NIBBLES & BITS

November 1989   issue #29

PUBLIC NOTICE

Nibbles & Bits is published monthly by The SoftWORKS FACTORY. Individual issues may be purchased for the current month or a back issue for $4.00. The AUGust 1989 issue is the first one published by TSF; there are 27 preceding issues. When ordering back issues, please specify the issue number, month, and year.

The standard subscription rate for 12 issues is $24.00 in the USA, its possessions, and Canada. The annual rate in foreign countries is $36.00. The standard subscription rate for 6 issues is $15.00 in the USA, its possessions, and Canada.

We welcome contributions of original reviews, programs, articles, questions, and comments. Please include your subscription ID number from your mailing label on all written correspondence to us; thank you. Please include an SASE (Self-addressed Stamped Envelope) if you want a written reply.

Your subscription ID number is on the first line of your mailing label (affixed to the newsletter). The first four digits are the month and year of the final issue in your current subscription. Please verify this information each month.

To insure that you don't miss any issues, please renew early and let us know of any address change promptly. Include your subscription ID number on the address change notification.

GENERAL INFORMATION

Most issues include a special offer on software purchases; these are explained as time-limited offers. If you receive *N&B* outside the North American continent (Australia, England, France, Israel, South Africa, or Spain for example), we will extend these deadlines for you by 30 days.

If you have products or services of interest to ADAM owners, please let us know. We try to keep our readers apprised of all the latest news concerning the ADAM. Call or write for info on paid advertising in *N&B*.

For information regarding shipping of orders contact Tony Patterson at the TSF address. For information on your newsletter subscription, newsletter articles, newsletter programs, commercial programs, or general technical information contact Solomon Swift.

The SoftWORKS Factory
Attn: Tony M. Patterson
P.O. Box 732
Ocean Springs, MS 39564

Z-DELTA SwiftWARE
Attn: Dr. S.M. Swift
P.O. Box 7697
Jackson, MS 39284

COPYRIGHT ENFORCEMENT

Articles contained herein may be reprinted in other ADAM oriented publications provided full credit is given to the author of same. Be sure to note the copyright information in the REMark statements at the beginning of program LISTs. Programs belong to one of three categories: (1) copyrighted, (2) public domain, or (3) freeware. Copyrighted programs may NOT be sold, traded, or given away by anyone other than Z-DELTA SwiftWARE or an authorized agent thereof. Public domain programs may be freely traded by anyone. Z-DELTA SwiftWARE retains the copyright on freeware programs until the date specified in the LIST; at said date the program may be considered public domain and thereby freely distributed by any interested party. We do ask that the first few REMark statements NOT be removed when distributing our public domain software.

DISCLAIMER

The editor(s) and publisher have exercised due care in the preparation of this newsletter. Neither the N&B staff, nor TSF, nor Z-DELTA, nor any contributors of any capacity make any warranty either express or implied with regard to the information contained herein, either by interpretation, use, or misuse. Reviews and opinions submitted by the readership at large do not necessarily reflect the opinions of the editor or stafff. TSF has no affiliation with Coleco Industries. Unless stated otherwise, all correspondence shall be considered as "open to public review". Attempt hardware projects and/or repair at your own risk.

A NOTE FROM THE EDITOR

Unlike producing technical articles or creating newsletter programs, the editorial column is a real challenge each month. This is the page reserved for sharing thoughts on various topics.

First, I know you must be wondering what happened with the last two issues. After an inordinate seven month respite, one issue was published and then nothing for two months. What exactly was meant by "... I am back to stay with an ebullient, steadfast resolve" in the August issue? Without getting too specific, the newsletter was the only aspect of TSF not in operation; orders were shipped and programs were written. My resolve never waned; and several ADAM firms were apprised as Tony and I worked out contract disputes. I realize full well that if it weren't for the scores of PD programs I've written, the 27 newsletters published by DIGITAL EXPRESS, and the nearly 30 commericial software titles I've written that many of you would certainly not have stayed with me this far.

There is little dispute that Tony's talents and mine compliment each other well, both in the newsletter and in software. But we made the mistake of rebuilding my company on something less than solid ground. With the completion of a binding contract we are well on our way to structuring for success. We both owe a deep debt of gratitude to Barry Wilson of SL-AUG and Larry Overman of Overman Software for their sincere help in working through the situation. Also, I have started a new firm for software of which I am the sole author, Z-DELTA SwiftWARE. Tony and I both run TSF which produces its own software, *Nibbles & Bits*, and operates the mail order business.

If your faith in us is shaken, we do understand. In fact, if you're concerned we'll gladly return your prorated subscription. We both hope that you'll find this issue to be both useful and entertaining. Tony has contributed significantly to this issue and has made my job as editor a breeze ... which officially makes *N&B* our newsletter. And, in my opinion it's one of the best issues of N&B; what do you think?

Now on to another topic. There was an article in the November issue of *Computer Shopper* in which Paul Pappas relates a letter from Dan Decker of Computer Quorum of America regarding software piracy. Although I find irrefutable contention with the specifics of the presentation, I do wholeheartedly agree that piracy is ramant among some local ADAM owners and some mail order vendors as well. I state this as a fact, not a mere unfounded accusation.

You see ... about two years ago I began a secret, large-scale investigation of piracy to determine how much damage I had suffered. Since I have friends in virtually every state it was easy have different people join many users' groups and order from most vendors. I had no plans to prosecute; my goal was to assess damage. I was astounded at the staggering dimensions of the results ... even some of my friends in the ADAM community were stealing software (even my own products).

While I was doing this, Mr. Decker was conducting a similar investigation for his own information. At the time I barely knew of him, but because of our mutually exclusive investigations our paths inevitably crossed. In some cases our findings did coincide; in others they did not.

I do NOT think he should have published his information even if it was based entirely in fact. Also, he mentions in his latest catalog that the "BIG FIVE" ADAM vendors are guilty of price fixing. He fails to mention that the individual manufacturers, not the vendors themselves, set the prices. If a vendor dips below the manufacturer's suggested price, the vendor is prohibited from buying further product. It's that simple.

Finally, *Computer Shopper* is now published by a new firm. These new folks have decided to drop coverage of ADAM and the other classic computers effective January 1990. *CS* has provided the ONLY national coverage for our system. If you are displeased with their decision, please copy and complete the survey form at the back of this issue. We ask that you send the form to us so that we can have at least one accurate count of the number of letters that *CS* receives. COMPLETING THIS FORM IS VERY IMPORTANT!! They will listen to numbers ... here's an excellent opportunity for us to all band together and help our favorite orphaned system.

Coleco abandoned ADAM. *Family Computing* abandoned ADAM with their new format. And now *CS* under new publishers wants to do the same. Let's stop it this time BEFORE it happens by SHOWING them just how many of US there are!!! A lot of great things are finally coming together for our system, don't let this overwhelming fact make you complacent. Stop RIGHT NOW and COMPLETE the survey and send it in to us. Your copy of this November issue of *Nibbles & Bits* will vaporize in 60 seconds if you read another word before ... 60 ... 59 ... 58 ...

Dr. Solomon M. Swift

ADAM NEWS AND UPDATES
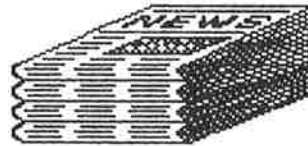
□□□ The BIG news is the enormous success of ADAMCON-01. Many NEW products were unveiled and MANY new friends were made. See Tony's article in this issue detailing the events of those four historical days.

□□□ A new ADAM support firm, EyeZod Graphics, has just released an incrediable assortment of design graphics for PowerPAINT, POWERTOOLS; REEDY SOFTWARE is the primary distributor. But, you can order the package through most vendors including TSF. See our review in this issue.

□□□ Tony Morehen is just about to release his SUPER ENHANCEMENT to CP/M, TDOS 4.0, into the public domain. It turns CP/M into a POWERHOUSE operating system. More news next month; he's working on the massive DOC files now.

□□□ Howard Pines of the Emerald Coast AUG, who runs OSCAR'S Computers, is offering FREE hardware repair assistance over the phone. For info, call him and "Just say 'HELP HOWARD'."; his number is (904) 862-1007.

□□□ Danny Grantham is offering preformatted generic digital data packs for ADAM. Just $27.50 plus $2.00 S/H for TWENTY-FIVE tapes.

Danny Grantham
P.O. Box 4333
Biloxi, MS 39535

□□□ REEDY SOFTWARE has just finished a new graphic game for ADAM entitled "DRAGON: The Chinese Challenge". We'll have a review next month. Please note their new address.

REEDY SOFTWARE
P.O. Box 129
Lowell, MI 49331

□□□ We have restarted our DISK PAK club. If you're a member, your issues are on the way. We have revised the service, however. It is now a MONTHLY mailing of all the programs in an issue of N&B. Current members will be adjusted for this improvement. The DISK PAK club is available to N&B subscribers for $12.00 for six issues and $24.00 for twelve issues -- you'll never have to type in an N&B program again; they'll all be mailed to you right after the newsletter. If you are a current member and don't receive two disks this month, please notify us so that we may update our database.

□□□ TRISYD VIDEO LABS is now preparing to ship their DYNOMITE SOUND DIGITIZER and SmartCLOCK innovations which drew crowds at ADAMCON01. The digitizer uses a cartridge to convert external audio into music and clear speech which can be played back on ANY ADAM system (withOUT the cartridge). It is available from them for $70 -- the SmartCLOCK is available in two forms, as a user-installed chip for $40 and as a part of the DSD cart for $110.

TRISYD VIDEO LABS
26 Florence Crescent
Toronto, Ontario
Canada, M6N 4E4

□□□ While school is in session be sure to note Steve Major's new address (ADAM CONNECTION).

Indiana Institute of Technology
Attn: Steve Major
P.O. Box 255
1600 East Washington Blvd.
Fort Wayne, IN 46803

□□□ Be sure to read our ADAMCON-01 article for even more news this month.

□□□ We are offering a subscription / renewal special until 15 DEC 89. Just $20 for 12 issues. Also, we're offering any back issues numbered "1" thru "27" for just $2.00 each.

□□□ Be sure to complete the survey form at the back of this issue and return it to us so that we have an effective tool for persuading Computer Shopper to resume its ADAM section. If you send it back to us before 15 DEC 89 with a product order, we'll give you FREE shipping on the order. Be sure to get your fellow ADAMites to complete copies of the survey too.

□□□ Here's our Christmas special for '89. Be sure to beat the Postal backlog by ordering early. This special ONLY applies to products ordered, not subscriptions; qualifying orders must be postmarked prior to 21 DEC 89. With any order with a subtotal less than $30, take a 5% discount. With any order with a subtotal between $31 and $60, take a 10% discount on the subtotal. With any product order with a subtotal of at least $61, take a 15% discount!!!

□□□ Alan Neeley has revised his ADAMLink modem auto-answer device and is now offering it and two pieces of software (a modem pgm and a telephone monitor) for just $15.

ADAM-LINK of UTAH
2337 South 600 East
Salt Lake City, UT 84106

□□□ NEW PRODUCTS!!! We have 20 new products this month ... each should be a welcome addition to your ADAM system. The PD and freeware volumes are $3.50 each on disk and $4.75 each on tape.

Public Domain & Freeware

□□□ DaVinci is a very useful graphics design program written in Z80, imported from France; this version is converted to English by Ron Collins and Mark DeSure.

□□□ MacADAM is a Z80/EOS Assembler written in machine code. This is for intermediate to advanced machine code programmers; our version is self-booting.

□□□ EZ-MATCH is the program from our last issue. It is a graphic matching game on a self-booting medium.

□□□ PARROT is the graphic SIMON™-type program from this issue on a self-booting medium. It also comes with Z80SETUP and PAGETOP from this issue. PARROT is a FREEWARE pgm; Z80SETUP is a copyrighted program.

□□□ Coleco Graphics Processor is Coleco's own in-house program used to design super-game screens. Packed with features and options you'll have hours of fun playing with this one.

□□□ CGP PIX VOL-1 is a collection of a few super-game screens for use with the Coleco Graphics Processor.

□□□ GRAPHIC CONVERTER converts DaVinci and CGP graphics pictures to GraphixPAINTER format for use in that program or the more versatile PowerPAINT.

□□□ Joe's GoBASIC PGMS is a set of GoBASIC command demonstration pgms, most written by Joe Quinn.

TSF & Z-DELTA

□□□ PITY is a colorful, graphic board pursuit game akin to SORRY™ and TROUBLE™. One to four may play; ADAM can be a player too. Great fun for kids; good entertainment for the whole family; the POINT-AND-CLICK user interface makes it a snap to play, even for younger gamesters (ages 7 to adult). Just $18.95 on disk or tape, by Z-DELTA.

□□□ SUPER PARROT is the commercial version of this month's freeware program. SUPER PARROT has many more game options, a POINT-AND-CLICK user interface, and more sophisticated graphics; just $12.95 on disk or tape, by Z-DELTA. If you like the freeware version, you'll love the commercial version.

□□□ U-MATCH-EM is the commercial version of our EZ-MATCH. You have three sets of graphic characters to choose from, more sophisticated graphics, and the POINT-AND-CLICK user interface. Just $12.95 on disk or tape.

□□□ Swift Bookeepping System is a FULL-FEATURED specific spreadsheet package. See the ADVANCED PROGRAMMING section in this issue for more details. Just $24.95 on disk or tape.

□□□ GoDOS 1.1 with GoBASIC is the package everyone's been talking about for month's; finally pull-down menus, dialog boxes and the rest of the desktop interface come to ADAM. You have to see it to believe it -- so MUCH power under your control. Just $34.95 on tape or disk.

□□□ 320K Temple is a special update to "Temple of the Snow Dragon". Just send in your registration number and $5.00 for this single disk version that runs on a double-sided drive.

□□□ Pictorial Graphics Library is finally here. This 50+ page volume contains nicely organized printouts of all the PD graphics for use with PowerPAINT -- clips, full screen pictures, sprites, fonts, and workspace designs. Just $14.95 each. If you're on the backorder list, please send proof of purchase and we'll get it right out to you.

□□□ FAX PAK 2.0 is an excellent up-to-date resource of ADAM vendors, BBS's, Users' Groups, and newsletters. Phone numbers and addresses are included in this indispensable volume. A SmartFiler database also available; just $5.00 for either.

THIRD PARTY

□□□ POWERTOOLS is a HUGE selection of PROFESSIONAL QUALITY design "TOOLS" for use with "POWER"PAINT by EyeZod Graphics. There are over 90 FILES of clip art, sprite sets, font sets, paint brushes, and a few full screen pictures. If you use PowerPAINT, you HAVE TO HAVE POWERTOOLS. This incredible addition is ONLY $12.95 on disk or tape. See our review in this issue.

□□□ ADAMLink III+ is a SUPERB rewrite of ADAMLINK I (by Coleco) updated by Tom Clary. You can do ASCII and XMODEM file transfers, the ADAM printer or a DMP, the ADAMLink modem or 300bps, 1200bps, and 2400bps external modems, and you can use the TV screen or and EVE or OBS 80 column board. This POWERFUL telecommunications update is just $19.95 on disk or tape. See our review in this issue.

□□□ SCHOOL DAZE is a powerful math learning program for young ADAMites from Wizard's Lair Software. See our review in this issue; just $16.95 on disk or tape.

□□□ DRAGON: The Chinese Challenge is a compelling strategy game based on the ancient Chinese game "Mah-Jongg" requiring that the player clear a board of 144 layered tiles by matching pairs. Developed by long-time ADAM supporter REEDY SOFTWARE, it's just $17.95 on disk or tape.

ADAMCON-01

by: Tony Patterson

ADAMCON 01
MY NAME IS
TONY PATTERSON

The entire ADAM community is talking about the happenings in Orlando. The first ever ADAM convention was a huge success in every respect. The accomodations were top notch and the food was excellent. Monte Neece, Pat Herrington, John Terry and the whole MOAUG gang pulled out all the stops to ensure that everyone had a great time. Monte was the man that made it all happen. He made the arrangements, was the master of ceremonies and even found time to man the cash register at the ADAM store. On top of that his lovely wife Lydia ran the ADAM info booth all day, every day. The attendees of ADAMcon 01 owe Monte and his family a resounding THANK YOU! It would not have been the same convention without them.

All through the planning and advertising stage of this great event I had been telling everyone that due to circumstances I would not be able to attend. But I guess that fate had decided that I would indeed go, for at the last possible minute an opportunity presented itself allowing me to break away and go. Like a flash I was Orlando bound. I missed the reception and opening address on Saturday evening. I am told that this address by Jay Forman of M. W. Ruth was very informative, telling much of what really happened at Coleco that lead to the downfall of the ADAM computer system.

I arrived just in time for breakfast on Sunday morning. Things began to get interesting almost immediately. In the general session after breakfast, Philip Kosowsky explained some of the many different simple (?) problems that he has encountered in repairing the ADAM console. He made it sound very easy, but I believe that I will leave the repairs to him. Philip also has an amazing supply (he brought pictures) of ADAM parts, accessories and working ADAMs. You can contact him at:

KOSOWSKY's ADAM REPAIR
6067 Jerusalem Drive
Clay, NY 13041
(315) 699-6456

Then Tony Morehen took the podium to cover the world of ADAM hardware. From the early 64K memory expanders to the monsters that we have available today, serial and parallel interfaces right on through to the hard drive interface. A very interesting and enlightening discussion.

After the general session we broke into several smaller groups to go through the three (per day) informative learning workshops.

My first session was on Advanced Hardware with Mark Gordon of Micro Innovations. Mark told us about the developmental stages of the PowerMATE expansion products. The PowerMATE-2 and Power-MATE-4 are add-on, stand - alone subsystems that give the ADAM two RS-232 serial ports, a Centronics compatible parallel port, one or TWO - 10, 20 or 30 MB hard disk drives and one or two 5 $1/4"$ or $3 1/2"$ floppy disk drives. The product was on hand for the demonstration and looked VERY professional. Actual delivery for this new product may be slightly delayed due to changes suggested by the ADAMcon attendees that would result in more compatibilty with existing software. The basic PowerMATE-2 starts at a reasonable price of $399. The full blown PowerMATE-4 could run into some money but think about all that FAST storage. Mark can be contacted at:

Micro Innovations
12503 King's Lake Drive
Reston, VA 22091
(703) 620-1372

Then our group moved to where John Villilo was giving some tips on C/PM basics. I really did enjoy the session and many of the C/PM programs that he demonstrated for us are very full featured, but I must admit that I was very quickly lost. Keep in mind I do not know a PIP from an ARC and my personal C/PM manual is currently being used as a door stop.

The next resting place was the Telecommunication workshop with Alan Neeley and Terry Cairns. They explained how to use modem software and the features of various ADAM BBS systems. Alan had actually set up a working BBS system for everyone to see. Everyone who could not attend were welcome to call this board for late breaking news as it happened.

After lunch Ed Snow (who has had a lot of experience with MS-DOS spreadsheets) compared ADAMcalc to those other programs that he has used. ADAMcalc compares very favorably to what is available for the big boys. I was not aware of some of the things that can be done with ADAM-calc. Maybe it's time to dig out that intimidating manual and see what I can do, well I WILL think about it...

After this everyone was free to check out the product demonstration stations. I will cover all the demos that I can remember (there were so many) toward the end of the article. Now let's move onward to the activities of day two.

After breakfast on Monday the topic for the general session was on "Building Super - Charged User Groups". Howard Pines of ECAUG, Terry Cairns of MTAG, Jim Notini of NIAD and David Cobley of VISA took turns at the podium. Each in turn told the story of how their respective organizations got their start. The ways that each began and progressed were different and enlightening but the common thread that tied them all together was their devotion to this incredible little computer and the sense of common purpose and friendship that exists between the members. Each had some good suggestions for anyone wanting to start their own users' group. This ranged from messages on local BBS's to placing advertisements in the local free papers to leaving flyers at local computer stores. You never know where you might find a devout ADAM owner that does not know what there IS available for our little orphan.

The three workshops for today were "Advanced C/PM" with Ron Collins, "Utilities" with Bruce and Jim Walters and "Advanced PowerPAINTING" with Pat Herrington and myself. I am sorry to report that I missed the other two sessions because I was helping Pat with the PowerPAINT class. Ron filled me in on his session later in the day while showing me that incredible hard drive in action. I suspect that I was getting the novice C/PM version of that session, Ron is very kind. He makes it look SO simple. He was UNARKing and IMAGEing plus a hundred other things, all in the blink of an eye; that hard drive really is FAST! I was so impressed at his ability to manipulate data and files and everything else, I may just have to look into the C/PM operating system more closely. Maybe I could use the LOGO manual as that doorstop.

I learned that the Walters "Utilities" session was very informative and really showed off their new SmartDSK utilities cartridge. This cart can remain plugged in at all times. All you need to do if you want to access the utilities is pull the cartridge reset. Contact Bruce or Jim at:

Walters Software Company
Rd #4 Box 289 - A
Titusville, PA 16354
(814) 827-3776

Over in the PowerPAINT workshop Pat and I tried to cover as much as possible on the uses of this versatile program. Everything from simple graphics to the new POWERTOOLS available now from Eyezod graphics. This set of sprites, paintbrushes, fonts and clip art is a MUST HAVE for every serious graphics artist or anyone who would like to GET serious. Power tools are available through Reedy Software and many other ADAM retailers. You may contact Jack Reedy at:

Reedy Software
P. O. Box 129
Lowell, MI 49331
(616) 868-6374

The rest of the day was open for anyone who wanted to take in the sights or visit some of the local attractions. But... you guessed it, myself and MANY other ADAMites found the lure of ADAM to be much greater than plain old Disney World and stayed at the hotel. Just after the workshops Eric Danz of ADAM ZAP Software, Pat Herrington of MOAUG, and myself got together and began to design a header logo for the list of people who attended the ADAMcon. Several hours (and many mistakes made by yours truly) later a very nice graphic had emerged, Pat drew some fantastic palm trees. I hope that everyone likes the results and that Pat and Eric will someday forgive me for botching the entire effort at least once (without thinking I locked up the entire system and lost it all).

Later that evening I met up with Ron Collins and got a look at the hard drive. Ron also showed me QuickCOPY 4.0 and a recently uncovered Coleco design program called the Coleco Graphics Processor. This is what Coleco used to design the graphics for the Super games and cartridges that they released. Quite a find if we can just learn how to use all of the features that it has to offer. The program came to us without any documentation, so like true adventurers we set out to solve its mysteries. The program has many of the features that we have come to expect from third party software such as PowerPAINT. Some of these features are expanded from what we are used to, such as being able to capture a large portion of the screen and move it around, or being able to define sprites within the program. On the other hand it is not nearly as user friendly as PowerPAINT, uses a different format for the disks that it saves the files to (it is neither EOS nor C/PM), and it has not been determined as of yet how to save the screens in a format that we can use. Only time will tell if this program will be a significant improvement over what we already have.

I missed the breakfast on Tuesday, it seems that I must have more than three hours sleep to function. I arrived at the General session after it had begun. The theme was on "ADAM in the 1990's". Jim Notini, Jay Forman and Fay Deere appeared to be having a great time expounding on ways to develop and expand the ADAM community in the next few years. With GoDOS about to come on line and the new hardware developments soon to be available this chore should be a very easy task. Hopefully, we can even bring back a few deserters. ADAM is truely the best computer available for the home, and we will very soon be able to prove this to the world.

The first workshop for today was "Basic, BASIC Programming" with Alan Neeley. The discussion centered around how to set up a turnkey (HELLO) program that can customize BASIC for you when you boot the media. Several other tips and tricks were discussed as many novice programmers quickly took notes. All in all a very good introduction to programming in BASIC.

Tony Morehen hosted the next workshop entitled "Advanced Programming". Tony went through the steps necessary to set up a simple machine language program using assembly mnemonics and a separate assembler program. The program he did for us was very simple (it printed HELLO on the screen) but the process is the same as it is for more complicated programs. Having never used an assembler I found the process very interesting and informative.

The last workshop was cancelled due to popular demand. Instead, it seemed that everyone wanted to see GoDOS in action. We had a bit of trouble at first because GoDOS would not load. Fear that I had brought a corrupted copy, turned my stomach. As it turned out the console that we were using did NOT have a 64K expander installed. Ron Collins manned the keyboard while I tried to fill everyone in on some of the features. I am forever grateful to Ron for his help. He has an excellent working knowledge of the GoDOS system. Everyone there was very impressed with this amazing new operating system.

The agenda for giving out the door prizes was altered so that they could be awarded before the ADAM store was opened. The plan was to award these prizes at the banquet, later that evening. But what if someone later wins something that they had just purchased? The logical choice was to give them out first, besides everyone was ready to WIN something! Almost every ADAM supporting software and hardware vendor plus many users groups, newsletters, and BBSs contributed prizes to be given away. The prizes ranged from newsletter subscriptions to free software to gift certificates to 256K expanders to the coveted Hard Drive interface! The beauty of this was that everyone who attended received several prizes. I missed out on the Hard Drive interface (missed it by "that" much) but I did walk away with a discount coupon from ADAM zap (Thanks Eric!), a CompuServe introductory membership with a $15 usage credit (Thanks Rob!) and a $25 gift certificate from Walters Software (Thanks Bruce and Jim!). Now, I just wonder what I might need from these guys ... this might take some thought...

The ADAM store and Swap Shop had to be the most unusual sight for most people. When was the last time you were able to walk in and buy new (or used) ADAM products right off the shelf? It was really much more like a flea market. Tables lined up around the walls filled with all sorts of ADAM goodies and all at much less than normal retail prices. There was new and used hardware and stacks of original Coleco software titles. The third party developers had their wares available at substantial discounts. There were bargains everywhere and the slow shoppers missed out on some of the better ones. TSF was selling their titles at a whopping 40% off the regular retail price and several sold completely out. And yes ... even I found a bargain or two.

The banquet that evening was the perfect ending for this great event. It was held at Church Street Station in Orlando, a refurbished train station complex that has been converted into an entertainment metroplex. The food was exquisite and it was great to be there with so many new friends, ADAMites all! Needless to say, an enjoyable evening was had by everyone.

There were 10 different product demonstration stations set up on Sunday and Tuesday. Others were shown at one of the many get-togethers or bull sessions. I would imagine that over thirty products were demo'd but there was simply no way for me to get around to seeing them all. Several that I have not mentioned yet are worthy of praise. Jim Notini showed off his newest educational game called School Daze, good for younger children. Walters created a stir with their Vase of Turr, an adventure game. Chris Brayman played music (great music) from his ADAM through his new Midi interface connected to an electronic keyboard. Ron Collins demo'd the Hard Drive interface from Orphanware. Tony Morehen gave us a peek at his newest TDOS. This NEW operating system makes C/PM seem to be PD! Phillip Kosowsky had pictures to show of an original Coleco interface he managed to locate that had serial and parallel connectors for expansion. The hidden surprise in all of this was the Sound Digitizer from Syd Carter of Trisyd Video. The average ADAM owner will not need one of these but if the demo was any indication of what can be included in commercial games, every software developer will HAVE to have one. The digitizer will record any sound and it can then be played back on any standard ADAM. What this means is that we will soon see games that can talk to you without a speech synthesizer attached. We can have realistic sound effects such as explosions. There are some questions to be answered yet such as memory requirements but the product does look very promising.

The very best part of ADAMcon 01 was the PEOPLE and the interaction that took place behind the scene. All of the bull sessions that just seemed to happen everywhere all at once. Memories of working into the night (I managed less than 4 hours sleep a night) with my roommate Ed Cavanaugh on a minor problem he was having, discussing ADAM and the future with Ron Collins and Pat Herrington poolside at 4am, mulling over future projects with Eric Danz, Jim Notini, Syd Carter and Shawn McCullough over dinner, shop talk with Phil Kosowsky about his days as a Coleco quality manager, discussions with Tony Morehen about GoDOS, File Manager and many other topics, talking over marketing strategies with Jay Forman, these and many more will be fondly remembered through the years. Many phone and mail friendships solidified and many new friendships began here. That is what made ADAMcon-01 so special ... the people that came together to further a common interest and parted with so much more.
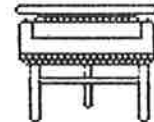
OLD ADAM PRINTER USES

by: Rick Lefko
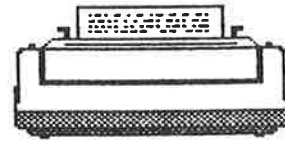
So you __finally__ broke down and bought a dot matrix printer, parallel interface, and power supply! So now what do you do with your ADAM printer?

Well, I guess you could have the little woman make a cozy for it and just tuck it away on a bookshelf, but I was thinking of more functional uses, like a doorstop! You know, on those windy days, when the doors are always slamming shut.
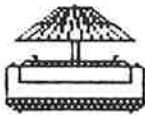
Perhaps a lamp for the ADAM room? Sure, why not a lamp? Dentists have molar lamps, doctors have heart lamps, so how about an ADAM lamp for the den?

How about getting at those hard to reach places? Sure, a step stool! Then after you've retrieved that out-of-reach item, the ADAM printer could be placed right in front of that favorite chair, sure, as a footrest!

Now we're rolling! Yeah, I'll bet there are __MANY__ uses you can find for the ADAM printer. All you have to do is use your imagination.

When spring comes to the Northeast I'll be ready with my ADAM printer for a few outdoor uses. Placed on the front stoop and filled with fresh earth and flowers it would make a rather attractive planter. Perhaps attached to a post it could be a bird house that no respectable bird could pass up! Or, with DDPs attached to the outside, a wind vane!

Maybe you'd just like some fresh air in the house, in which case the ADAM printer will sure help to prop up that window that won't stay open! There are, of course, less conventional uses. For example, if one were into, let's say, automobile restoration it would make one heck of a great hood ornament!

One of the more bizarre uses I can imagine would be as a pecker simulator in a chicken house. You know, to keep the chicks happy! If one were a carpenter or just a home fix-up type person I guess it could be used as a hammer, though I wouldn't want to hazard a guess as to how long it would last!
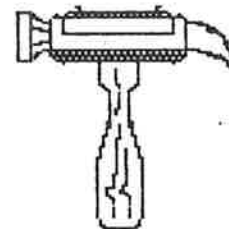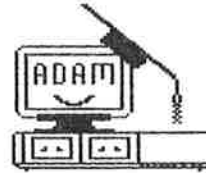
Or maybe, just maybe, on occasion, I __might__ just use it as a printer!

HOW ADAM LEARNS

by Rich Clee

The way that ADAM can tell how to respond to instructions is his operating system. ADAM has a crude, unique operating system of his own, derived from the Colecovision video game that was his immediate ancestor, and referred to in ADAM literature as his Elementary Operating System or EOS. So if you want to make ADAM more powerful you can buy, as software, a more powerful operating system that was actually designed to give many different computers a common ability to handle programs, called the Control Program for Micro computers, or CP/M. In theory, any computer capable of running CP/M should be capable of running any CP/M program. This is not usually the case.

The better the operating system is, the better ADAM will perform. So, Sol Swift of Digital Express (now The SoftWORKS Factory) boosted ADAM's abilities, especially in the handling of graphics, by developing GoDOS, while Tony Morehen (with some help from Guy Cousineau) went for sheer power in writing the TDOS operating system.

Whatever operating system may be running, ADAM - EOS, CP/M, GoDOS, TDOS or whatever, it is of little use for ADAM to know how to respond to instructions if he does not have a list of instructions telling him what to do, when, and in which sequence. This series of instructions is called a program and may take many forms. A BASIC may be executed in the immediate mode which means you type in the directions one at a time, hit the RETURN key, and ADAM executes the instruction. Or, you can write a program and ADAM will execute each instruction in sequence. If the program is recorded on a tape or disk, it's called software. If, like Smartwriter or one of the cartridge games, it's recorded on a chip, it's called firmware. The chips used for firmware are generally Erasable Programmable Read Only Memory chips, or EPROMs. If they are intended to be permanent (non-erasable) they are PROMs or more usually abbreviated to ROMs. Little ROM chips infest various corners of ADAM, doing things like making the disk drives behave and other similar mundane chores.

So far we've covered software, firmware and the operating systems in general. But what's a language, and why do I have this idiosyncrasy of always capitalizing BASIC? We humans need to communicate with the ADAM but we don't talk to each others in words like 10011001, 00011011 and 10100010. We say do this, do that, if so then thus, and so on. How do we translate this into something ADAM understands? One way is to use the Beginners All-purpose Symbolic Instruction Code, abbreviated as (did you guess?) BASIC. A dialect of BASIC comes with the ADAM, called SmartBASIC. If you have the brains of a Sol Swift you can write a BASIC that's much more powerful than SmartBASIC; his is called GoDOS with GoBASIC.

When ADAM is taking his instructions from CP/M he can learn to follow commands from all sorts of languages such as COBOL, PILOT, "C", PASCAL, BBASIC and many more. But, when you boot up ADAM at first, by turning on the power or using the reset button, you have an operating system in place - ADAM's own EOS. If you like, you can then load in SmartBASIC from the tape you got with your ADAM. When you do this, some 23K (around 24000 bytes) of information is loaded into ADAM's memory.

Some of these instructions are purely internal, telling ADAM when he receives a certain signal to go look in a certain place, where he will be directed to another place in memory. Some, though, work in response to user input. For instance, somewhere in that 24000 bytes is a group that tells ADAM that when you type something in he is to make a certain combination of pixels (shapes) appear on the monitor screen. You would describe this as letters appearing on your TV. It also tells him to do nothing else unless he gets the signal generated by your tapping the RETURN key (other computers call it "enter"). Furthermore, there is another sequence that says that if what you typed starts with a number, he's to simply store it until you type "r-u-n- (RETURN)", at which time he will take all the numbered instructions in his memory and execute them in the sequence of the line numbers. This is supposed to happen when you or I write a program, and actually does so when, say, Syd Carter writes it. If you program without line numbers (e.g. PRINT 2 * 3) ADAM will execute this as soon as you touch the return key, displaying the number 6. This is known as working in the immediate mode. But, if you write your line as "10 PRINT 2 * 3 (RETURN)" ADAM will not execute it until you type "run (RETURN)".

What's going on inside ADAM's CPU while you are carrying on this way? When you trigger a response (RETURN, or run command) BASIC tells ADAM to take the line in memory and refers it to a part of BASIC hidden somewhere in that 24000 bytes known as the interpreter. The interpreter will then inform ADAM that the particular sequence of key presses recorded in that line translate into a much larger sequence of binary numbers (the language ADAM understands) and that ADAM is to do as he has just been told, then return for the next command sequence. Thus the command that you typed in, such as "GOTO", may come out of the interpreter as a string of binary bytes as long as your arm. But these are the instructions that the ADAM (or any computer) can REALLY understand and execute.

This is only a very rough approximation of what really does happen as the electrons chase around in there; but if you think of things as happening in these terms, when some of the others who "know" about computers start explaining things to you, it should enable you to follow the drift.

HERRRE`S

by Solomon Swift

GoDOS ™

– with GoBASIC –

IT'S HERE (or rather OUT THERE)

Are you ready? Here it comes. Your GoDOS order is being processed!!! Finally, right? From the 10ᵀᴴ till the 21ˢᵀ of November we're shipping this issue of *N&B* to our subscribers, the disks in the DISK PAK club, GoDOS 1.1 and the various product orders (Christmas season is upon us). Despite the seasonal flurry of orders we're promising shipment within 24 hours receipt until the 20ᵀᴴ of December.

Next month we'll start including GoDOS programs. If you have not already sent in your index card; do so NOW with proof of purchase.

GoDOS 1.1 is not the final version, by no stretch of the of the imagination. Right now I'm working on a FULLY COMPATIBLE GoDOS and GoBASIC that has the GoDOS functions on the memory expander and uses standard RAM for a program workspace -- this accelerates even more the already highly reviewed speeds of functions ... and in my opinion makes for a much more organized central base. You'll get two disks (or tapes); one contains demos and DOC files. We're still working on the massive GoDOS and GoBASIC manual (150 - 200 pages with appendices and a full index). There are no instructionals on these disks, so that those who can already do at least beginner BASIC programming will get far more out of this initial shipment. We'll automatically send the final hardcopy manual and two more "GoDOS with GoBASIC" updates to registered purchasers. Frankly I'm not satisfied with this version, but there is so MUCH demand due to the glowing editorials of the beta version that we have to get started somewhere. We hope that you find it to be as potentially powerful and useful as the reviewers did that early version.

Below are more details on some of the special GoBASIC commands; remember GoDOS has FUNCTIONS and GoBASIC has COMMANDS (that execute some of the GoDOS FUNCTIONS) -- there are nearly 300 GoBASIC commands and nearly twice that many GoDOS functions. See you next month with GoDOS in your hands ... stay tuned for more news from GoDOS Headquarters ...

SPRITE COMMANDS

Command	Description
HIDEALL	REMOVES ALL SPRITES FROM THE SCREEN.
SPRESET	WRITES THE BIT IMAGE DATA TABLE INTO VRAM.
STDMAG	DISPLAYS ALL SPRITES AT NORMAL MAGNIFICATION.
DBLMAG	DISPLAYS ALL SPRITES AT DOUBLE MAGNIFICATION.
HIDE x	REMOVES THE SPECIFIED SPRITE FROM VIEW.
FIND x	RETURNS THE COORDINATES OF A SPRITE.
SPCOLOR x,color	CHANGES THE COLOR OF THE SPECIFIED SPRITE.
PUTSPRITE x AT h,v	PUTS THE SPECIFIED SPRITE AT THE USER'S COORDINATES.
ROTATE x	ROTATES THE SPECIFIED SPRITE 90 DEGREES ON SCREEN.
HMIRROR x	MIRRORS SPRITE (x) ON ITS HORIZONTAL AXIS.
VMIRROR x	MIRRORS SPRITE (x) ON ITS VERTICAL AXIS.
REVERSE x	EXCHANGES THE SET AND RESET BITS OF THE SPRITE IMAGE.
SPRITEPTR <adrs>	SETS THE BIT IMAGE DATA TABLE POINTER; BEFORE SPRESET.
STAMPCOLOR f,b	SETS THE FOREGRND AND BACKGRND COLORS FOR STAMPSPRITE.
STAMPSPRITE x AT ht,vt	STAMPS A SPRITE ONTO THE GRAPHICS SCREEN.

CONQUERING THE DALARK CHALLENGE

By: Tony Patterson

THE SAGE MUMBLES

The TEMPLE of the SNOW DRAGON and the DALARK trilogy were conceived as a disk based graphic - text adventure series. A Data Pack version was developed due to popular demand and is just as full featured as the disk based version plus neither version requires the use of a memory expander, but the DDP version is slower due to the media access time involved. The series was designed to start off as a beginner level adventure (TEMPLE) and progress into an intermediate level adventure by the last installment. After " TEMPLE " and " PIT " will come the " SHRINE of TAMCHAL " and " DARK OVERLORD, the final confrontation ". I am sorry for the long delay on the PIT.of RESHUS (this has been an eventful year for me) but I am in hopes that you will be very happy with the finished product. " PIT " should be finished very soon, for delivery BEFORE this Christmas.

The TEMPLE of the SNOW DRAGON has been available for over a year now. It was a huge success, both in sales and in the number of favorable comments. Many of the more experienced gamesters have solved its mysteries. However, many more of the less experienced are still wandering around the great halls. That is the reason for this article, to give a hand to those who ARE fighting bravely, ARE filled with courage, ARE striving valiantly and most of all... ARE at the point where they feel they ARE stumped. So dig out your copy of TEMPLE (or your backup if you destroyed the original in frustration), dust it off, remove all traces of coffee stains or cigarette ashes and come along with me...

On this page I will try to prod you down the path to victory. The NEXT PAGE contains a map to the TEMPLE at the top and some very specific details on how to solve many of the most challenging puzzles that the game has to offer down at the bottom. This way you can determine yourself just how much help you need in your quest to retreive a viable egg from the lair of the fierce Snow Dragon. Now... onward with some good hints involving every major obstacle.

THE LOCKED DOORS

There are two doors that are locked within the TEMPLE. One is the western most door of the Priests room and the other is the southern most door of the Oracle room. The key for the door in the Priests room may be found in the lair of the evil wizard Mondrel but may not be retrieved as long as Mondrel is there. The other key can be found in the room with the fallen ceiling which can only be accessed by getting through the first locked door.

THE WIZARD MONDREL

As you enter the evil lair of this fiend you find him floating above the cold stone floor. His arms stretched out toward you as he mumbles some obscure chant. QUICKLY you must try to stop him before he can finish his evil spell. You must attempt to destroy him before you do anything else, or he will finish that spell and seal your doom. You could hurl yourself upon him, but it might be wiser to find something else to throw. Perhaps some object or weapon that you have happened upon in your wanderings.

THE BOTTOMLESS PIT

The bottomless pit is situated between the Omen taking room and the southern Timbered corridor. Traveling west from the Omen taking room will send you plunging forever (well almost forever) into the blackness. The only way to get past this obstacle is to find some method of getting over it. To do so will require some supplies, possibly found in the supply room. Remember, not everything that can be gotten will show up in the contents section of the screen. Some items will be hidden in the room graphics but will still be retrievable.

THE HIDDEN ROOM

There is a grill in the center of the Dragons arena. Below this is a shallow pit where the waste of the arena can be swept and contained. There is a secret entrance to this room in one of the rooms adjoining the arena. The only way in, is to pull yourself together and do something that by now you must consider to be the stupidest thing that you could do, think about it...

THE DRAGONS EGG

You must return with a viable egg of the Snow Dragon to have the materials necessary to construct a shield that you will need to fight the Dark Overlord. But what exactly does a dragons egg look like? Is it a beautiful golden sphere, or a small white oval shape, or is it a rather non-descript looking object? That is the true secret that must be uncovered within the TEMPLE. At first, only I knew what it looked like. Now a few more have hit upon it... but for the most part,   we are not telling...

GOOD LUCK!!

DON'T FORGET that we will be happy to send out hints and try to help you out of your current problems for just an SASE and detailed letter about where you are and what has you stumped.
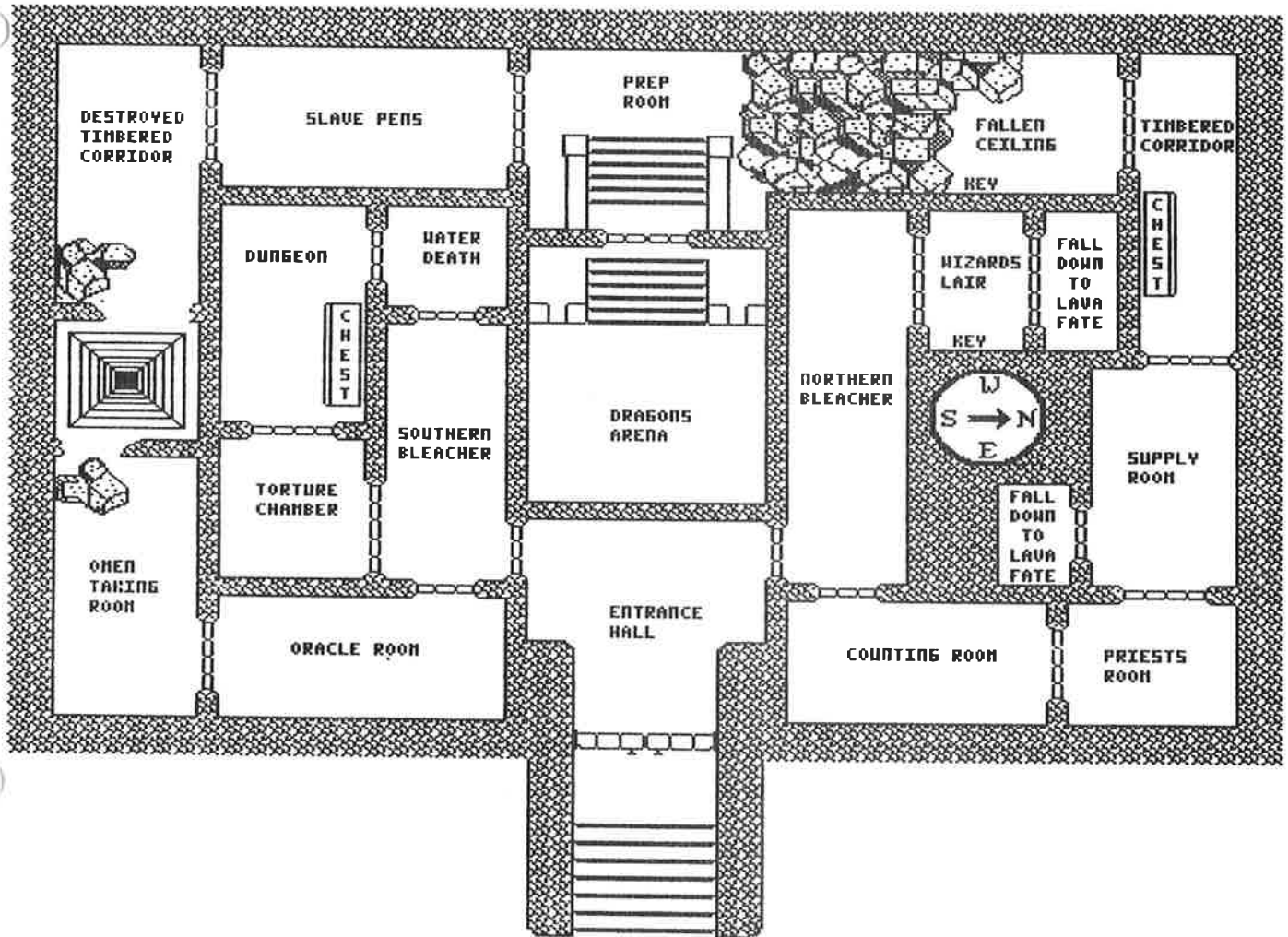
THE WIZARD MONDREL

To get that nefarious fiend Mondrel out of your
way so that you can get the silver key that is in
his lair you must throw the axe at him. This must
be done as soon as you enter his room. As you come
in he is already casting a spell that will turn
you to stone. If you dally or try to do anything
else first, you've been had. As soon as you do
this Mondrel will disappear, never to bother you
again... in this game anyway. Do not be
surprised if he turns up yet again in another of
the DALARK trilogy.

THE HIDDEN ROOM

The hidden or under room is situated directly
under the Dragons arena. It is a stench filled
place that is hard to get to, unless you know the
secret. Throughout the TEMPLE you have no doubt
noticed that certain rooms have set into the wall
a golden ring. You may have even pulled on these
to see what would happen. In the preparation
room (the room just before the Dragons arena
with the golden staircase) has one of these
rings. Pulling on it will open a secret stairway
leading down and to the east, leaving you in the
darkened foul smelling sewage pit.

THE BOTTOMLESS PIT

The bottomless pit is indeed one of the more
formidable tests within the TEMPLE. To get past
this obstacle you must find a way to get over it.
In the supply room, on the shelves you will find
(in the graphics) a coil of rope. Typing in "Get
Rope" will let you claim this handy helper. Now
go back to the pit and type in "Use Rope" or
"Throw Rope" and see what happens. Do not worry
about the return trip because you can use it
again whenever you need it.

THE DRAGONS EGG

Ah... the dragons egg. Such a noble quest for
such an unknown object. But just what is it
called? What does it look like? Surely you would
not really want me to divulge this information
publicly! Well I will not do so, but if you are
indeed at this point and give up... send me a SASE
and a note requesting same and I will return the
answer. But I will give you one more clue that
has not been revealed before. If the dragon has
been laying eggs and raising young there should
be several "eggs" or the remains of "eggs" lying
around. What do you think? Give it some thought
and see what you come up with.

PROGRAM EXPLANATIONS
by Solomon Swift
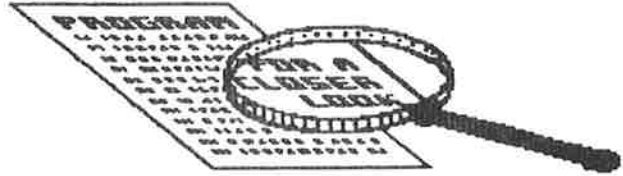
PROGRAM DESCRIPTION:

PARROT is a colorful memory exercise game similar to the SIMON™ electronic game. The computer will sound a musical note and flash a color arrow on the monitor screen. The human, in turn, plays the note back by tapping the corresponding arrow on the keyboard. For each correct human playback, one additonal note is added making an ever-increasing sequence of notes. Play continues until the human misses three times in copying the same sequence of notes. After a sequence of ten to fifteen notes, game play becomes very challenging.

OVERALL GAME STRUCTURE:

Below is a representation of the game screen; each arrow box has a specific color: dark blue, dark green, yellow, and dark red. When the note is played the box and arrow flash colors. When you playback the sequence the same note is sounded and the arrow flashes on the screen.

You have two game play options: ADD-A-NOTE and NEW-NOTES. With each game, one note is added to the total number in the sequence for human playback. With the ADD-A-NOTE option, the new note is added to the previous sequence. With the NEW-NOTES option, each sequence is new (with just one more note). Obviously this latter choice is a more challenging game.

This is a single player game. All input is via the keyboard ... arrow keys for playing and the number keys for selecting the options. Also, you can pick the starting number of notes in the sequence; the range is one to nine. PARROT can play up to a 400-note sequence; but, even a 50-note playback is quite difficult.
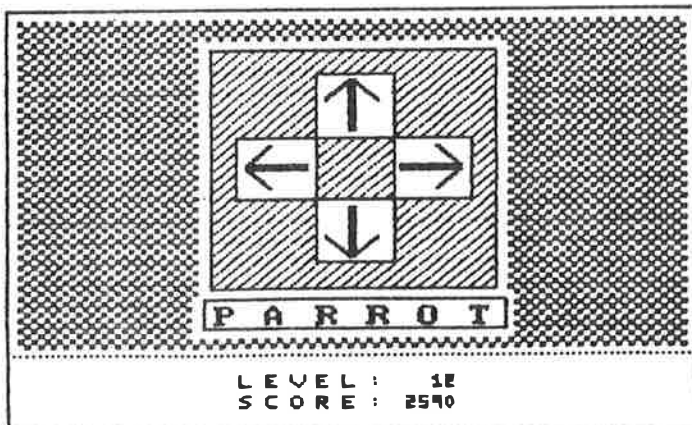
PROGRAM EXPLANATION:

Line numbers 10 thru 1320 initialize the data for the program. This is where the initial variable values are set, the machine code routines are created, and the vectored hi-res shape table is input.

Line numbers 2000 thru 2120 setup the game play screen. Line numbers 2500 thru 2580 present the menu of two game options -- ADD-A-NOTE and NEW NOTES. At any point in the program, you can tap the <ESCAPE> key to come back to this primary menu. Line numbers 2600 thru 3110 get the starting skill level.

Line numbers 4000 thru 4070 present the computer's sequence of notes/keys. Line numbers 5000 thru 5090 permit the human to playback the sequence. Line numbers 5100 thru 5140 handle an incorrect playback. Line #'s 5200 thru 5300 constitute the "END GAME" module; here the play may play again by tapping <RETURN> or quit by tapping <ESCAPE>.

PROGRAM SUBROUTINES:

Line numbers 20000 thru 20020 clear a user defined window in the HGR mode. This puts values into a machine code routine and then CALLs that routine; these variables are just like using HTAB and VTAB in TEXT mode. "hs" is the Horizontal tab Start; "hc" is the Horizontal tab Count; "vs" is the Vertical tab Start; "vc" is the Vertical tab Count; and, "co" is the COlor (foreground and background value). Line numbers 20100 thru 20120 are very similar; here the color in the window is also set.

Line numbers 20200 thru 20240 sound a simple musical note. Line numbers 20300 thru 20610 produce the sound ONLY for each arrow. Line numbers 21000 thru 21320 do the FULL arrow function -- flash, sound, and flash back. Line numbers 22000 thru 22110 present the "START GAME" prompt and seeds the random number generator for a unique game each time.

LEVEL: 1E
SCORE: 2590

```
  10 REM PARROT
  20 REM (c) 1989 by Z-DELTA SwiftWARE
  30 REM Program, graphics, concept, & audio by Dr. S.M. Swift.
  40 REM This FREEWARE donation may NOT be considered PUBLIC DOMAIN
  50 REM until: 1 JAN 89.  Violators will be prosecuted.
  60 REM Do NOT remove these six REMark statements.
 100 LOMEM :28000: POKE 16149, 255: POKE 16150, 255
 110 POKE 16134, 3: POKE 18728, 121: POKE 18729, 0: POKE 18730, 0
 120 DIM cp(400): c1 = 4: c2 = 7
 500 REM arrow vectored shape table data
 510 DATA 1,20,4,0,9,9,9,9,45,21,63,63,23,45,45,45,21,63,59,63
 520 DATA 59,62,62,62,62,62,46,9,9,9,33,36,36,45,13,41,46,46,46,46
 530 DATA 62,27,27,27,200,200,200,24,54,54,54,54,54,54,54,63,36,36,36,36
 540 DATA 36,200,8,36,22,50,54,54,54,54,46,0
 550 FOR x = 0 TO 71: READ vs: POKE x+27800, vs: NEXT
1000 REM Z80 routine to SET THE COLOR for an HGR window
1010 DATA 1,0,0,33,0,0,62,0,50,24,0,197,6,8,175,133,16,253
1020 DATA 111,193,120,50,23,0,6,8
1030 DATA 175,129,16,253,79,58,23,0,71,58,24,0,89,22,0,197
1040 DATA 245,213,229,205,38,253,225,36,209,241,193,16,242,201
1050 FOR x = 27620 TO 27675: READ mc: POKE x, mc: NEXT
1100 REM Z80 routine to CLEAR an HGR window
1110 DATA 1,0,0,33,0,0,245,197,6,8,175,133,16,253,111,193,124
1120 DATA 198,32,103,229,120,50,23,0,6,8,175,129,16,253,79,58,23,0,71,89
1130 DATA 22,0,197,213,229,175,205,38,253,225,36,209,193,16,243,241,201
1140 FOR x = 27680 TO 27733: READ mc: POKE x, mc: NEXT
1200 REM base Z80 sound routine
1210 DATA 62,0,211,224,201
1220 FOR x = 27740 TO 27744: READ mc: POKE x, mc: NEXT
1300 REM Z80 quick background color change
1310 DATA 1,0,7,205,32,253,201
1320 FOR x = 27750 TO 27756: READ mc: POKE x, mc: NEXT
2000 REM setup screen
2002 POKE 25431, 7: POKE 25471, 0: POKE 25568, 244: HGR
2004 POKE 16953, 160: POKE 16958, 16
2006 VTAB 17: HTAB 12: PRINT " PARROT";
2008 VTAB 19: HTAB 1: PRINT "(f) 1989 by Z-DELTA SwiftWARE";
2010 ROT = 0: SCALE = 1: POKE 16766, 152: POKE 16767, 108
2020 hs = 10: hc = 11: vs = 3: vc = 11: GOSUB 20000: co = 15: GOSUB 20100
2030 hs = 14: hc = 3: vs = 4: vc = 3: co = 244: GOSUB 20100
2040 hs = 17: hc = 3: vs = 7: vc = 3: co = 252: GOSUB 20100
2050 hs = 14: hc = 3: vs = 10: vc = 3: co = 251: GOSUB 20100
2060 hs = 11: hc = 3: vs = 7: vc = 3: co = 246: GOSUB 20100
2070 HCOLOR = 15: ROT = 0: DRAW 1 AT 114, 34
2080 ROT = 16: DRAW 1 AT 157, 58
2090 ROT = 32: DRAW 1 AT 132, 101
2100 ROT = 48: DRAW 1 AT 90, 76: HCOLOR = 1
2110 HPLOT 79, 23 TO 168, 23: HPLOT 168, 23 TO 168, 112
2120 HPLOT 168, 112 TO 79, 112: HPLOT 79, 112 TO 79, 23
```


HAPPY THANKSGIVING

PARROT LIST CONTINUED ...

```
2500 HOME: VTAB 22: HTAB 5: PRINT "1 = PARROT ADD-A-NOTE"
2510 HTAB 5: PRINT "2 = PARROT NEW NOTES"
2520 POKE 64885, 0: rd = 0
2530 rd = rd+1: rx = RND(-rd): IF rd > 30000 THEN  rd = 1
2540 k% = PEEK(64885): IF k% = 49 THEN  GOSUB 20800: me% = 1: GOTO 2600
2550 IF k% = 50 THEN  GOSUB 20800: me% = 0: GOTO 3000
2560 IF k% = 0 GOTO 2530
2570 IF k% = 27 THEN  GOSUB 20800: GOTO 23000
2580 GOSUB 20700: POKE 64885, 0: GOTO 2530
2600 REM add-a-note setup
2610 HOME: VTAB 22: PRINT " one moment please ..."
2620 FOR x = 1 TO 400: cp(x) = INT(RND(1)*4)+1: NEXT
3000 REM get start play level
3010 HOME: VTAB 22: HTAB 4: PRINT "START SKILL LEVEL (1-9):"
3020 GET k$: k% = VAL(k$): IF k% < 1 OR k% > 9 GOTO 3100
3030 GOSUB 20800: sc = 0: lv = k%: GOTO 4000
3100 IF k$ = CHR$(27) THEN  GOSUB 20800: GOTO 2000
3110 GOSUB 20700: GOTO 3020
4000 REM computer play
4010 GOSUB 22000: wg% = 0: ON me% GOTO 4025
4020 FOR x = 1 TO lv: cp(x) = INT(RND(1)*4)+1: NEXT
4025 FOR x = 1 TO lv
4030 IF cp(x) = 1 THEN  GOSUB 21000
4040 IF cp(x) = 2 THEN  GOSUB 21100
4050 IF cp(x) = 3 THEN  GOSUB 21200
4060 IF cp(x) = 4 THEN  GOSUB 21300
4070 NEXT: pb = 0
5000 REM human playback
5010 HOME: IF me% GOTO 5012
5011 HTAB 3: PRINT "NEW NOTES SEQUENCE PLAYBACK": GOTO 5013
5012 HTAB 2: PRINT "ADD-A-NOTE SEQUENCE PLAYBACK"
5013 VTAB 23: HTAB 11: PRINT "LEVEL: "; lv
5014 VTAB 24: HTAB 11: PRINT "SCORE: "; sc;
5016 FOR x = 1 TO lv: GET k$: k% = ASC(k$)
5020 kp = k%-159: IF kp < 1 OR kp > 4 GOTO 5300
5030 IF kp <> cp(x) GOTO 5100
5040 IF kp = 1 THEN  GOSUB 21000
5050 IF kp = 2 THEN  GOSUB 21100
5060 IF kp = 3 THEN  GOSUB 21200
5070 IF kp = 4 THEN  GOSUB 21300
5080 NEXT: lv = lv+1: sc = sc+lv*10*(3-wg%)
5085 cr = c1: GOSUB 24000: FOR yd = 1 TO 300: NEXT
5090 cr = c2: GOSUB 24000: ON  NOT me% GOTO 4000: wg% = 0: GOTO 4025
5100 GOSUB 20700: wg% = wg%+1: pb = 1: ON wg% = 3 GOTO 5200
5110 HOME: VTAB 22: HTAB 3: PRINT "INCORRECT SEQUENCE TRY #"; wg%
5120 FOR yd = 1 TO 2000: NEXT
5130 HOME: VTAB 22: HTAB 7: PRINT "HERE IT IS AGAIN..."
5140 FOR yd = 1 TO 750: NEXT: GOTO 4025
5200 HOME: HTAB 11: IF me% GOTO 5204
5202 HTAB 3: PRINT "PARROT NEW NOTES GAME OVER": GOTO 5206
5204 HTAB 2: PRINT "PARROT ADD-A-NOTE GAME OVER"
5206 HTAB 11: PRINT "LEVEL: "; lv
5208 HTAB 11: PRINT "SCORE: "; sc
5210 VTAB 24: PRINT "<ESCAPE>=QUIT   <RETURN>=AGAIN";
5220 GET k$: IF k$ <> CHR$(13) AND k$ <> CHR$(27) THEN  GOSUB 20700: GOTO 5220
5230 GOSUB 20800: ON k$ = CHR$(27) GOTO 23000: GOTO 2500
5240 TEXT: END
5300 ON k% <> 27 GOTO 5100: GOSUB 20800: GOTO 2000
```
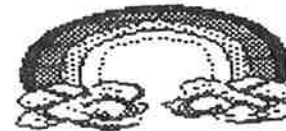
PARROT LIST CONTINUED...

```
20000 REM clear window
20010 POKE 27681, hc: POKE 27682, vc: POKE 27684, hs
20020 POKE 27685, vs: CALL 27680: RETURN
20100 REM set window color
20110 POKE 27621, hc: POKE 27622, vc: POKE 27624, hs
20120 POKE 27625, vs: POKE 27627, co: CALL 27620: RETURN
20200 REM do a note
20210 POKE 27741, n1: CALL 27740: POKE 27741, n2: CALL 27740
20220 POKE 27741, 144: CALL 27740
20230 FOR yd = 1 TO 300: NEXT: POKE 27741, 159: CALL 27740
20235 IF pb = 0 THEN  RETURN
20240 FOR yd = 1 TO 300: NEXT: RETURN
20300 REM up arrow sound
20310 n1 = 141: n2 = 26: GOTO 20200
20400 REM right arrow sound
20410 n1 = 133: n2 = 21: GOTO 20200
20500 REM down arrow sound
20510 n1 = 142: n2 = 17: GOTO 20200
20600 REM left arrow sound
20610 n1 = 135: n2 = 28: GOTO 20200
20700 REM error buzz with red screen
20710 cr = 6: GOSUB 24000
20720 POKE 27741, 226: CALL 27740: POKE 27741, 240: CALL 27740
20730 FOR yd = 1 TO 250: NEXT: POKE 27741, 255: CALL 27740
20740 cr = 7: GOTO 24000
20800 REM option keypress sound
20810 pb = 0: n1 = 128: n2 = 9: GOSUB 20200: n2 = 7: GOTO 20200
21000 REM do full up arrow
21010 hs = 14: hc = 3: vs = 4: vc = 3: co = 23: GOSUB 20100
21020 GOSUB 20300: co = 244: GOTO 20100
21100 REM do full right arrow
21110 hs = 17: hc = 3: vs = 7: vc = 3: co = 19: GOSUB 20100
21120 GOSUB 20600: co = 252: GOTO 20100
21200 REM do full down arrow
21210 hs = 14: hc = 3: vs = 10: vc = 3: co = 30: GOSUB 20100
21220 GOSUB 20400: co = 251: GOTO 20100
21300 REM do full left arrow
21310 hs = 11: hc = 3: vs = 7: vc = 3: co = 25: GOSUB 20100
21320 GOSUB 20500: co = 246: GOTO 20100
22000 REM display level/score
22010 HOME: HTAB 11: PRINT "LEVEL: "; lv: HTAB 11
22015 HTAB 11: PRINT "SCORE: "; sc
22020 VTAB 24: HTAB 5: PRINT "TAP <HOME> TO START...";
22030 POKE 64885, 0: rd = 0
22040 rd = rd+1: IF rd > 30000 THEN  rd = 0
22050 IF PEEK(64885) = 0 GOTO 22040
22060 IF PEEK(64885) <> 128 GOTO 22100
22070 rd = RND(-rd): RETURN
22100 IF PEEK(64885) = 27 THEN  GOSUB 20800: POP: GOTO 2000
22110 GOSUB 20700: POKE 64885, 0: GOTO 22040
23000 REM end program
23010 POKE 16953, 95: POKE 16134, 27: TEXT
23020 PRINT " END OF PROGRAM.": END
24000 REM base color change
24010 POKE 27751, cr: CALL 27750: RETURN
```

ADVANCED PROGRAMMING
by Solomon Swift

WE DO
HEREBY CONFER...

A NEW TRAINING TECHNIQUE

IN PERSPECTIVE:

Every single issue of *N&B* has had programming
instruction for the novice to intermediate level
machine code (assembly language) programmer;
this started with the "HACKER'S DELIGHT" section
which spanned most of the first issues. For the
last year or so we've had the ASSEMBLY TUTORIALS
with periodic PROGRESS REPORT tests. This issue
marks a new phase in our advanced programming
studies of ADAM.

For the next several months we're going to
construct an actual commercial package. We'll
go through every step of the process from PROGRAM
DESIGN LAYOUT to INDIVIDUAL MODULE ENCODING to
ASSEMBLY ROUTINE DESCRIPTIONS to CONCATENATING
IT ALL TOGETHER into one powerful, specific
application spreadsheet package rivaling simi-
lar programs on other systems costing $100 and
more.

A LOOK AHEAD:

This is, by far, my most extensive undertaking in
the newsletter. I hope that you find it to be
both educational and entertaining. You should
be able to take much of what you pick up here to
help you develop many other types programs of
your own creation. Additionally, we'll use a lot
of the central modules and Z80 routines in other
issue programs. This particular overall
package is entitled Swift Bookkeeping System;
we'll also do the Swift Personal Label Processor
and the Swift Business Inventory and Invoicing
Processor. By the way, Terry Fowler of ADAM'S
HOUSE has a very useful Invoicing/Inventory
program already available commercially entitled
INVOICER.

Swift Bookkeeping System:

"SBS" is a specialized spreadsheet program for
keeping records of expenses, records of income,
payroll records, and checking account records.
It is general enough to be used for personal
family records and detailed enough for the small
business doing up to about five million in gross
sales per annum.

It performs just about every conceivable aspect
of cross referencing between the four primary
fields of data entry. And it can do graphic
printouts, text data printouts, and tabular data
files for use in SmartWriter and SpeedyWRITE. It
automatically keeps up with daily, monthly, and
year-to-date figures.

The primary options of the package are:
CREATE/EDIT SYSTEM, ACCESS RECORDS, DISK MAN-
AGEMENT, CALENDAR FUNCTIONS, RESET MONTH, and
CLOSE SYSTEM. The first option lets you set the
categories for the INCOME field, set the
deductable and non-deductable categories for
expenses, and enter the base payroll data
(names, addresses, wage rates, SSN's, etc.). It
will handle up to 100 employees doing the math
for you. All you do is enter the tax deductions
and write a check. In the ACCESS RECORDS module
you can enter weekly payroll data, daily
expenses, daily / weekly income and cross
reference within and between these fields. DISK
MANAGEMENT lets you format, init, backup, copy
files, etc. CALENDAR FUNCTIONS lets you view and
print monthly calendars. You can use a dot
matrix printer or the standard ADAM daisy wheel.

Most of the program is run in hi-res mode and the
only additional system requirement is a memory
expander of any size. If you follow along with
the issue programs in entering the package,
you'll also need MegaDISK 1.0 or Walters
Software's RAMDSK program. Also, as a conven-
ience we're offering the completed SBS right now
for just $24.95. If you take this option, please
still follow along with the descriptions so that
you'll understand the programming in every phase
of the package development.

Z80SETUP

This month's portion primarily just involves
some typing on your part. This data patches
SmartBASIC with several enhancements and Z80
routines utilized by the program for various
functions that SmartBASIC is incapable of
performing. Next month we'll start studying
these Z80 routines, convert most of this program
to a Z80 data file, and introduce the central
module of BASIC subroutines which access the Z80
routines and add various professioanl user
interface enhancements. This central module
will be merged with each of the individual
programs.

PAGETOP

From time to time readers ask me a how the
newsletter is constructed. The program at the
bottom of page 22 does the page number headers in
N&B. You might want to use it in your manuscripts
and other documents for a nice professional
touch. It automatically increments the page
number so you can go through and number all the
pages in one session. Line # 100 contains the
personal data. "pg%" is the starting page
number; "na$" is the specific wording; and,
"dk%" is the darkness factor (a one is light,
five is rather dark).

```
  10 REM Swift Bookkeeping System (c) 1989 by Z-DELTA SwiftWARE
  20 REM Z80 setup/BASIC fixes program
  30 REM pgm name Z80SETUP (c) 1989 by Z-DELTA SwiftWARE
  40 REM The program is NOT public domain; violators will be prosecuted.
 100 LOMEM :27800: POKE 17215, 192: POKE 171, 201: TEXT: POKE 16134, 27
 110 PRINT " reading data..."
1000 REM set HGR window color
1010 DATA 1,0,0,33,0,0,62,0,50,24,0,197,6,8,175,133,16,253
1020 DATA 111,193,120,50,23,0,6,8
1030 DATA 175,129,16,253,79,58,23,0,71,58,24,0,89,22,0,197
1040 DATA 245,213,229,205,38,253,225,36,209,241,193,16,242,201
1050 FOR x = 18930 TO 18985: READ mc: POKE x, mc: NEXT
1100 REM clear HGR window
1110 DATA 1,0,0,33,0,0,245,197,6,8,175,133,16,253,111,193,124
1120 DATA 198,32,103,229,120,50,23,0,6,8,175,129,16,253,79,58,23,0,71,89
1130 DATA 22,0,197,213,229,175,205,38,253,225,36,209,193,16,243,241,201
1140 FOR x = 18990 TO 19043: READ mc: POKE x, mc: NEXT
1200 REM base Z80 sound routine
1210 DATA 62,0,211,224,201
1220 FOR x = 27740 TO 27744: READ mc: POKE x, mc: NEXT
1300 REM HW font math                                    N O E L
1310 DATA 58,1,0,135,135,135,95,58,2,0,198,32,87,201
1320 FOR x = 18740 TO 18753: READ mc: POKE x, mc: NEXT
1400 REM print HW font string
1410 DATA 33,180,0,126,254,3,200,229,33,0,221,22,0,214,32,95,6,8
1420 DATA 25,16,253,17,4,0,1,8,0,237,176,58,3,0,203,71,32,14
1430 DATA 33,4,0,1,8,0,205,52,73,205,26,253,24,56,205,52,73,33
1440 DATA 12,0,1,8,0,205,29,253,33,12,0,17,4,0,6,8,26,203
1450 DATA 63,203,63,203,63,203,63,134,119,28,44,16,241,33,12,0,205,52
1460 DATA 73,1,8,0,205,26,253,237,91,1,0,19,237,83,1,0,33,3
1470 DATA 0,52,225,35,24,145,17,0,44,33,0,212,1,0,8,229,205,29
1480 DATA 253,225,17,0,45,1,0,7,229,205,26,253,225,17,0,32,1,0
1490 DATA 12,229,205,29,253,225,17,0,33,1,0,12,205,26,253,175,17,0
1500 DATA 1,33,0,32,205,38,253,201
1510 FOR x = 18760 TO 18929: READ mc: POKE x, mc: NEXT
1600 REM base sound routine
1610 DATA 62,0,211,224,201
1620 FOR x = 19050 TO 19054: READ mc: POKE x, mc: NEXT
1700 REM block read/write
1710 DATA 62,0,1,0,0,17,0,0,33,0,0,205,243,252,50,0,0,201
1720 FOR x = 19060 TO 19077: READ mc: POKE x, mc: NEXT
1800 REM background color
1810 DATA 1,0,7,205,32,253,201
1820 FOR x = 19080 TO 19086: READ mc: POKE x, mc: NEXT
1900 REM move block of RAM
1910 DATA 33,0,0,17,0,0,1,0,0,237,176,201
1920 FOR x = 19090 TO 19101: READ mc: POKE x, mc: NEXT
2000 REM fill section of RAM
2010 DATA 33,0,0,17,0,0,6,0,112,35,27,122,179,32,249,201
2020 FOR x = 19110 TO 19125: READ mc: POKE x, mc: NEXT
2100 REM base drive check
2110 DATA 58,251,255,205,126,252,254,1,200,254,155,32,3,62,4,201
2120 DATA 58,251,255,205,228,252,245,58,251,255,254,24,32,11
2130 DATA 241,203,63,203,63,203,63,203,63,24,3,241,230,15
2140 DATA 254,2,200,254,3,200,254,0,200,62,1,201
2150 FOR x = 19130 TO 19185: READ mc: POKE x, mc: NEXT
```
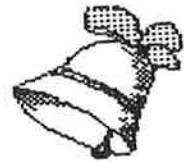
Z80SETUP LIST CONTINUED ...

```
2200 REM execute drive check
2210 DATA 62,0,50,251,255,205,186,74,50,0,0,201
2220 FOR x = 19190 TO 19201: READ mc: POKE x, mc: NEXT
2300 REM init/reset sprites
2310 DATA 62,200,17,128,0,33,0,31,205,38,253,1,62,5,205,32,253
2320 DATA 1,7,6,205,32,253,33,0,216,17,0,56,1,0,4,205,26,253
2330 DATA 1,226,1,205,32,253,201
2340 FOR x = 19210 TO 19251: READ mc: POKE x, mc: NEXT
2400 REM move a sprite
2410 DATA 33,0,0,17,0,0,34,0,212,237,83,2,212,123,61,135,135,50,2,212
2420 DATA 79,6,0,33,0,31,9,93,84,33,0,212,1,4,0,205,26,253,201
2430 FOR x = 19260 TO 19298: READ mc: POKE x, mc: NEXT
2500 REM scroll window up/down
2510 DATA 62,0,245,1,0,0,33,0,216,30,0,87,229,213,197,205,29,253
2520 DATA 193,209,225,21,229,213,197,205,26,253,193,209,225,122
2530 DATA 198,33,87,229,213,197,205,29,253,193,209,225,21,205,26,253
2540 DATA 241,60,254,0,32,204,201
2550 FOR x = 27600 TO 27654: READ mc: POKE x, mc: NEXT
2600 REM scroll one line left/right
2610 DATA 33,0,216,6,255,229,197,119,35,16,252,193,225,36,119,35,16,252
2620 DATA 30,0,33,0,216,1,0,0,213,205,29,253
2630 DATA 209,33,8,216,1,0,0,205,26,253,201
2640 FOR x = 27660 TO 27700: READ mc: POKE x, mc: NEXT
2700 REM scroll window left/right
2710 DATA 62,0,245,87,62,0,205,12,108,241,245,198,32,87,175
2720 DATA 205,12,108,241,60,254,20,32,234,201
2730 FOR x = 27710 TO 27734: READ mc: POKE x, mc: NEXT
2800 REM create a file
2810 DATA 62,0,33,180,0,17,0,0,1,0,0,205,201,252,50,0,0,201
2820 FOR x = 18640 TO 18657: READ mc: POKE x, mc: NEXT
2900 REM find a file
2910 DATA 62,0,17,180,0,33,160,253,205,204,252,50,0,0,201
2920 FOR x = 18660 TO 18674: READ mc: POKE x, mc: NEXT
3000 REM update a file
3010 DATA 62,0,17,180,0,33,160,253,205,207,252,50,0,0,201
3020 FOR x = 18680 TO 18694: READ mc: POKE x, mc: NEXT
3100 REM read EVE/OBS clock time/date
3110 DATA 33,0,212,6,0,62,145,211,75,62,16,211,74
3120 DATA 17,12,0,27,122,179,32,251,62,48,211,74
3130 DATA 120,211,73,0,0,219,72,230,15,119,35,4
3140 DATA 62,13,184,32,235,62,128,211,74,201
3150 FOR x = 27740 TO 27786: READ mc: POKE x, mc: NEXT
4010 POKE 16149, 255: POKE 16150, 255
4020 POKE 19459, 34: POKE 19460, 249
4030 DATA 16601,63817,19585
4040 FOR x = 1 TO 3: READ adr: POKE adr, 35: POKE adr+1, 249: NEXT
4050 DATA 16604,19558,19563,19576,19595
4060 FOR x = 1 TO 5: READ adr: POKE adr, 73: POKE adr+1, 249: NEXT
4070 POKE 19566, 72: POKE 19567, 249: POKE 21019, 11
4100 REM DATA/REM space bump fix
4110 POKE 15830, 8: POKE 15831, 55: POKE 15832, 19: POKE 15824, 216
4200 REM correct HCOLOR translation
4210 POKE 18728, 121: POKE 18729, 0: POKE 18730, 0
```

Z80SETUP LIST CONTINUED ...

```
4300 REM PR#3/PR#4
4310 DATA 245,219,64,203,71,40,250,241,211,64,201
4320 DATA 205,11,47,205,78,4,254,13,192,62,10,24,2
4330 DATA 62,0,195,78,4
4340 FOR x = 0 TO 28: READ mc: POKE x+1102, mc: NEXT
4350 POKE 16219, 89: POKE 16220, 4: POKE 16221, 92: POKE 16222, 4
4400 REM PR#2
4410 DATA 245,62,201,50,11,47,241,205,234,46,245,62,245,50,11,47,241,201
4420 FOR x = 18500 TO 18517: READ mc: POKE x, mc: NEXT
4430 POKE 16217, 68: POKE 16218, 72
4500 REM line length
4510 POKE 12185, 240
4600 REM 30/40 column TEXT
4605 DATA 17985,18036,18098,18162,18174,18188,18210,18234,18401,18410,18427
4610 FOR x = 1 TO 11: READ adr: POKE adr, 131: POKE adr+1, 45: NEXT
4620 POKE 17166, 192: POKE 17177, 192: POKE 17059, PEEK(17115)
4630 DATA 41,197,229,41,41,193,58,112,66,183,32,1,9,193,201
4640 FOR x = 0 TO 14: READ mc: POKE x+11692, mc: NEXT
4650 DATA 245,229,62,30,50,47,67,62,224,50,63,67,62,32,50,68,70
4660 DATA 62,41,50,96,71,33,41,41,34,97,71,225,241,195,57,43
4670 FOR x = 0 TO 32: READ mc: POKE x+11707, mc: NEXT
4680 DATA 245,229,62,39,50,47,67,62,240,50,63,67,62,40,50,68,70
4690 DATA 62,205,50,96,71,33,172,45,34,97,71,225,241,195,57,43
4700 FOR x = 0 TO 32: READ mc: POKE x+11740, mc: NEXT
4800 REM underscore inverse fonts
4810 DATA 1,128,0,17,1,0,33,255,3,175,185,200
4820 DATA 13,197,1,8,0,9,193,62,255,197,213,229
4830 DATA 205,38,253,225,209,193,24,233
4840 FOR x = 18520 TO 18551: READ mc: POKE x, mc: NEXT
4900 REM GOTO/GOSUB formula substitution option
4910 DATA 0,0,0,205,3,39,77,68
4920 FOR x = 8342 TO 8349: READ mc: POKE x, mc
4930 POKE x+95, mc: NEXT
4940 POKE 277, 231: POKE 286, 231
5000 REM relative RESTORE (to line number) with formula substitution option
5010 DATA 205,3,39,77,68
5020 FOR x = 0 TO 4: READ mc: POKE x+1056, mc: NEXT
5030 DATA 237,67,79,63,205,240,48,210,184
5035 FOR x = 0 TO 8: READ mc: POKE x+1061, mc: NEXT
5040 DATA 32,34,245,62,175,50,249,62,201
5050 FOR x = 1070 TO 1078: READ mc: POKE x, mc: NEXT
5060 POKE 533, 231
5070 POKE 6421+2*34, 32: POKE 6422+2*34, 4
5100 REM true INVERSE fonts (good for 40 column TEXT)
5110 DATA 17,0,4,33,0,216,1,0,4,205,29,253
5120 DATA 33,0,216,17,0,4,126,47,119,35,27,122,179,32,246
5130 DATA 17,0,4,33,0,216,1,0,4,205,26,253,201
5140 FOR x = 18560 TO 18599: READ mc: POKE x, mc: NEXT
5200 REM patch NMI driver for use in HGR mode
5210 DATA 245,58,112,66,183,40,5,197,205,35,253,193,241,205,171,0,241,237,69
5220 FOR x = 18600 TO 18618: READ mc: POKE x, mc: NEXT
5230 POKE 120, 195: POKE 121, 168: POKE 122, 72
5240 POKE 17215, 226
```

Z8ØSETUP LIST CONTINUED ...

```
5300 REM NMI routine extension
5310 DATA 195,188,72
5320 FOR x = 172 TO 174: READ mc: POKE x, mc: NEXT
5400 REM RND generator fix
5410 DATA 229,42,64,63,35,34,64,63,225,201
5420 FOR x = 18620 TO 18629: READ mc: POKE x, mc: NEXT
5430 POKE 171, 0: POKE 11907, 201
5500 REM start NMI for HGR mode
5510 DATA 1,226,1,205,32,253,205,35,253,201
5520 FOR x = 18630 TO 18639: READ mc: POKE x, mc: NEXT
5600 REM disable COLOR,GR,HLIN,VLIN, and PLOT
5610 DATA 610,631,639,656,742
5620 FOR x = 1 TO 5: READ ad: POKE ad, 255: NEXT
5700 REM change cursor to a block
5710 FOR x = 17226 TO 17232: POKE x, 252: NEXT
5720 POKE 17233, 0: POKE 17144, 2
6000 REM data check
6010 tt = 0: FOR x = 18492 TO 19303: tt = tt+PEEK(x): NEXT
6020 IF tt <> 78121 GOTO 6040
6030 HOME: PRINT " DATA total correct.": END
6040 PRINT " INCORRECT DATA total.": PRINT
6050 PRINT " COMPARE YOUR LIST...": END
```
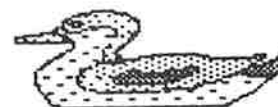
PAGETOP LIST...

```
 10 REM "PAGETOP" for a dot matrix printer.
 20 REM A public domain donation by Z-DELTA SwiftWARE.
 30 REM Program by Solomon Swift.
100 pg% = 2: na$ = "NOV 89 N&B": dk% = 3
200 REM PR#2/PR#3 command patch
210 DATA 245,219,64,203,71,40,250,241,211,64,201
220 DATA 205,11,47,205,78,4,254,13,192,62,10,24,2
230 DATA 62,0,195,78,4
240 FOR x = 0 TO 28: READ mc: POKE x+1102, mc: NEXT
250 POKE 16217, 89: POKE 16218, 4: REM make PR#2
260 POKE 16219, 92: POKE 16220, 4: REM make pr#3
300 REM print the text
310 sp% = 64-LEN(na$): IF pg% > 9 THEN  sp% = sp%-1
320 HOME: PRINT " printing..."
330 PR #3: PRINT CHR$(27); "n";
340 PRINT SPC(5); na$; SPC(sp%); "PAGE"; SPC(1); pg%
400 REM print the line
410 FOR y = 1 TO dk%
420 PR #3: PRINT CHR$(27); "^"; CHR$(3); CHR$(128); CHR$(7);
430 FOR x = 1 TO 1920: PRINT CHR$(156); CHR$(128); : NEXT
440 POKE 1127, 13: CALL 1126: NEXT: PRINT: PR #0
500 REM again
510 HOME: PRINT " AGAIN with page INCREMENT?"
520 GET k$: IF k$ = "y" OR k$ = "Y" THEN  pg% = pg%+1: GOTO 300
530 HOME: LIST 100: END
```

PRODUCT REVIEWS

I'M SOL...
HE'S TONY

HELCOME
TO THE N ‡ B
REVIEWS!
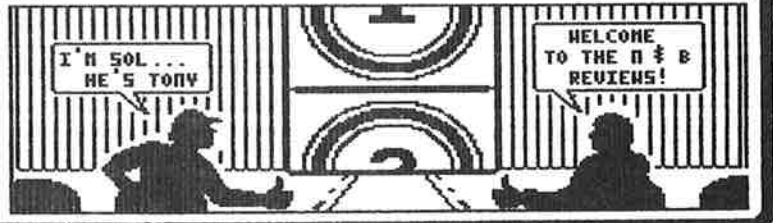
ADAMLink III+
by Tom Clary

REVIEWED by TONY PATTERSON

The first modem that most of us bought was the internal ADAMLink 300 baud modem. It was fine for starters, AND came with an easy to use modem terminal program called ADAMLink I. It has options to enter the number to dial, to disconnect the modem from the phone lines, to answer (put the modem on-line for computer to computer hookup) and to re-dial the last number dialed. You can select Full or Half Duplex; Odd, Even, or No parity; 1, $1^1/_2$, or 2 Stop Bits; Character Format of 5, 6, 7 or 8 Data Bits and the ability to turn on or off all of these functions - Auto Line Feed, Character Filter, Auto Redial, and Word Wrap. It is easy to use but has no way to up load or down load files.

Coleco to the rescue (?) with ADAMLink II. This version had the file transfer capabilities that ADAMLink I lacked, but only an ASCII capture was available and it was never for sale. It was donated to the PD and kept us happy for a while. The only problem was that there were no checks on the data as it came in. Any phone line noise could cause some MAJOR problems with the file transfer. Coleco had flown the coop and the ADAM community had no one to turn to in this hour of need...

Tom Clary to the rescue! He took this very easy to use program that lacked many of the features of some of the better modem programs and began to work his magic upon it. First he added X-Modem file transfers. This method checks the data as it is received to see if what was sent is accurate, if not it is sent again. This version was released as ADAMLink III. It was the best ADAMLink yet! But it could only be used with the internal ADAMLink 300 baud modem, was not compatible with the 80 column video that was becoming popular, and could only be used with the standard ADAM printer. As ADAM owners began expanding their systems and upgrading to 1200 and 2400 baud external modems they could no longer use their old favorite ADAMLink.

Tom Clary to the rescue AGAIN! The newest is called ADAMLink III+. It has all of the features of its predecessors PLUS (+) it now lets you select either the ADAM Smartwriter printer OR a parallel printer thru an OrphanWare compatible parallel interface. You can select the standard ADAM screen OR an external serial terminal such as the OrphanWare 80 column unit... OR BOTH! Modem selection can be either the ADAMLink internal 300 baud modem OR an external HAYES compatible modem connected via an Orphanware RS-232 or equivalent interface at up to 2400 baud! The Port and Baud rate can be set from the select options key, and you can save all of these selections for AUTOMATIC retrieval upon booting the program. So the next time you use the program your selections will be the same as the last time that you set them up.

Tom Clary has really outdone himself and Coleco this time around! Very few features could be added to make this program any better. A phone library and on-line RLE viewer would be a nice addition. Maybe ADAMLink IV will be the answer to that one; but until then, I believe that this is the best modem terminal program available for the ADAM.

ADAMLink III+ is available from most ADAM vendors including The SoftWORKS Factory. A modem is required for use.

SCHOOL DAZE
by WIZARD'S LAIR

REVIEWED by CAROL TAPIA

Another GREAT educational package from Wizard's Lair. I sure hope they continue to develop more software of this quality. SCHOOL DAZE is a math skills program. You can choose between MATH DRILLS and MATH CLIMBER.

MATH DRILLS gives you the choice of practicing Addition, Subtraction, Multiplication, or Division tables. This drill is fully documented on disk and can be read on screen by selecting "Instructions" on the main menu. Smart keys are used extensively in this program, making it very easy to use. After choosing the type of drill you wish to practice, you choose which math table you wish to work with (from 0 to 12). To move between math tables you press Smart Key I to increase, Smart Key II to decrease, or Smart Key III to accept current math table. Next, you can choose your text screen color by pressing the appropriate Smart Key. The drill screen is divided into four areas. On the left are happy and sad faces which react in response to the answers you enter. In the middle of the screen are the four math signs. The math table you chose to work with will be displayed on the left side of the math sign (+,-,*, or /) that you selected. On the right side will be the number (0 to 12) that you must add, subtract, etc, to the current math table number. On the right of the screen is information, such as how to quit. Below these sections is the scoring area. It will be necessary to explain the younger children how to skip division and fraction problems and how to type the negative numbers sometimes needed in the subtraction problems.

These drills are attractive and very well done. They are not anywhere as difficult as the instructions sound. They are just what my oldest son needs to practice on for fourth grade. My preschooler and first grader have had a lot of fun with the addition and have had some success with the subtraction.

MATH CLIMBER is the entertaining part of the program. It is by far the most popular around my house. It is also documented in the "Instruction" selection on the main menu. The graphics are great. The player must correctly answer math problems to climb the ladder up the castle wall. It takes 16 steps to climb the wall. For every correct answer, you move up one step. For each incorrect answer you move down one step. After five incorrect answers, the game is over.

As in MATH DRILLS, you can choose the text screen color. You can also skip division or quit as in Drills. If you quit, you can select the appropriate Smart Key to reload the main menu, continue the game from where you are, or restart the game. At the bottom of the screen is the tally of the high score, your score, number right, number wrong, and percentage correct. The sound effects and music used in the program enhance it as do the the colors, sprites, and graphics.

Also included on the disk and accessible from the main menu is a database of ADAM support. This can be viewed on screen or printed out. It is an extensive list of Adam companies and User Groups including their addresses and phone numbers.

I feel this is a must-buy program as it has something for everyone. Even I really enjoyed climbing the castle wall. Thanks Wizard's Lair for another superbly done educational package. SCHOOL DAZE is available from most ADAM vendors including The SoftWORKS Factory; no special equipment is required.

Smart Letters & Forms

by Coleco Industries

REVIEWED by Rick Lefko

This month I'd like to continue my reviews of original COLECO software. Smart Letters & Forms (SL&F) was one of the very first software packages put out by Coleco for the ADAM. I used SL&F quite extensively when I first bought my ADAM.

SL&F consists of over 100 letter and list forms. There are four major categories; these are: Social Directory, Business Directory, Check List Directory, and Miscellaneous Directory. Within each of these directories are several sub-directories containing the actual letter forms. For example, under Social Directory there are nine sub-directories such as: Invitation, Thank You, Announcement, etc. Invitation has forms such as: Formal, Dinner, Graduation, Bridal Shower, etc.

SL&F is entirely SmartKEY driven, so it is very easy to use. After loading your DDP and pulling the reset (SL&F can be converted to two 160K disks or one 320K disk by many user groups) you are greeted by a rather nice little tune as the main program loads. Once this is accomplished you will see the main screen with the four major categories as SmartKEYs. Pressing, say, Personal Business (SK3), takes you to another screen with all of the forms in this category listed. From here you can scroll down the list to find the one you want; then by pressing "GET" (SK5), it will be loaded.

The letter or form you called up is now displayed in "Moving Window" format; at this point you can scroll through the entire letter or begin to insert your own information (your name, date, address or whatever other personal information you would put into a letter is blank). To fill in these blanks you simply press the TAB key and the cursor will appear at the next blank prompting you for the appropriate information.

SL&F uses all of the SmartWriter keys and commands you're so familiar with. It even offers a special text centering command for invitations!

You can change or edit any part of the letter or form you'd like to. You can save it to any drive, call it up in SmartWriter for more editing, or even call the form into the SmartFILER or ADDRESSBOOK & AUTO DIALER programs (not included) to be combined with a database for a mail-merge function! I've done this and it DOES work! With the aid of FastPatch or other printer patch programs you can also send printer output to your Dot Matrix printer.

SL&F is a truly unique program that will ALWAYS be useful. Even if you outgrow it, it's a GREAT program for young adults to learn how to type letters properly.

Right now SL&F is part of a large number of products offered by American Design Components Fairview NJ, 800-524-0809, called the "ADAM SOFTWARE SET" which also includes EXPERTYPE, RECIPE FILER, and ZAXXON, all for just $29.95!

SL&F is also available from most ADAM vendors including The SoftWORKS Factory. The program requires no special equipment.

POWERTOOLS
by *EyeZod Graphics*

REVIEWED by TONY PATTERSON

The much awaited new title by EyeZod Graphics finally arrived in my mailbox. As I ripped open the package I quickly noticed that there was no power cord connected to the disk. So I popped it into the drive and pulled reset, nothing happened ... if at first you don't succeed, try the manual! Leafing through the 20 page manual, I soon understood why I was having no luck thus far. POWER-TOOLS is an assortment of PowerPAINT 10K files, Clip art files, Sprite sets, Font sets and Paint Brushes for use with PowerPAINT. In fact the medium contains OVER 90 FILES!!

There are two PowerPAINT files that will be very useful to beginning artists, these are layout grids drawn in the background. This should make copying from paper much easier, just draw a grid on the paper picture and draw the contents of each square on the screen. There is also a screen with a Christmas tree on it, ready to be decorated.

There are two new font sets in two different sizes. Two of the sets are regular font sets and two are Sprite sets (for the larger size). Another font set is included called Detail.fnt that is not really a font set at all, it is a set of different designs that can be used to make all sorts of patterns, borders and shades.
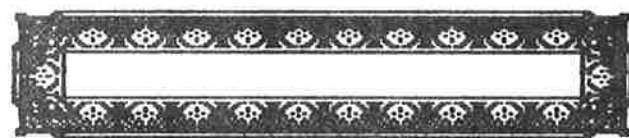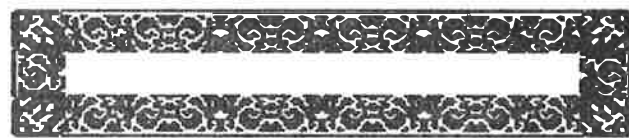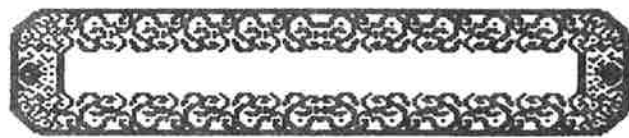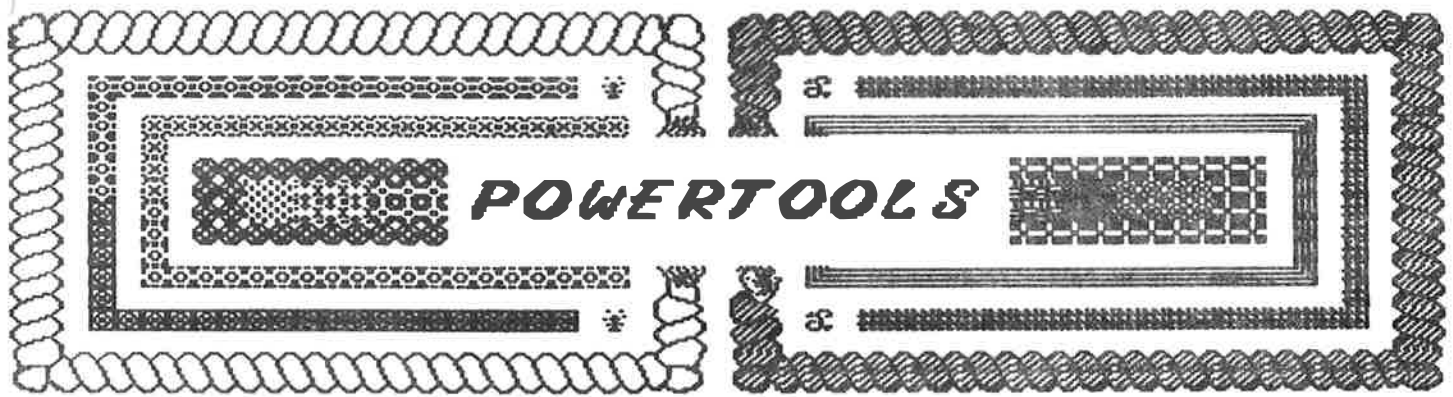
There is set of sprites that are Old English fonts with scrollwork pieces that can be used to make a border. Others can be used to make very detailed frames, borders and headers. Shadowbox sprites will give you a 3-dimensional look, Ribbon and Streamer sprites let you get fancy "folded ribbon" designs. Sprite sets for Arrows, Hollow boxes, Banners (larger ribbons), Parquet (looks like parquet tile), Gingham (looks like quilting fabric), and Footprints (yes little footprints to scatter about your page). There is one called Ornament that can be used to decorate the Christmas tree mentioned above and one that looks just like rope, in two different textures!

There are 55 clips files, 39 of these are called "Gothem" Clips and consist of LARGE capital letters, numbers and punctuation. These are Headline size letters for special emphasis. The other clips are mostly examples of what can be done with POWERTOOLS. There are several clips of birds that are of excellent quality.
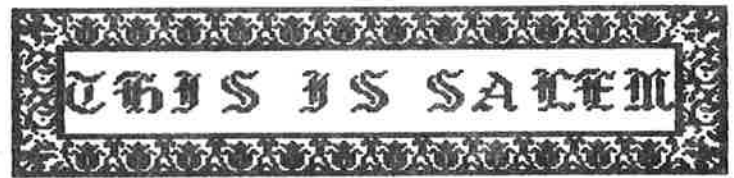
All of this so far is GREAT and thedesign possibilities are endless, but the REAL power of POWERTOOLS is in the paintbrush files. Remember that paint brushes CAN be moved one pixel at a time and OVERLAY any other graphics on the screen. The brushes that are built into PowerPAINT do not seem very flexible, mostly because they are so large. They fill the entire 16 X 16 pixel matrix. No matter what you do with them, you will end up with squarish corners. The brushes on the POWERTOOLS medium are much more versatile because they consist of many different sizes and shapes. There are even TWO different matrix sizes. Besides the 16 pixel matrix you now have access to an 8 pixel matrix that allows for up to 50 brushes per set! None of the brushes fill the matrix, so the square corners are gone.

There are brushes for making trees, leaves, bushes, wreaths, garlands, Christmas tree ornaments, and birds in flight. Of the ten sets of brushes, the three called Airbrush are the most versatile. Most of these brushes are the same shapes as the Detail font set. The difference is that these shapes can be moved one pixel at a time and can OVERLAY themselves and other graphics. The most POWERFUL set of brushes on the POWERTOOLS medium are called the Speedball brushes. This set of simple shapes can actually be used just like a real paint brush. The shapes themselves do not look like much; but, when you set the pixel increment to one and start drawing with them you will soon see why these are my favorite. You can easily draw "neon" looking letters and calligraphic effects just by changing brushes. For people that are not familiar with paint brushes this may sound complicated, it is not. Quite the contrary, using a paint brush is extremely easy!

This has got to be the most useful package ever designed for use with PowerPAINT. The design possibilities are limited ONLY by your own imagination. This package is a MUST HAVE for every serious graphics artist or for anyone who wants to get serious. POWERTOOLS is available from most ADAM mail order vendors including The SoftWORKS Factory. PowerPAINT is required.

POWERTOOLS

THIS IS SALEM

RIOGRANDE sprites
delRio fonts ▭ □ birds
TORONTO sprites
PHILLY fonts

BIG
FONT
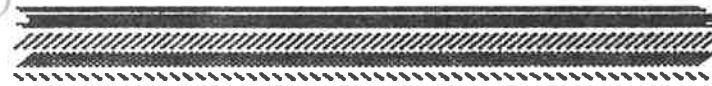
SPEEd
baII!

ADAM BOMB

by Pitman Software

REVIEWED by SOLOMON SWIFT

Steve Pitman of Pitman Software is really making a good name for himself;
first he brought us MIND OVER ADAM, GHOST ZAPPER, and then DINOSAUR DIG (a true
favorite for younger ADAMites). Each one showed just how fast this college
student majoring in Computer Programming was learning about high quality
encoding on our system. Now he has brought ADAM BOMB to us ... another fine
example his talents ... a game that you'll, no doubt, enjoy for months and
years to come.

There are 30 (yes, THIRTY) game screens. The object is to collect 30 diamonds
in each of the 30 screens. There are also numerous objects and obstacles on
each screen. When a screen is first presented the objects, obstacles, and the
diamonds are obscured. As you maneuver your "man" around the screen these
items are revealed.

When you collect the thirty diamonds you advance to the next, more difficult
screen. Some of these are rather challenging as you can trap yourself inside a
wall with no object (bomb, key, etc.) to gain your escape. In such an event,
you lose a man -- you have five to start with.

You can easily play for several hours without even realizing the time. ADAM
BOMB is the name; FUN is the game. And, what's more ... if you can manage to
progress through all thirty screens, you'll be ready to design your very own
game screens on a separate disk (up to 30 screens). Steve thought of
everything ... great graphics, good sound effects, challenging game play, and
when you make   it   through   you   can   build   your   own   game!!!

You can play the preset game, design a game, play your own game, or read the
on-line instructions. ADAM BOMB is another excellent game from Pitman
Software. With colorful, animated graphics and strategic game play you'll
have hours of fun. The multiple game screens and user game design option
simply make it a DESTINED CLASSIC of ADAM games!!!

ADAM BOMB is available from most ADAM vendors including The SoftWORKS
FACTORY. The only special equipment required is a memory expander of any
size.

ADAM BOMB
30 EXPLOSIVE SCREENS! 64k+ Required

REVIEW SYNOPSIS
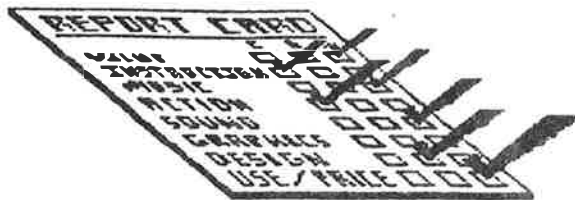
ADAMLink III+
by Tom Clary

GRAPHICS:	98
SOUND:	85
INSTRUCTIONS:	82
EASE of USE:	99
PRICE:	$19.95
VALUE:	99

REVIEWED by TONY PATTERSON

"Tom Clary has really outdone himself and Coleco this time around! ...all of the features of its predecessors PLUS (+)... I believe that this is the best modem program for the ADAM."

SCHOOL DAZE
by Wizards Lair

GRAPHICS:	95
SOUND:	90
INSTRUCTIONS:	90
EASE of USE:	98
PRICE:	$16.95
VALUE:	93

REVIEWED by CAROL TAPIA

"I feel this is a must - buy program as it has something for everyone. Even I really enjoyed climbing the castle wall. Thanks Wizards Lair for another superb educational package."

Smart Letters & Forms
by Coleco Industries

GRAPHICS:	95
SOUND:	90
INSTRUCTIONS:	95
EASE of USE:	96
PRICE:	$9.95
VALUE:	95

REVIEWED by RICK LEFKO

"SL&F is a truly unique program that will always be useful. Even if you outgrow it, it's a GREAT program for young adults to learn how to type letters properly."

POWERTOOLS
by EyeZod Graphics

GRAPHICS:	99
SOUND:	n/a
INSTRUCTIONS:	95
EASE of USE:	98
PRICE:	$12.95
VALUE:	98

REVIEWED by TONY PATTERSON

"This has got to be the most useful package EVER designed for use with PowerPAINT. This package is a MUST HAVE for every serious graphics artist OR for anyone who wants to get serious"

ADAM BOMB
by Pitman Software

GRAPHICS:	97
SOUND:	91
INSTRUCTIONS:	90
EASE of USE:	94
PRICE:	$19.95
VALUE:	96

REVIEWED by SOLOMON SWIFT

"ADAM BOMB is another excellent game for ADAM from Steve Pitman. ... with colorful, animated graphics and strategic game play. The multiple game screens just make it that much more fun."

PRODUCT CATALOG

COMPUTER SOFTWARE

AJM SOFTWARE

DISK DOCTOR   9.95
Useful program for reconstructing a damaged directory. Accurately reveals data type in each block.

File Indexer   9.95
Great utility for organizing disk and ddp directories.

File Manager 2.1   14.95
The multi-featured hacker's utility for the ADAM. Written entirely in fast Z80 machine code, File Manager works with 160K, 320K, and 720K disk drives. Backup media, copy files, edit blocks, print files, and much more. Uses any size memory expander as a copy buffer; not required though.

AtariSOFT

Centipede   10.95
The still popular arcade game in which you shoot away segments of an oncoming centipede; available in cartridge ONLY. One or two players.

Defender   10.95
The action packed arcade game in which you shoot attacking alien ships and attempt to save inhabitants of the planet below. Available on cartridge PLUS disk or data pack. One or two players.

Allied Creative Engineers

StratoZAP   16.95
Blast away space debris falling through your home planet's rarefied atmosphere. Fast, tricky action; bonus rounds. One or two players. Hall of Fame.

BRYAN'S SOFTWARE

CARD SET   11.95
Three greeting card graphics in PowerPAINT format plus clip art and sprite fonts for use in PowerPAINT. Three volumes: I, II, and III (please specify which volume). Or, get all three volumes for just $24.95.

Coleco Industries

ADAMcalc   14.95
The advanced electronic spreadsheet for ADAM. Comes with sample templates and a 154 page manual.

Best of Broderbund   9.95
Two fast action games on one tape: futuristic space warrior and a helicopter rescue mission.

Recipe Filer   7.95
File recipies by name, type of meal and main ingredient. ADAM will even print a grocery list for you; database is in SmartFILER format.

Richard Scarry's Word Book   10.95
Fun to play educational game for kids ages 4 to 8. Great reading skills builder. Colorful animated graphics; four skill levels.

SmartFILER   9.95
Coleco's general purpose database program -- easy electronic filing system. Includes search and sort features; comes with 38 page manual.

SmartLETTERS & FORMS   9.95
Includes samples for business, personal, and social letters; 154 page manual.

SmartLOGO   15.95
Coleco's version of the still popular structured language. Good for graphics and sound control; comes with a 350 page manual.

Super ZAXXON   5.95
Coleco's version of the still popular fast-action, 3-D arcade game.

DATA DOCTOR

QuikFax Quest   9.95
Three academic quizzes. Includes study mode (on-screen and hardcopy); US capitals, world capitals, and chemistry elements.

SmartBEST   9.95
Makes several changes to BASIC 1.0. Not compatible with Intel-BEST 3.3.

SmartTRIX   14.95
A set of 10 useful programming aides. Two nice sprite programs. 60 page manual. Disk and DDP versions not compatible.

Strategy Strain   9.95
Nine intellectually challenging computer classics; graphics and sound; good Star Trek adventure.

DIGITAL ADVENTURES

Temple of the Snow Dragon   24.95
The highly acclaimed graphic adventure that everyone is talking about. The first adventure in the DALARK trilogy. Excellent graphics (for each room); good sound effects. Easy to play; extremely challenging to win. Single player. Disk and DDP version not compatible.

DIGITAL EXPRESS

Beyond Trek   14.95
Pits you against hostile klingons. Good graphics and sound. Protect four starbases and annihilate the klingons. You command the Enterprise. Hall of Fame. Requires at least a 64K memory expander.

Chess Champ   14.95
The first graphic chess game for the ADAM. Great graphics; easy user interface; 10 skill levels. A little slow on the higher levels. Take back last move; edit board; on-line instructional; store/load up to 52 games. Requires at least a 64K memory expander.

CLIPPER   14.95
Introduces the concept of 'clip art' to ADAM. Totally machine code program. Build clip art collections. Put clip-art in your hi-res pictures; draw and edit clip art. Also captures clip art from hi-res pictures. Enter text; change colors. Comes with an 11K RAMdrive (does NOT requires 64K expander). CLIPPER clip art can be used with PowerPAINT, The PRINT WORKS, The LABEL WORKS, and GoWRITER.

FontPOWER   14.95
Utility using Coleco-like graphics for designing your own font sets. Comes with 8 font sets. Shows you how to use the font sets in high or low resolution graphics. Also comes with three font shape tables for HGR and HGR2 modes. Fonts can also be used in your own BASIC 1.0, BASIC 2.0, and Z80 programs.

GAME   11.95
Three volumes of songs with accompanying full-screen graphics. Good entertainment; shows off the music and graphics capabilities of the ADAM. Great for recording as video tape headers too. Three volumes (14 songs and pictures each); specify which volume (I, II, or III).

Intel-BEST 3.3   17.95
Makes over three dozen changes to BASIC 1.0. Comes with nine very user friendly MUSIC commands. Demos; plus it fixes several bugs in BASIC.

Intel-LOAD V1.0   11.95
Converts BASIC 1.0 programs to load up to 12 times faster; stays in RAM; two BSAVE options.

Intel-LOAD V2.0   11.95
Converts BASIC 2.0 programs to load up to 12 times faster; stays in RAM; two BSAVE options -- in STDMEM only.

MegaDISK   19.95
Creates the RAMdisk ability for BASIC 1.0 for your own Z80 programs. Works with 64K, 128K, 256K, 512K and 1024K OrphanWARE compatible memory expanders. Automatically checks for XRAM size. Comes with five useful PD programs including EZfileXFER. Much, much faster than a Coleco disk drive. Self-booting or can be BRUN after BASIC is loaded.

PaintAIDE   16.95
Allows you to customize some aspects of PowerPAINT including the ability to preset the SPECIAL typefaces. Plus it comes with over THREE DOZEN font files which really brings out the page design features of PowerPAINT. Also includes BASIC programs too.

PowerPAINT   29.95
80K machine code graphics processor for the ADAM. The most extensive graphics design program EVER written for the system. Uses Coleco-like graphics. A large variety of file storage and retrieval options (directly loads PaintMASTER, SmartPAINT, GraphixPAINTER, SmartLOGO, and RLE pictures). Quick global color changes (background or foreground). Move, copy, and erase options. Many hardcopy print options (screen, labels, letterheads, and whole page pictures). Screen scroll options; four screen pictures with a 64K card (eight with a 256K or 512K card). Uses FontPOWERfont sets, SpritePOWER sprites (for stamping onscreen), and CLIPPER clip art. Requires at least a 64K card; printing requires a Centronics parallel interfaced Epson FX or IBM 5151 compatible printer. Fully compatible with SmartPAINT. You can easily UNDO changes. Internationally acclaimed as "THE graphics design program for the ADAM".

ShowOFF I   18.95
Graphics design package (enter text, draw polygons, paint, save picturecs, etc.). Fast color changes and a variety of print options. High and Low resolution drawing programs. Printing graphics requires a Centronics parallel interface and an Epson compatible dot matrix printer.

ShowOFF II   14.95
Machine code print enhancement to SmartWriter; adds 32 print controls and 5 CONTROL functions to both SmartWriter and SmartBASIC. Requires a Centronics parallel interface, a 64K memory expander, and a Panasonic KXP-1080 or KXP-1080i printer.

ShowOFF IIa   14.95
Very similar to ShowOFF II except that it is compatible with any dot matrix printer that supports Epson FX escape codes (works with Epson, Star, and the Okimate 20). Does not include the line justification commands or internal document margin control. Requires at least a 64K expander.

SpritePOWER   14.95
Totally machine code utility using Coleco-like graphics for designing your own sprites. Includes 3 sets of sprites; extensive instruction manual shows you how to use sprites in BASIC 1.0, BASIC 2.0 and Z80 programs. Includes PUFF and other demo programs. Comes with an 11K RAMdrive (does not requires a 64K expander). Very easy to use program.

SwiftBASIC 80 (rev 2.3)   11.95
Now the BASIC that you've been using can be used with the OrphanWare 80 column board. It also works with the EVE or OBS physical clock board. Plus other are many enhancements including DMP support and automatic RAMdrive capability with a memory expander.

SwiftDISK   11.95
Fools the operating system into believing that the super fast RAMdrive is a second tape drive. Great for SmartWriter, ADAMcalc, SmartBASIC, SmartLOGO, and many others. Requires MegaDISK 1.0 and at least a 64K card (works best with a 128K or larger card).

SwiftLINK 1.3   19.95
A multi-featured terminal program written entirely in fast Z80 code. Works with AL300 or any Hayes compatible external modem connected thru the OBS/EVE serial port (300, 1200, and 2400). SmartKEY macros, 20 record library (name, #, pw, id, memos, and parms). Plus lots more. Extremely user friendly. Works in 30, 40, and 80 column modes (80 column mode requires and EVE or OBS board). Regularly updated (you get two free updates).

SwiftPRINT   14.95
Powerful graphics file interchange program (RLE, SmartPAINT, PowerPAINT, GraphixPAINTER, and PaintMASTER). STORE and LOAD virtually any ADAM picture format. A variety of picture print options including COLOR for the Okimate 20. Requires at least a 64K expander and a standard parallel interface and DMP for printing.

TurboDISK 1.0   18.95
Creates RAMdrive capability with BASIC 1.0. Corrects several BASIC bugs. Includes TurboCOPY -- very nice media control and copy utility. PD modules, programming tips, and more.

TurboDISK 2.0   12.95
Creates the powerful RAMdrive capability with BASIC 2.0 and a 64K expander. Disables EXTMEM command.

XRAMpak   14.95
The perfect companion for MegaDISK 1.0 and your OrphanWARE memory expansion board (any size). Includes XRboot (boot SmartBASIC, ADAMcalc, and ADAMlink in about two seconds), XRcopy (a powerful copy utility that uses RAMdrive space above any files stored there as a copy buffer), PACK with UNPACK (compacts and decompacts your favorite utilities into/from one large file for quick system setup on the RAMdrive), and EZfileXFR2 (faster than EZfileXFER by not restarting the directory after each transfer).

E&T SOFTWARE

Business Pack   17.95
Two useful programs for creating and printing address files. Plus two good programs for inventory control and printing.

SoftPACK   17.95
Four menu-driven home management programs: SoftCHECK, Checkbook Totalizer, CheckBook Reconciler, and SoftMailer (address filer for labels and envelopes).

Fowler Software

FILE PRINTER   9.95
A fine set of BASIC utilities for use with your dot matrix printer. Prints SmartWriter compatible files from BASIC. Allows you to set default printer functions.

IMAGE MICROCORP

Black Gold   15.95
A board style game for one to four players. Compete by digging for oil. Good graphics.

Diablo   15.95
A maze-like game in which the play field consists of user movable tracks on which you try to keep a ball in motion. Good graphics. Requires strategy and fast action to play.

Stock Market Game   15.95
A board style game for one to four players. See who makes the biggest profit buying and selling stocks. A relatively good tool for learning about the stock market too. More enjoyable with some stock market understanding.

MARATHON COMPUTER PRESS

MegaUtil   27.95
An excellent collection of varied programming aides. Includes ByteWriter (block editor), CopyWriter (media backup utility), PD modules, programming tips, plus more.

Spanish Vocabularian   16.95
Includes and electronic dictionary; comes with 1600 words; expandable to 7400 words. Quizzes, printed study sheets, and report cards.

MR. T. SOFTWARE

AutoWRITER   14.25
A menu-drive utility that writes machine code routines and BASIC subroutines (included) of your choice to a user designated disk or datapack. The file may then be merged with existing programs to add special features. Detailed instruction manual.

BASICaide (rev 2)   9.95
Several BASIC 1.0 enhancements including new CHAIN command, new BIN command to store fast loading programs, macros, and bug fixes.

Kid's TriviaPAK   14.95
1080 questions; six categories; one to four players; graphics and sound. Hall of Fame. Many hours of fun.

MR-T SEARCH   12.95
Great word search puzzle maker. Five size options. Nice hardcopy (ADAM or DMP). Packed with nice features.

TriviaPAK   14.95
1200 questions; six categories; one to four players; graphics and sound. Hall of Fame. Many hours of fun.

MMSG

CopyCart+ D2.0   18.95
The most advanced cartcopy utility for the ADAM. Works with 8K, 16K, and 32K carts. Can be used with 160K, 320K, and 720K drives, plus the two tape drives. Has DELETE and CATALOG functions for the multi-game directories too.

OrphanWARE

FastPATCH with CalcPATCH   8.95
FastPATCH 2.0 directs all printer output to your parallel interfaced printer -- can be used with SmartBASIC 1.0, SmartWriter and SmartFILER. CalcPATCH directs ADAMcalc output to your dot matrix printer.

LinkPATCH   8.95
ADAMlink II telecommunications software with up and down loading of ASCII files plus printer out put is directed to your dot matrix.

PITMAN SOFTWARE

Dinosaur Dig   16.95
Obtain plots of land, dig for dinosaur bones, and construct a full skeleton. Colorful, animated graphics. One or two players. 64K expander required.

Ghost Zapper   11.45
A fast action, arcade style shootem-up with good graphics and sound. Quickly blast ghosts in the house (four rooms) for top score. Single player. 64K expander required.

MIND OVER ADAM   11.45
This game plays like the popular board game MasterMIND™. Good animation, good sound, colorful graphics. Five levels of play. Hall of Fame.

REEDY SOFTWARE

ADDICTUS   19.95
Similar in concept to Tetris (available on many computer systems) this challenging game requires a unique strategic manipulation of spatial relationships. Truly an addicting game ... for the whole family.

Entertainment Pak   14.95
Three challenging computer classics: Connect-4, Blockade, and a slide puzzle. Good graphics. Fast animated sprites. One or two players.

Lab Mouse   11.95
Exciting game that puts you in the role of a laboratory mouse stuck in a maze. All hi-res graphics. Five skill levels.

MageQuest   14.95
Challenging graphic adventure. Nine levels of play plus three solo adventures. Combines eye-to-hand coordination with careful planning for hours of fun.

Phrase Craze   18.95
"Wheel-Of-Fortune" type game with colorful graphics and good sound. One to three players. Realistic game play.

Stage Fright   14.95
Extensive text adventure in which you play the role of an actor (or actress) trapped in an abandoned theater. Some graphics and sound; easy to play. Game save option. Three progressive levels of play.

TLB SOFTWARE

PICTURE 1.2   9.95
Great graphics program. Move, copy, draw lines, circles, ellipses, and magnify. Can be converted to GraphixPAINTER, PowerPAINT, etc. for printing graphics. Full screen or HGR screen drawing.

WHITE COMPANY

SpeedyWRITE   29.95
The most advanced word processor ever developed specifically for the ADAM. Written entirely in fast Z80 code it has more than 100 features. 40 column screen, all screen colors, underline, bold, super and subscript, split screen, line justification, keyboard macros, configuration options, and a full supply of file handling utilities.

SpeedyWRITE 2.0   39.95
All of the features of SpeedyWRITE plus lots more. INIT support for any size disk drive, ability to edit
two files simultaneously, pocket database, already setup for a dot matrix printer, built-in RAMdrive
(10K with std system and 64K with a memory card).

SpeedySPELL   24.95
Stays in memory with your SpeedyWRITE 2.0 document. Can even beep at you when you make a type. Comes
with a 10000 word dictionary and a 5000 word thesaurus. Requires SpeedyWRITE 2.0 and a 64K card.

WALTER'S SOFTWARE

THE PRINT WORKS   26.95
The print shoppe program for ADAM and a dot matrix printer. Easily contruct banners, signs, and cards.
Works with FontPOWER fonts and CLIPPER clip art too. Three sizes for graphics.

WIZARD'S LAIR

CLIP ART (1 or 2)   11.95
Each volume has more than 40 clip art pictures for use with CLIPPER, PowerPAINT, THE PRINT WORKS, and THE
LABEL WORKS. Specify which volume (1 or 2).

PowerPRINTS   11.95
15 full screen pictures for use with PowerPAINT, most designed by professional artists for ADAM.

GUIDES/BOOKS/INSTRUCTIONS

HACKER'S GUIDE (vol 1)   11.95
The Hinkle's in-depth guide to the technical aspects of exploring ADAM. 60 pages; 10 programs.

HACKER'S GUIDE (vol 2)   11.95
The Hinkle's detailed guide to SmartBASIC V1.0. 110 pages; HELLO program includes several BASIC fixes
and patches.

Hacker's Software   3.95
All the programs from the Hinkle's two Hacker's Guides.

EZ REF 101   1.95
Approximately 700 Z80 instructions listed in NUMERICAL sequence. 9 pages. Decimal, hex, op code, and
operands. Good for disassembling machine code routines in BASIC. Holes drilled for easy binder
insertion.

EZ REF 102   1.95
Approximately 700 Z80 instructions listed in ALPHABETICAL sequence. 9 pages. Decimal, hex, op code,
and operands. Good for assembling machine code routines in BASIC. Holes drilled for easy binder
insertion.

EZ REF 103   1.95
A study of ADAM's EOS: jump table vectors, routines, setup for CALLs, exit register meanings, plus
several assorted tables that have appeared in N&B. 21 pages. Holes drilled for easy binder insertion.

Pinball/Hardhat Guide   1.95
40 pages of instructions for the popular public domain package.   Holes drilled for easy binder
insertion. Includes Pinball quick reference sheet.

MISCELLANEOUS SUPPLIES

PLAIN LABEL DATA PACKS   2.25 (each)   17.95 (for 10)
Sony brand. High quality formatting. No face label.

PLAIN LABEL 5.25" DISKS   .49 (each)   4.25 (for 10)
Double-sided. Double-density.   Includes sleeve and write-protect tabs.

PRINTER RIBBON FOR SmartWRITER   5.25 (each)   14.95 (for 3)
Black ink. Standard replacement ribbon cartridge.

PANASONIC PRINTER RIBBONS   3.95 (each)
Black ink. Standard KX ribbon.   Add $1.50 each for RED or BLUE ink.

ADDRESS LABELS   3.95 (for 1000)
White. Pin-feed. 3 1/2" by 15/16. Fan fold.   Single column.

DISK LABELS   7.95 (for 1000)
White. Pin-feed. 4" by 1 7/16. Fan fold.   Single column.

PUBLIC DOMAIN SOFTWARE

You may get any of the volumes listed below on 5.25" diskette for $3.50 and on digital data pack for $4.75. Many of the volumes are self-booting (all of the COLECO library and the BASIC 1.0 LIBRARY are self-booting).

BASIC 1.0 LIBRARY

N&Bgames (vols 1 thru 5): assorted adventures, board games, and animation games.
N&Bgraph(vols 1 & 2): a variety of graphics displays and music programs.
N&Bmath (vols 1 & 2): various entertainment, financial, and scientific math programs.
N&Butils (vols 1 thru 3): an assortment of applications and programming utilities.
N&Bpatches: various patches to ADAM software (commercial and PD titles).

GRAPHICS LIBRARY

N&Bpix (vols 1 thru 28): 13 SmartPAINT format pictures each.
Art Gallery (vols 1 & 2): 13 SmartPAINT pix each; #2 is smurf-like chars; compiled by REEDY SOFTWARE.
PowerVERSES (vols 1 & 2): Bible verses on SmartPAINT pix; compiled by Dan Decker.
PaintFORMS (vols 1 thru 4): assorted letterheads, labels, etc. for use with PowerPAINT.
SimplePAINTER 1.1: An abundance of good graphics utils including the pgm SimplePAINTER.
N&Bclips (10 volumes compiled by Charlie Evans, about one-fourth converted by David Carmichael)
        Animals, Cartoon Characters, Happy/Arts, Odds & Ends #1, Odds & Ends #2, Office, People,
        Seasonal #1, Seasonal #2, Sports.

PINBALL LIBRARY

PBgames (vols 1 thru 5): 10 self-booting pinball games each.

COLECO LIBRARY

SmartBASIC 1.0: the standard version for ADAM.
SmartBASIC 2.0: extended version; 49K; memory expander option; with DOC file.
Fall Guy: racing supergame.
Yolks On You: barnyard action supergame.
Super Cobra: helicopter game.
Pinball/Hardhat Mac: two great games by Electronic Arts.
Super SubRoc: submarine game.
Troll's Tale: graphic adventure for children.
Temple of Asphai: extensive text adventure.
Video Hustler: billiards game; latest version with demo mode.
ADAMlink II: version has up and down loading capabilities for text files.
Cabage Patch Kids: graphic game for children.
Demo Carts: various utilities and demo programs.
Donkey Kong, Jr.: five screen version.

ASSORTED ITEMS LIBRARY

VideoTUNE Songs (vols 1 & 2): 34 songs each for use with VideoTUNES by FutureVISION.
SuperBASIC: numerous enhancements to SmartBASIC 1.0; 2 demos in French.
EZpak: self-booting; EZmenu and EZcopy.
ezFILER: self-booting; nice address filer.
ShapeMaker: very nice vectored shape design utility; by Guy Cousinequ.
One Minute Formatter 2.0: The most comprehensive disk formatter written for ADAM.
MusicBOX (vols 1 & 2): 10 SmartTUNES songs each.
MediaMATE: three nice media editors by DL Ewing, Brett Lynn, and Guy Cousineau.
Chess Solitaire: excellent volume that lets you study some famous chess games; by Al Roginsky.
Graphic Sargon: graphic version of the chess game; by Chris Braymen; requires CP/M.

Dear Mr. Lindstrom:

Computer Shopper is an excellent resource of general computer information and a treasure of discount direct buyer advertising. I was very pleased when *CS* added ADAM™ to its section on classic computers. Since we ADAM owners tend to buy most of our computer supplies exclusively though mail order vendors your coverage of our computer was a most welcome improvement. Now I have learned that you are dropping this section entirely from your fine periodical.

Many of us are puzzled by this decision. Though we active ADAM users only number around 50,000, we DO buy your magazine both for the specific computer articles AND the advertising. We purchase regularly from these advertisers and think it best to express our concerns directly to you before contacting them. It seems to us that the more readers you appeal to with articles, the larger the pool of potential buyers your advertisers will have. We urge you to continue your coverage of our computer system.

The checked box most accurately indicates my purchasing of *Computer Shopper*:
- ☐ I am a *CS* subscriber.
- ☐ I buy *CS* frequently.
- ☐ I buy *CS* occasionally.
- ☐ I have never bought an issue of *CS*.

The checked box most accurately indicates my purchasing pattern from *CS* advertisers:
- ☐ I buy from *CS* advertisers frequently.
- ☐ I buy from *CS* advertisers occasionally.
- ☐ I have never bought a product as a result of a *CS* advertisement.

The checked box most accurately indicates my concern regarding *CS* dropping its coverage of ADAM:
- ☐ I am considering boycotting your publication.
- ☐ I am greatly concerned.
- ☐ I am moderately concerned.
- ☐ I am not at all concerned.

NAME _____

STREET _____

CITY _____ STATE _____

ZIP _____ PHONE _____

SIGNATURE _____

ADAM CLIP ART: Cartoons

PRODUCT ORDER FORM

YOUR NAME ....

ADDRESS ....

CITY .... STATE ....

ZIP .... PHONE ....

N&B ID NUMBER ....

HOW MANY?	DESCRIPTION OF THE ITEM	MEDIA DISK·DDP	UNIT COST	TOTAL COST

SUBTOTAL →	
TAX →	
SHIPPING →	
OTHER →	
SUBSCRIPTION →	
TOTAL ORDER	

TAX APPLIES ONLY TO RESIDENTS OF MISSISSIPPI; COMPUTE AS 6% OF THE ORDER SUBTOTAL.

SHIPPING IS **$3.50** INSIDE THE **48** CONTIGUOUS UNITED STATES; **$4.50** ELSEWHERE.

TO ORDER: COMPLETE THIS ORDER FORM; SEND CHECK OR MONEY ORDER (US FUNDS ONLY) TO:

WE SHIP VIA

UPS

THE
SOFTWORKS
FACTORY

PO BOX 732
OCEAN SPRINGS
MS 39564

TSF

THE
SOFTWORKS
FACTORY

→ THANK YOU for shopping with THE SOFTWORKS FACTORY ←
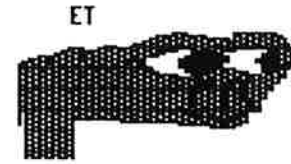
Please *RUSH* this issue to:

NIBBLES & BITS

The monthly newsletter for
users and programmers of

ADAM™

THE COLECOVISION
FAMILY COMPUTER SYSTEM

Published by
THE SOFTWORKS FACTORY