MEMORY UTILITIES: This disk contains four utilities given in the January 88 issue to use with DOCK RAM. These utilities reconfigure the Home Bank of memory, MOVES a Basic program from DISK into DOCK BANK RAM, then moves another program from disk into HOME BANK, in order to allow the joint operation of programs in both Home and Dock banks.

STILL MORE! Included are 20 sound and visual utilities to plaggerize and use in your own programs. Dont worry, UPDATE gives these 20 utilities to you for that purpose.

"J-UTILITIES", a group of useful utilities by UPDATE, crunches numbers and disassembles memory. One of these actually uses mixed inputs of Binary, Hex, and Decimal to multiply, divide, add, and subtract, and gives the answers in all three number bases. (dont believe this one has ever been done before).

This great group of software and utilities offered for $20.00? Gotta be kidding, but they are! And, you wont find them anywhere else. They're exclusive.

About The Issue Disk Program

The UPDATE Software Library will continue to build as more issues of the magazine are published and more programmers participate. Half of the proceeds of issue sales go to the authors of these fine programs. The other half is absconded by UPDATE Magazine to pay for the disks, mailing expenses, and the upkeep of the corporation's 300' luxury yacht which plys the seas between Monaco, Aruba, and Nassau on official business. So far we have had nothing but praise and satisfaction expressed by the purchasers of the issue disks, so with some trepidation, and a touch of boldness, we added the comment, "Unconditionally Guaranteed to Please" to the sales pitch for the Issue Disks. Update really wants the issue disk program to be successful because it provides our programmers at least SOME compensation for their work (besides their personal satisfaction).

UPDATE! $4.95 January 1989

ComputerSystems

A Quarterly Magazine for the users

OF SINCLAIR COMPUTERS

ADVERTISING RATE SCHEDULE

effective until July 1989

UPDATE MAGAZINE is published quarterly each January, April, July, and October in support of the users and suppliers of the SINCLAIR QL, SINCLAIR Z88, AND SINCLAIR-TIMEX TS-2068.

The following Ad sizes are based upon a page size of 8 1/2 inches by 11 inches. Ads are black and white only. Reduction and enlarging capability exists for ads that are off size. Camera ready copy should arrive at least 15 days before publishing date.

DISPLAY ADVERTISEMENT RATE SCHEDULE

AD SIZE	PRICE	
2 pages	$220.00	
1 page	120.00	
2/3 page	90.00	(vertical or horozontal)
1/2 page	65.00	(vertical or horozontal)
1/4 page	35.00	(vertical or horozontal)
1/8 page	20.00	(vertical or horozontal)

Special placement of full page or double page ads, add 10% and call for reservation (inside front cover, first page, inside back cover, back cover).

Line ads: 78 characters per line across page, 1 line minimum, $6.00 per line. Will be type set to Elite 12 Chrs per line.

Your existing Ad copy for other publications is fine. Just send copy with instructions for sizing (up, down, or same). Enhancement of legibility is usually possible. Draft quality dot matrix print is not so good.

TERMS: Check Payment with order 10% discount, or billing on publication date. (no credit cards).

Send Ad copy to: UPDATE MAGAZINE, 1317 Stratford Ave., Panama City, FL 32404. (Tel: 904 871 4513)

ABBA DABBA DO! Excellent TAX Preparation software by an expert Tax Accountant, for the TS-2068! →

BACK AGAIN.... FROM A*B*A SOFT

Don't File Your 1988 Tax Return UNTIL YOU HAVE

QWIK-1040-88

The LARGEST SELLING T/S 2068 Income Tax Program in America

INCLUDES: Form 1040, 1040A & EZ, Sch. A, B & R * Forms 2106, 2441 Automatic Calculation Income Tax Liability, Child Care Credit Taxable Social Security, Earned Income Credit *Multiple W-2 & 1099 Entry * 2040 Compatible * More

THIS YEAR SCH C and SE Included!

Only $29.50 Postpaid -1st Class Mail-

For Timex/Sinclair 2068 Computer

QWIK-1040 is an "interview type" program. It will calculate your allowable IRAs, Interest and Deductions accurately, without the use of cumbersome input sheets. CALCULATION OF TAX LIABILITY AND CREDITS IS AUTOMATIC!!!

This program was designed with the taxpayer in Mind. It is easy for you to accurately prepare your own income tax return EVEN IF YOU HAVE NEVER DONE IT BEFORE! It is also sophisticated enough to be used to prepare returns for others, with or without experience. An ideal teaching tool for tax and accounting students.

SPECIAL: IF YOU PURCHASED 1987 QWIK-1040 FROM A*B*A SOFT TAKE A FULL $10 DISCOUNT.

THE 1987 QWIK-1040 IS STILL AVAILABLE FOR JUST $12.00 POSTPAID.

CHECK OR MONEY ORDER, (US Funds) Mid-January Shipment Date

SOFT A*B*A SOFT

HERB BOWERS, Sr.
2588 Woodshire Circle
Chesapeake, VA 23323
Phone: 804 487-5924



CORNUCOPIA

Gr. Myth. a horn of the goat that suckled Zeus: it would become full of whatever its owner wanted

→→→→→→→→→→→→ FOR SALE ←←←←←←←←←←←←

Two TS-2068's - $75.00 each, like new, with all accessories.

A&J Microdrive with Intfc & wafers- $75.00

Oliger Disk IF, V2-52 + Cent Intfc- $125.00

Misc 2068 books incl Tech Manual, 20 Orig programs incl MSCRIPT, Omnicalc, pro-file, All for $60.00

(I Bought a Z88 and want to reduce.) Write or Call: Lionel Barthelemy, 11009 Vivian Drive, Huntsville, AL 35810 (Phone 205 859 2944).

UPDATE SUPPLY SUPPORT

UPDATE ITEMS FOR SALE: These items are purchased in bulk and can be offered at lower than most local prices. All prices include shipping. Order by "UD-#". Add 15% for Canadian orders. (Postage)

UD-#1 Desk top Disk Case, holds seventy 5.5" floppies, nice smoked plastic with hinged top— $7.50 each

UD-#2 Six outlet 115V Surge Suppressor— ON-OFF SW, 6' cord, 15 amp reset ckt breaker, ON-OFF led indicator— $19.95 each

UD-#3 Six outlet 115V Surge Suppressor as above, includes EMI/RFI/Noise/Surge suppression— $27.95 each

UD-#4 White Labels (same as UPDATE Mailing label), 5000 labels on continuous feed tractor form— $22.00

continued next page

UD-#5 Diskettes 5.5" hi quality DS/DD 40 track, includes sleeves and tabs— $8.00 box of 10

UD-#6 Diskettes 5.5" Dysan Premium DS/DD 80 track 96 tpi. Use for all Sinclair QL and TS-2068 80 track drives— $20.75 box of 10.

UD-#7 Printer Ribbon Cartridge for Star Micronics 1000 series. Box of six cartridges— $39.75 (Single cart—$8.00).

UD-#8 Un-Priced: UPDATE will order ribbon cartridges in units of six cartridges and ship to you with a invoice. Price depends upon size of cartridge and will be within plus or minus $5.00 of UD-#7 above.

UD-#9 PAPER, 2500 sheets 20 lb white bond, tractor feed, laser perf for easy tear off, standard letter size break down to 8.5X11"— $31.90 (Check locally, you may be able to beat this)- US orders only.

THE FLEA MARKET

Subscribers may participate FREE to move surplus items. Limit is one 3 line insertion per issue. Make the print Elite 12 characters per inch. line lenght of 66 characters, including spaces. No fancy printing. Use the following for examples of format.

UPDATE SURPLUS items: For TS-2068: One Zebra OS-64 Cartridge— $16.00. One Tasman CPI— $16.00.

ONE TS-2040 Printer (works A-OK)—$25.00. One Seikosha SP-1000 dot matrix printer, works now but print head beginning to skip some pins—$55.00.

EMSoft

Software for the **QL** that really works

We market software for business and technical applications to do real (tax deductible) work. Prices range from $7.95 for **QLUTter**, a resident boot utility to $2850.00 for a site license for a CAD program that designs circular cams and generates the CNC code to a vertical mill controller.

Other offerings include **TAX-I-QL/88**, a spreadsheet to prepare your 1988 income tax return; **MAILBAG**, the most versatile address database we know of; **QLAND_LORD**, a property management data base application; and **TRUST_FUND**, a portfolio and asset manager.

DBTutor is a handy database program to teach yourself anything you need to know, including Spanish and QDOS, which are provided; **DBProgs** are 5 useful Archive utilities. We have **The_Transfer_V3**, for HP compatible laser printing of desk top publishing files and a range of other useful, hard working software for the **QL**.

Generally, prices (post paid) are under US$20.00, but like **CAM MASTER**, some are a bit more.

We invite you to send for our free catalogue which explains our offerings in greater detail than is possible here. It includes a demo disk for CAM MASTER at only $6.95.

EMSoft, P.O. Box 8763, Boston MA 02114 (617) 889-0830

Z88 REVIEW

I have owned a Z88 for about five months now. I thought I would give my impressions of it.

I have always been interested in laptop computers and wanted to buy one for a long time. But they were either too expensive or not powerful enough. That is until the Z88. It is both powerful and inexpensive. You have got to compare the price to other brands of laptops. The price is about $500.

The Z88 may be considered pricey if you add up the cost of all its accessories. But I do not feel that you really need all of those accessories. Some additional memory is necessary. I think that one 128K ram pack should be sufficient for most people. If you have really exceptional needs, you can add more memory. You can expand the machine to over 1.5 megabytes. You may be able to do without the linkup packages for other computers. I made a cable with parts from Radio Shack and used the QL Q_Link communication program with excellent results. This also eliminated the need to buy an eprom to store programs permanently. I use a QL disk for archival backup.

About the only other things you need are a carrying case and perhaps a modem if you don't already have one. There are many affordably priced 1200 baud pocket modems on the market that will work fine with the Z88. You may be able to use an existing case for the machine. It will fit into almost anything. Or you can buy a custom case at your Z88 dealer. Sharp's sells a nice one for $24.95.

You can buy an AC adapter for the machine for under $15 at Radio Shack. I use the model 273-1650 universal adapter set at 6 volts and positive tip polarity.

If you do any travelling at all, the Z88 is for you. It is very portable. It measures 11 1/2 inches by 8 1/4 inches by less than an inch. It has a full size keyboard with a real nice soft feel. There is an 8 line by 106 column supertwist LCD screen. The main reason for the Z88s small size and weight is no disk drives. How do load in software? Answer... You don't! It comes with virtually everything you need on a rom built into the machine. The software is extremely well designed and integrated. I think that most people will find the software meets their needs.

The main program on the Z88 is called Pipedream. It is a combination word processor, spreadsheet, and database. It appears to be a spreadsheet that has been adapted to be a word processor. But the word processor functions were not skimped on one bit. This is the most powerful word processor that I have ever used! It is just amazing that this program is included in a portable machine.

You choose the commands for Pipedream with the MENU and cursor keys like all the functions on the Z88. Or you can use hotkey commands to choose functions. This is a little faster than the menus and the hotkeys are not hard to remember. At first it may seem awkward in editing existing text with Pipedream. But once you get used to its idiosyncracies you will find no problem.

I really like Pipedreams ability to do columns without any problem. This is really nice for newsletters. This review was written using Pipedream. Note the two 35 column columns. You can have as many columns as you like and they can be in any width. I also like the block move functions. It was fun watching the blocks move on the built in page map while writing this review.

Another program that I use is the terminal program. You can send and receive ascii files fairly easily with the help of the Z88 command line interpreter. Xmodem should have been included on the machine. You can buy a rom based xmodem program for $89.95. I think that I will use my QL xmodem program and then port files over with the Z88 Import-Export program.

The Z88 comes with BBC Basic. This is a very nice basic. It even includes procedures like the QL has so it is extendable. It also has a built in assembler to write machine language. Syntax-wise BBC Basic is almost identical to Microsoft Basic. Any Microsoft Basic program typed in or downloaded will work fine as long as there are no screen commands present. There is one problem with the basic however. There is no editor built-in. You must retype the whole line to correct an error in a line. If you have to do a lot of editing, you can always port the program to Pipedream and edit it from there.

There is a Filer to do all the usual file operations such as copy, rename and move files. You can also create subdirectories, and access the command line interpreter. The CLI is sort of like batch files on DOS machines.

There is a Diary program that enables you to write notes for each day. This also works in concert with the Calender. You can move the cursor anywhere on the perpetual calender and then read your notes for that day.

The Z88 also has complete desktop accessories. There is a perpetual calender, a clock, a 10 memory calculator with conversion between U.S. and metric, and a sophisticated alarm that will even let you run programs at a specific date and time.

One unusual feature of the Z88 is that you can run any program while running another program. While editing a file in Pipedream, you can check a date, the time, or your files press ESC and you are back in Pipedream.

There is also a control Panel that enables you to set all sorts of defaults for the computer such as RS232 settings, sound, the page map etc.

Those are most of the features that I can think of. This computer is so loaded with features that any review is only going to mention some of them. This is an excellent and amazing machine.

- David Bennett

Taken from the November issue of PACC Talk - Official Newsletter of The Pittsburgh Area Computer Club.

Sinclair Z-88 Filling a Market Niche? Tom Heatherington
Timex/Sinclair Sig

In the last five years, computer manufacturers have unveiled a series of thin computers with flip-up screens labeled "lap-tops". The idea was that a person needing a certain degree of portability in their computer would opt for this design instead of a desk-top model. What these manufacturers are now finding out, however is that a large percent of users who buy lap-tops use them as their second computer.

Why should this news be significant to lap-top and portable computer manufacturers? These manufacturers have mis-interpreted the market segment of who would buy the computers, and have made them completely compatible computers with hard disks and floppy drives. The result is a computer that weighs (conservatively) just over ten pounds and can hardly be labeled "portable". Not only must it be packed, lugged, and contain a fresh charge of electricity every time it is needed, these computers must be handled with care - they cannot be dropped, bumped hard or "thrown" into the car. Enter the Sinclair Z88.

What Sinclair did with the Z88 that makes it unique, in my opinion, is correctly define a market segment. This computer has a built in operating system that contains a word processor, a database, and a spreadsheet. They are not versions of popular programs, but they accept files from popular programs without modification. The Z88 has no floppy, micro-drive, or hard drive option, but it remembers everything in RAM. Any applications a user might have stored in the RAM stay just as he/she leaves them until they are erased.

What makes the Z88 unique is its packaging. The computer is eight by eleven inches, weighs under two pounds and is only three fourths of an inch thick! This makes it the first truly portable computer. It is about as rugged as a pocket calculator. It contains a communications program that allows it to easily transfer files back and forth between a QL or a IBM (or clone). Thus, one would probably buy this as a second computer. The Sinclair Z88 is the shape of computers for the future. It fills a market niche previously undefined, and puts powerfully computing access at the hands of those who truly need portability.

Ed Comments: Thanks David, for a nice run down on the Z88. And why shouldn't the Z88 be the most practical "personal computer" alive? After all, Sinclair introduced the first personal computer, the ZX-80. Since that time EVERYTHING is advertised as "personal computers", even my $3800 IBM AT Clone, which is really a "Business Office Computer". T'other day I looked at a Mitsubitchi "Lap Top" that comes with two 3.5" dd's and weighs bout the same as a concrete building block and costs a measly $4495. If you carry it around fer a while one arm's gonna get longer'n tother. The Z88 is more practical to take everywhere and do everything with than anything that I have seen to date. Its a winner both as a "portable" and as a "personal", and as a "desk top". Me? I dont have a lap, and I refuse to call any computer a "lap top", which ain't no practical name fer nuthing. -BJ

TAX SOFTWARE FOR THE QL

TAX-I-QL (rhymes with icicle) is the lead program from the Boston QL software house of EMSoft. It is a spreadsheet template to run under ABACUS on the QL to make the IRS tax preparation easier but is does require at least 384K RAM.

It has been updated each year for the past two years and the 1988 version, TAX-I-QL/88, is now available and incorporates all the new stuff Congress had in mind for you when it passed the Tax Reform Act of 1986.

All the 1040 Schedules (except F) are supplied and most of the forms you will need. You also get a lot of forms you will never need, because it was developed for tax preparers as well.

First, execute ABACUS (EMSoft recommends v 2.3 or 2.35 so that taxiql will load faster), then load taxiql. Even on a disk you will have time to put on the kettle for tea. The template runs 105K even in the abbreviated microdrive version.

You know it's loaded when the menu pops on screen with the cell ranges for the different forms. Use the F3,X command to get the built-in prompts for initiating the particular tax return, then begin stuffing data in all the places it should go.

TAX-I-QL/88 comes with a well written, information packed, 16 page manual that is <u>almost</u> a tutorial on tax preparation. It primary purpose is to teach you how to use the program, but it incorporates a number of hints to help you figure out the IRS jargon and obscurities. It also has the best starter course in using Abacus we have ever seen.

This is not a program for the faint of heart. The manual cautions that you should refer to the IRS instructions - and truth to tell - you should have the proper IRS forms and instructions at your side.

The great strength of TAX-I-QL is in the spreadsheet. For example, if you are self-employed, Schedule SE is automatically prepared from data entered and calculated elsewhere. If you initiate the return properly, your tax bill and your exemptions are automatically calculated. It even lets you itemise deductions but only counts them if you have enough to make it worth your while (suggesting that you may want to dig deeper into the pile of receipts.)

The disk version has a number of forms on separate files that do not interact with the main spreadsheet. Some such as 8598 for calculating the deductibility of Home Mortgage Interest require individual decision making for which line the results must go and don't interact in any case; others are fairly obscure forms such as 4970 which are rarely used in any case.

While TAX-I-QL is primarily for tax preparers and others accustomed to doing their own taxes, it is also an excellent teaching tool. Peter Hale, the author, advises that prior year versions are frequently ordered by those who simply want to check out their accountant's work and begin de-mystifying the whole process of tax preparation. At $19.95 for 5 1/4" disk or $21.95 for micro cartridge it a cheap short course in taking control of your life and is probably deductable on your 1989 return.

Available from EMSoft, P.O. Box 8763, Boston, MA 02114-8763 (617) 889-0830 or your favorite dealer.

THE INDEX PRINTER

Last issue we gave an index printing program for the TS-2068. This time I was determined to make the QL do it. Actually it turned out to be pretty good, and it has some other applications as well. It could be an "outline printer" or could be used for just about any purpose that one needs to print short lines to a page with TAB control. The program is in pure ole simple BASIC, as I'm not up to the "Super Basic Level" as yet.

One thing you've got to be aware of, and that is that the Quill program's printer set up is such that a LINE FEED is "software furnished" at each line end. So, when using any printing utility such as this one, you must find the little dip switch on the printer that "Turns ON a LINE FEED with each Carriage Return". That switch must be turned ON. Otherwise, lines will overprint on the same line. Then, when finished and ready to go back to Quill, you can flip the switch off. I've put a little dab of the Wife's red nail polish on that little dip switch so that I wont have to consult the printer manual the next time.

So, "indexer" becomes another little programming tutor for handling such things as INPUT, DIMENSIONING Character Arrays, FOR COUNTERS, OPENing Channel to Printer, PRINT to a TAB position, LINE SPACING, and CLOSEing a Channel. I'm not real sure that the "END FOR n" statement is needed in the three usages of the N counter. The program worked without the END statement but I kept getting a report "PROC INCOMPLETE" thrown on the screen, so I added the END FOR N.

So, key it in and play around with printing under YOUR CONTROL, instead of having to load up a software to do it.

Of course you can add some programming to get out of the split screen if you like, but for simple utilities such as this, I like to see the listing on the left side. Then I can break in with CTRL and SPACE BAR to modify the lines when I want to.

By the way, if your printer is connected to SER 2, just plug it into SER 1. That will be easer than changing the program lines.

I learned a few things while putting this little program together. Normally with the TS-2068 one can use the "dimension of an Array line" as TAB. For example, if a$ is dimensioned A$(10,28) then PRINT A$(n);b$(n) would print b$(n) at TAB 29. Not so with the QL! The QL's character arrays are filled only with input data, so if you input only 20 characters to A$(n), then that line of the array is only 20 characters in LEN (length). Thus, in line 530 I had to use PRINT #4; TO tb;a$; TO (tb+28);b$ instead of just PRINT #4;TO TB;a$;b$.

Anyway, I had a lot of fun with it and learned quite a bit about the differences in the QL's syntax for controlling printing positions. At my novice programmer stage with the QL there is quite a bit of need to consult the KEY WORDS section of the manual to find out why the QL keeps giving me the "BAD LINE" report.

A refinement to the program could be to use programming to do the computations for TAB. Example, my printer set up is for 98 character lines, so page center is TAB 49. So lets let pc=49. Then a print line could be: PRINT #4; TO (PC-LEN A$(n)/2;a$. That should CENTER print a$(n) (or would it?). Try it and see.

THE INDEX PRINTER

```
10 CLS:LIST
20 INPUT "number of index items? ";a:CLS
30 DIM a$(a,28):DIM b$(a,12)
100 CLS:FOR n=1 TO a
110 INPUT "enter index item";a$(n):IF
a$(n)="x" THEN LET a$(n)="":LET a=n-1:GO TO
500
120 CLS:INPUT "enter pages";b$(n)
130 NEXT n:END FOR n
500 CLS: INPUT "enter FIRST TAB"; tb
510 OPEN #4,ser1c:BAUD 9600
520 FOR n=1 TO a
530 PRINT #4; TO tb;a$(n);TO
(tb+28);b$(n);\ (Back slash) for Line Space
540 NEXT n:END FOR n
550 CLS: INPUT "Nbr of spaces? ";x:IF
x>0 THEN FOR n=1 TO x: PRINT #4;\: NEXT
n:END FOR n                    Backslash
560 CLS:CLOSE #4:GO TO 10
```

Indexer is donated to Public Domain if anybody wants it.

----------BJ----------

[] SPECTERM-64(TS-4.1)

300/1200 Terminal Software for T/S2068
On JLO, AERCO, Larken disk or tape.
Only $25.00 + $2.50 S&H

ALSO

[] Z-SI/O Bare Boards

RS-232c Serial Interface for T/S2068
With FREE 2050 card
Only $24.50 + $2.50 S&H

OR BOTH FOR ONLY
$50.00 inc. S&H

(Outside 48 contiguous states, $6.50 S&H)

****

LARKEN Disk Hardware:

[ ] LARKEN Disk System

Includes LARKEN Floppy Disk Interface, LKDOS (v.3) Cartridge, Operating Manual and LKDOS Utilities' Disk.
Only $120.00 + $5.00 S&H

[ ] LKDOS Cartridge for JLO

Specially configured LKDOS (v.3) Cartridge that works with your JLO SAFE Disk hardware. Includes Operating Manual and LKDOS Utilities' Disk.
Only $65.00 + $3.50 S&H

[ ] LARKEN Ramdisk

No RAM chips are included. You can add up to 256K to this Nonvolatile Ramdisk. Easy to use as a floppy disk with LKDOS.
Only $60.00 + $3.50 S&H

[] Tandon TM101-4 Quad Disk Drives

These disk drives are brand new in factory sealed cartons. They are double sided, double density, 96 tpi (quad), full height drives. They are compatible with JLO, LKDOS, AERCO and QL disk systems.
$45.00 + $5.00 S&H

Buy 2, Get FREE Drive Cable!
Buy 3, Get 4th for Half Price!
Buy 4, Get One Disk Drive FREE!

[ ] Cable (2dr)..$12.50+$2.50 S&H

****

Hayes Compatible MODEMS

[ ] Avatex 2400 (3/12/2400)....$179
For CP/M, IBM and other systems.

[ ] Avatex 1200hc (300/1200).....$99
For T/S2068 (w/ Z-SI/O) and QL.

[ ] Avatex 1200<P> (300/1200).....$125
<P>ocket size for the Z88.

[ ] Avatex 1200<E> (300/1200).....$85
Great for SPECTERM-64!

Epson Compatible PRINTERS

[ ] Seikosha 1200AI (120/25)..$199

[ ] Seikosha 180AI (100/20)..$169

[ ] Star NX1000 (144/34)....$229

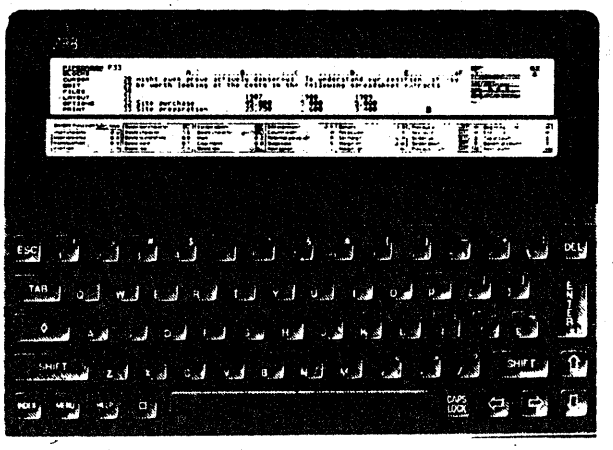
All modems add $3.50 for S&H, all printers add $10.00 for S&H (Canada double S&H on all items).

Ed Grey Enterprises

P.O. Box #2186, Inglewood, CA 90305
Info >> 213-759-7406 << Order

Call The Grey Matter BBS & RCP/M (213-971-6260)

Z88 THIS COMPACT.



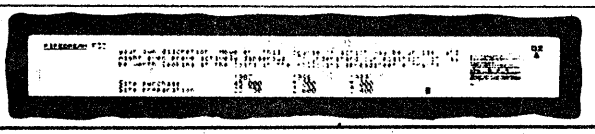
THIS POWERFUL . . .

- The most portable full-function computer ever devised.
- Less than an inch thick, measures 11½ in. x 8¼ in. Weighs under 2 lb.
- Comes complete with integrated set of powerful applications software: word-processing, spreadsheet, database, calculator, diary, calendar, clock, alarm, printer editor — all included in ROM.
- Can export, import and manipulate data from IBM-compatible PCs; converts its own applications software into Wordstar or Lotus 1-2-3 files. Mac and ST, QL Linkups available also.
- Extra memory comes in solid-state, interchangeable packs — only 2½ in. square x ⅜ in. deep. No fragile disks, no bulky disk drives.
- 32K of RAM built in, expandable to 3 megabytes soon — enough to hold the complete works of Shakespeare.
- Permanent storage on EPROM (Erasable Programmable Read Only Memory) packs, available in 32K and 128K. 1 megabyte packs coming soon.
- Latest supertwist liquid crystal display provides large working area of 8 lines x 80 characters.
- RS232 port provides connection to virtually any standard printer.
- QWERTY keyboard has silent, short-travel keys; use in meetings, lectures, anywhere.
- Runs on four AA batteries. Built-in capacitor preserves data when batteries need to be changed.

Z88 SOFTWARE IN ACTION

The Z88's ingenious built-in software suite lets you switch any two applications — even word processing and spreadsheet — *without* loading separate software into the computer's memory.

Switch from writing a letter to find an address . . . from composing a report to carrying out a calculation . . . move a spreadsheet into a document — simply press a couple of keys!



Z88 Sinclair Computer $ Call
68008 Sinclair QL $ Call

Call or write for other Z88 products.

SHARP'S, Inc.
Route 10, Box 459
Mechanicsville, VA 23111
(804) 746-1664 9am - 4pm

VISA MasterCard