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Issue #96 - March / April 1994

Editor: James Notini

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FROM THE EDITOR'S DESK

by Jim Notini

Where do I start? Well, I guess the best place to start is to say that "N.I.A.D. IS STILL ALIVE!". Yes, I am sure the arrival of this issue in your mail boxes will come as quite a surprise at first and then followed by a huge relief. I simply can not apologize enough for the absence of N.I.A.D. since the beginning of December (even longer since the April/May '93 issue was mailed at the beginning of July) and I feel that an explanation is due that should help explain why N.I.A.D. has been so quiet for far too long.

Let's start from the beginning. At the end of July, my girlfriend and I got back together after breaking up eight months previously. Immediately we decided to move out from under the roof our respective parents had supplied us with for twenty-five years and become first time homeowners together. We proceeded to start our search for the perfect area and setting as well as something that would fit into our budgets. After nearly three months of visiting numerous condominium complexes in the Chicagoland area, we found exactly what we were looking for and proceeded to start the legal process to purchase our first home together. This painstaking legal process took another two months, countless phone calls and visits to our lawyer and realtor agent. So by the end of November, we finally were homeowners! During these months, it seemed like we didn't have one free weekend to just relax and catch our breathes, what with shopping for furniture and household necessities and packing-up personal belongings that we would be taking with us once we moved into our new home. Up until the end of November, N.I.A.D. still continued to mail out all orders that were received, albeit slowly, although a newsletter was not published since the April/May '93 issue in July.

We moved into our new home the first week of December and immediately began to remodel some of the rooms, continued our shopping spree and braced ourselves for the upcoming holiday season. This remodeling process and family get togethers ate up the better part of two months and to date we have yet to finish up our biggest project, the kitchen. As of the beginning of December all N.I.A.D. operations ceased until I could get my personal life settled down enough to allow time to restart N.I.A.D. and devote the necessary energy to it.

I had hoped to start N.I.A.D. up again in the middle of January, but was offered a job promotion at work (I work a full-time construction job with the gas company in Chicago). I accepted the new position, even though my fellow workers warned me to decline it, and have been paying ever since. Where previously I would work 40 hour weeks with minimal overtime, now I am expected to work overtime just about every day. I am also on call at all times no matter what I may be doing at the time. Throughout the winter months, I had very little personal time and when I did I wasn't up to doing anything except relax and unwind from the pressures of work. Thankfully, I am now settled into my new position and the workload has eased since the winter frost has thawed.

As you can see, my personal life has kept me extremely busy since last summer and there are a number of other things I don't want to bore you with. It is now the end of March and I have just recently setup my ADAM, unpacked our ADAM inventory, setup all the office supplies and best of all, I have finished this newsletter.

Even though a newsletter had not been mailed out for quite some time, we continued to receive orders from our members and we appreciate your show of confidence in us. As I stated previously, all orders received before December were filled and mailed out. Orders that were received from December 1st on until March have not been filled, nor have the checks, money orders and charges been deposited. These orders will be our next priority and more than likely those of you who are waiting for your orders will have received them before this issue reaches you.

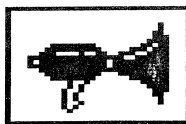
Last, but not least, N.I.A.D. once again has a new address and phone number. Hopefully, this will be permanent for quite some time:

N.I.A.D.
9389 Bay Colony Dr. #3E
Des Plaines, IL. 60016
(708) 296-0675

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N.I.A.D. SPECIALS

MEMBERS ONLY - LIMITED SUPPLIES - PHONE FIRST TO RESERVE



SEGA MASTER SYSTEM

Sega 8-Bit Master System with Control Pad, Control Stick, Light Phaser, 3-d Glasses, 25 games: Afterburner, Alien Syndrome, Astro Warrior, Double Dragon, Gangster Town, Global Defense 3-D, Golvellius, Hang-On/Safari Hunt, Marksman/Trap Shooting, Miracle Warriors, Rambo II, Rambo III, Outrun, Parlour Games, Posedien Wars 3-D, Quartet, R-Type, Shanghai, Shooting Gallery, Space Warrior, Teddy Boy, Thunderblade, Vigilante, Wanted, World Grand Prix. All for only:

\$100.00 - FIRST COME, FIRST SERVE

NEWSLETTER PACKAGE

Help us make some much needed room available. We have put together a super package of 52, count them - 52, N.I.A.D. Backissues that date from January 1985 (issue #1) to April/May '93 (issue #93). Issues included in this package are as follows: #1, 11, 15, 16, 18, 21, 22, 24/25, 26, 27, 28, 29, 30, 31/32, 33, 34, 35, 36/37, 38, 39, 40, 41, 43/44, 45, 46, 47, 48/49, 50, 51, 52, 53, 54, 56, 57, 58, 59/60, 61, 62, 63, 64, 65, 71/72, 76/77, 80, 82, 83, 84, 85, 86, 87, 91 and 93. Within these 52 newsletters you will find countless hardware, software and book reviews of ADAM products; SmartBASIC, SmartLOGO, CP/M 2.2, Telecommunications, T-DOS, and SmartWRITER Workshop articles, Special Interest articles, How To articles and on, and on, and on. So if you are interested in learning about what has happened over the past 9 years with ADAM, this is the perfect place to start. Normal price for all 52 issues is \$52.00, you would save \$32.00.

\$20.00 - ONLY 5 PACKAGES AVAILABLE

PRODUCT SPECIALS

WAS SALE

HARDWARE & BOOKS

- BEST OF ELECTRONIC ARTS MANUAL by Coleco \$4.00 \$1.00
- THE A.N.N. ADAM GLOSSARY by A.N.N. \$4.95 \$2.00
- UNCOMM. DIS. OF ADAM EOS 7 by Roadrunner \$24.95 \$5.00
- UNCOMM. DIS. OF SmartBASIC V1.0 by Roadrunner \$15.95 \$5.00

MANUALS, BOOKS & SUPPLIES

- ADAM DUST COVER: EXP. MOD. #3 MEM. CON. \$8.95 \$4.00
- ADAM DUST COVER: KEYBOARD \$8.95 \$4.00
- ADAM TAN HAND CONTROLLER \$9.95 \$2.00
- ADAMnet 7ft. CABLE \$2.95 \$1.00
- M.I. PARALLEL PRINTER CABLE \$14.95 \$9.00
- PANASONIC KX-P145 PRINTER RIBBON \$12.95 \$5.00

SOFTWARE

- BACKUP 3.0 by M.M.S.G. \$10.95 \$4.00
- FLASH FACTS: HISTORY by Coleco \$6.95 \$2.00
- PHRASE PAK I by Reedy Software \$12.95 \$5.00
- REEDY ENTERTAINMENT PACK by Reedy Software \$15.95 \$5.00
- SmartTERM V1.02 by Keheo Software \$15.95 \$5.00
- STAGE FRIGHT by Reedy Software \$15.95 \$5.00
- StratoZAP by Allied Creative Engineers \$15.95 \$5.00
- SUPER ZAXXON by Coleco \$9.95 \$4.00



N.I.A.D. PROCEDURES



⇒ N.I.A.D. is published bi-monthly and mailed at the beginning of the second week of each odd numbered month by the Northern Illiana ADAM User's Group. Individual issues may be purchased for the current months or a backissue for \$3.00 (always check Product List for current pricing). The March / April issue of N.I.A.D. is the 96th issue published by N.I.A.D., there are 95 preceding issues. When ordering backissues, please specify the number of the issue, month and year.

⇒ The standard membership rate for 6 issues is **\$22.00 USA First Class** and **\$26.00 Canadian First Class** and it's possessions. Contact us for membership rates outside of these areas.

⇒ N.I.A.D. welcomes contributions of original reviews, programs, articles, questions, suggestions and comments. Please include a SASE (Self-Addressed-Stamped-Envelope) if you want a written reply. Also, any contribution sent in on DDP or DISK will be eligible to receive a Public Domain program or volume in return at no charge!

⇒ Your N.I.A.D. member 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 membership. Please check this number each month to insure that issues are not missed.

⇒ N.I.A.D. will not be held liable for any issues missed due to an address change which we are not informed of. Please send this information to us as soon as possible so as not to cause any type of difficulties. Also, include your member ID number any time that you send us any kind of letter, package or order.

⇒ N.I.A.D. accepts advertising for ADAM related products and services. Cost is \$35 for a half page ad and \$60 for a full page ad for one month. Contact us for multi-issue discounts. Well over a thousand ADAM owners receive our newsletter each month and many more get to see it second hand. You may send in your ad in either SmartWRITER, SpeedyWRITE, PowerPAINT, PrintWORKS, other ADAM formats, IBM ASCII or IBM PUBLISH IT! DTP format files or even supply us with a high quality print out for reproduction in the newsletter. N.I.A.D. reserves the right to not advertise certain products or services which may be offered.

⇒ If **0494** are the first four digits in your member number, this is the last issue you will receive in your current membership, it is time to renew your membership to insure that you do not miss an issue.

⇒ N.I.A.D. welcomes software developers to submit their programs for us to evaluate for possible commercial sale. Send in your products for us to test and to review in the newsletter. N.I.A.D. offers a 50 / 50 split of the sale price on all items that we handle distribution of for all developers. You will find that this is one of the best offers around in the ADAM community. We will also publish a review on the product as soon as possible and handle distribution of demo copies.

⇒ **We have exercised due care in the preparation of this newsletter. No warranty, expressed or implied with regard to the information contained herein is given, either by interpretation, use or misuse. The opinions expressed herein do not reflect those of the editor or staff unless noted.**



N.I.A.D. NEWS & UPDATES

Due to the lack of a newsletter being published since the April / May '93 issue, this month's news section has taken on a different look in order to pass on as much information as possible and to follow-up on items mentioned in the last issue published.

⇒ **N.I.A.D. MEMBERSHIPS:** All memberships have been extended appropriately to reflect the correct number of issues remaining in all our subscribers memberships. See the following breakdown and compare your membership expiration date on the label of the April / May '93 issue to the expiration date on the label of this issue. The expiration date is the first four digits in your member number, IE: **0793**niad904012 has been updated to **0494**niad904012. The original expiration date of 07/93 has been updated to 04/94. Following is the breakdown for membership extensions: 07/93 to 04/94, 09/93 to 06/94, 11/93 to 08/94, 01/94 to 10/94, 03/94 to 12/94, 05/94 to 02/95, 07/94 to 04/95, 09/94 to 06/95, 11/94 to 08/95 and 01/95 to 10/95. If you have any questions or something does not seem right, please contact us immediately.

⇒ **ADAM HARDWARE & SOFTWARE PACKAGES:** A number of new hardware and software items were discussed in the April / May '93 issue and we have yet to confirm if these titles have been released for consumer purchase. These titles include: The Collector by Hexace Software; Modem Tank, E.O.S. A-Chess, new MIDI software and a Battery Backed ADAMnet Memory Expander by Bonafide Systems; SmartBASIC Disassembly, PBBS V5.0 and T-DOS Hard Drive Backup by AJM Software; Gif-Viewer by Dale Wick; E.O.S. Hard Drive Backup and PaintAIDE Hard Drive Patch by Peter Ames; Super E.O.S. by Drushel Software; The Legend of No-body by Steve Pitman Software; and Nibbles & Bits Pix Reference Book by Gene Welch. Watch next issue's N.I.A.D. News & Update section for details on all these products.

⇒ **UNRELEASED COLECO HARDWARE:** We have the following information to pass along on these items: the prototype ADAMnet 1200 Baud External Modem will not be considered for production, even though we came across the Coleco software (SmartTERMINAL) to operate it, due to the availability of Serial Cards and inexpensive external modems; the prototype 3 1/4" Internal Floppy Disk Drive will not be considered for production due to the availability of numerous sized ADAMnet Floppy Disk Drives; the Exp. Mod. #3 Tape Formatter is still open for discussion if there are any takers (see the write-up in this issue); and the SmartWRITER R81 and R84 chip sets will be made available shortly through the efforts of Jim Walters of Walters Software Co. (see the write-up in this issue).

⇒ **ADAM LOSES SOME PROMINENT HARDWARE & SOFTWARE DEVELOPERS:** Unconfirmed reports have it that Bruce Walters of Hexace Software and Mark Gordon of Micro Innovations have shut down operations. Also, Doug Rosenvinge has stepped down as the N.I.A.D. CP/M Librarian due to an increased workload he has to shoulder at work. Micro Innovations products which would be axed due to their closure include: ADAMnet Hard Disk Drive; 5 1/4" 320K/1.2Mb Floppy Disk Drive; Composite to RGB Converter; 16 or 32Mb Memory Expander with battery backup; and a new ADAM CPU with a 20MHz Z80 processor, high speed memory, a high density, high performance video system capable of 320x200 and 640x480 display resolutions that would be backward compatible. Reports have it that ADAM'S House has picked up the manufacturing and distribution rights to the Micro Innovations line of products. We will confirm these reports in the next issue.

⇒ **A NEW CompuSERVE ADAMania SYSOP:** Pat Herrington, of M.O.A.U.G. and Eyezod Graphics fame, was named the ADAMania Sysop on CompuSERVE in the summer of 1993. This position was previously held by Tim Nunes for countless years, but due to a

continuously decreasing role on C.I.S., Tim stepped down and the reigns were passed on to Pat Herrington. N.I.A.D. congratulations and welcomes Pat's appointment as Sysop of the ADAMania section and wishes her all the best. C.I.S. members are very lucky to have Pat as the new Sysop and should expect wonderful results from this long-time ADAM standout.

⇒ **UNRELEASED COLECO SOFTWARE RECEIVED:** N.I.A.D. has received some of the Coleco software titles that were mentioned in the April / May '93 issue. These include: a 5 1/4" 160K version of Richard Scarry's Best Electronic Wordbook Ever on two disks; a Jeopardy Question Pack on two 5 1/4" 160K disks; a working copy of Coleco Personal CP/M; CP/M 2.2 Teacher; and SmartTERMINAL for the ADAMnet 1200 Baud External Modem. We have yet to completely test these programs and will have mini-reviews available in the next issue.

⇒ **NEW ADAM BBS's GO ON-LINE:** The following two ADAM operated BBS's have gone on-line this past summer:

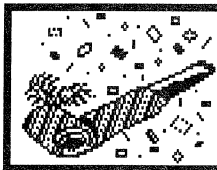
The Asylum - Sysop: Bart Lynch - (206) 859-2018
S.F.A.U.G. - Sysop: Bob Blair - (814) 473-2905

⇒ **CHANGES AND IMPROVEMENTS FOR THE ADAM NEWS NETWORK:** The A.N.N. Staff decided upon the following changes in an effort to continue to improve the quality, delivery and increase the circulation of A.N.N. monthly publications. The changes include: a new annual subscription fee has been set at \$25.00 per year; the monthly A.N.N. publication is now available on Data Pack and 3 1/2" 720K disk as well as the usual 5 1/4" Flippy disks; new and renewal subscription fees should be sent to: Robert R. Bair - 6552 N. 400 E. -Kendallville, IN 46755 - (219) 347-1394 and made out to The ADAM NEWS NETWORK; A number of other changes and improvements transpired at ADAMCON 05 that will be covered in full next issue.

⇒ **ADAMCON 05 HAS COME AND GONE AND ADAMCON 06 IS FAST APPROACHING:** ADAMCON 05, held July 22-25, 1993 in Salt Lake City, UT. by Alan Neely of ADAMLink of Utah, was an overwhelming success although attendance was down compared to the last couple of conventions. Included in this issue is a write-up by a N.I.A.D. member who attended the convention. The ADAM Gallery of Honour inductees were announced at ADAMCON 05 and are as follows: Bob Blair, Bart Lynch, Jim Notini, Keith Marnier, Ron Mitchell, Chris Braymen, Faye Deere, David Cobley, Monte Neece, Ben Hinkle and Hank Sczretter. The banner for ADAMCON 06 was passed on to Bob Blair of the Southwest Florida A.U.G. at the conclusion of ADAMCON 05. ADAMCON 06 will be held at the beginning of October, 1994 and co-sponsored by E.C.A.U.G., M.O.A.U.G. and Oscar's Computers. Watch for further details on ADAMCON 05 and 06 in the next issue.

⇒ **ADAM MAP: STATE VOL. #9** has been released by Carl Harrison of Harrison Productivity for use only with ADAM MAP: U.S. ATLAS. State Vol. #9 contains the following five states: Pennsylvania, New York, New Jersey, Connecticut and Rhode Island. Retail price for ADAM MAP: STATE VOL. #9 is only \$6.95.

⇒ **ADAM MAP: STATE VOL. #10** has been released by Carl Harrison of Harrison Productivity. State Vol. #10, known as the Islands of Hawaii, is the final installment in the series of add-on state volumes for ADAM MAP: U.S. ATLAS., but unlike State Vol. #1-9, Vol. #10 is a self-booting program that does not require the ADAM MAP: U.S. ATLAS main program. State Vol. #10 contains a self-booting control program and the five islands of the state of Hawaii. Retail price for ADAM MAP: STATE VOL. #10 is only \$9.95.



ADAMCON 05 - A ROOKIES' NOTEBOOK

July 22-25, 1993 in Salt Lake City, Utah

by Gene Welch

I had wanted to attend each of the previous four ADAMCON's but cost always kept me home, waiting for an ADAM newsletter to tell me all of what I had missed. But thanks to ADAM-Link of Utah, and Delta Airlines (\$59 to fly from San Francisco to Salt Lake City), I had arrived at the Olympus Hotel full of anticipation, trepidation, and a few other 'ations I can't mention here.

The ADAMite in me bubbled to the surface when I stepped in front of the ADAM Information Manager by Chris Braymen set up in the Hotel Lobby. I was amazed by the special effects and screen displays, and I believe this program is available in the Public Domain! It was here in front of the ADAM Information Manager that I first met P.J. Herrington of Eyezod Graphics (my idol), faithful ADAM user/supporter Jean Stone and Alan Neeley of ADAM-Link of Utah.

I went to my suite to unpack, unwind, and to think of how strange it was to be talking to fellow ADAMites face to face rather than over phone lines or thru the mail. I didn't have much time to waste, the Opening Reception was starting at 7:00pm. There we were served some delicious finger food and ADAM's birthday cake (we also sang him happy birthday, his tenth). Afterward, I retired to my suite where I enjoyed a good nights sleep.

Friday began with an excellent breakfast and Alan Neeley getting us raring to go with some opening remarks. Next came the early sessions, our choices were SmartBASIC Comparisons with Rich Drushel, SmartLOGO and Graphics with Frances Clee, or Telecommunications with P.J. Herrington. I chose SmartLOGO and was amazed to learn what a powerful graphics design program it is.

Next came lunch, I would like mention that all the meals, and refreshments served were excellent. Rich Clee gave a speech on "The State of ADAM". Rich let us all know that despite what anyone says, it really is okay to use and enjoy our orphaned computer. And, if we all really want to, can be doing just that for another 10 years.

The afternoon sessions were next. Our choices were Machine Language Programming with Rich Drushel, ADAM and Graphics with Bob Sebelist, and T-DOS with Guy Cousineau. I attended Machine Language Programming for Novices. Rich Drushel did a great job of teaching a very difficult and confusing subject. Dale Wick treated the class to a demo of his GIF Viewer, which was quite stunning, and later a demo of his ADAM with an A.I.M. (ADAM Image Maker) board. The graphic displays were fantastic. This product NEEDS to be made available commercially.

There were two product demos on Friday. One was of ADAMLink V given by Herman Mason of HLM/GMK. This is an excellent modem program with many new features and functions. Chris Braymen of Bonafide Systems demonstrated his new (?) Modem Tank game. This software allows any two ADAM users with modems to play a good rendition of a classic looking tank battle game over the phone lines. Scheduled for 8:00pm was a CompuServe Conference headed by P.J. Herrington. ADAMites from all over North America could link up with ADAMCON 05. I missed this event, and opted to call home and get some sleep.

Breakfast for Saturday was as good as our other meals. The first round of sessions were: Programming ADAM with Ron Mitchell, ADAM and Graphics with Bob Sebelist and Genealogy with Edith Berry. I chose ADAM and Graphics and learned that there are some good graphic utility programs out there that can really extend the capabilities of PowerPAINT. One of them being SmartPRINT Plus.

A table of excellent snacks was provided during the break in sessions.

Then for the late sessions we chose between Telecommunications: Fidonets ADAM Echo with Bart Lynch and T-DOS with Guy Cousineau. I joined Guy's T-DOS tutorial. He did a fine job of explaining the ins and outs of this powerful Operating System. We then were treated to three fine product demonstrations. Bonafide Systems' Chris Braymen and his amazing MIDI-MITE Interface for music synthesizing. Alan Neeley demo'ed the super professional and easy to use ADAM Home Automation Package. P.J. Herrington of Eyezod Graphics demo'ed Swift's Label PrintShop and their "Fontasy" line of font files.

Dinner was buffet style and really good. Then it was off to the courtesy suite to watch a wonderful fireworks display put on by Salt Lake City to commemorate (No, not ADAMCON 05 and no, not ADAM's tenth birthday either) Pioneer Day. The day (July 24) in 1847 that Brigham Young and the Latter-Day Saints founded Salt Lake City.

Sunday started off with another excellent meal provided with the convention package. The morning sessions were T-DOS continued with Guy Cousineau and ADAM and the IBM with Dale Wick. I was in T-DOS again and Guy did a good job of showing us how to customize T-DOS to get the most out of it.

Lunch was delicious and was capped off by Bob Blair giving a presentation on the A.N.N. Late session choices were communications and ADAM BBS's with Bart Lynch, and the one I participated in, Machine Language Programming cont. with Rich Drushel. Rich walked us thru the creation of a simple block display program running under SmartBASIC. He made the effort to explain every step, and even de-bugging it. Rich gets my vote for top instructor of ADAMCON 05.

The ADAM store was opened next with such ADAM support groups/ companies displaying their wares as HLM-GMK Hardware/ Software Co. with their slick video catalog. Call them, this is a must see. The ADAM News Network was also there writing up subscriptions. Eyezod Graphics had all their popular software for sale along with some Phoenix 2000 titles. ADAM-Link of Utah had various ADAM components plus their ADAM Home Automation Package. Bonafide Systems was also selling their high quality products.

The Awards Banquet started next, with another great meal, and a raffle was held. The prize was an 80 column board with interface, Wordstar 4.0, and some other stuff. It was donated by Jean Stone, with the proceeds going to future ADAMCON's. Door prizes were next, with everyone getting either 2 or 3. These were donated by some very generous ADAM supporters, suppliers, and manufacturers. There were Memory Expanders, a Hard Disk Drive, a complete set of IBM Clip-Art for ADAM, an ADAM Home Automation Package, and much, much more. Then some very special ADAMites were recognized for having attended all five ADAMCON's: P.J. Herrington, Alan Neeley, Bart Lynch, Dale and Neal Wick. Then this years inductees to the "ADAM Gallery of Honor" were all honored and awarded a plaque they will treasure for years to come. Following is a list of this year's inductees: ACTIVE - Bart "Zonker" Lynch, Chris Braymen, Jim Notini, Faye Deere, Ron Mitchell, Bob Blair, Keith Marnar and David Cobley; INACTIVE - Monte Neece, Ben Hinkle and Hank Sczretter.

To wrap things up it was announced that ADAMCON 06 would be held in Sarasota, Florida, and hosted by three ADAM User Groups. Congratulations to Bob Blair of S.F.A.U.G. who will be carrying ADAM's flag into 1994 (M.O.A.U.G., E.C.A.U.G. and Oscar's Computers are co-sponsoring). He has his work cut out for him trying to equal the incredible convention that Alan Neeley and ADAM-Link of Utah have put on. Finally, I am sure I speak for everyone who attended ADAMCON 05, "Thank you Alan for showing me a great time, and I hope to see you next year in Florida".



COLECO LOST AND FOUND

SmartWRITER CHIP SETS & DDP FORMATTER

by Jim Walters and Jim Notini

SmartWRITER R81 and R84

SmartWRITER is one of the easiest to use word processor programs ever written for any computer. The SmartKEYS guide the user to the correct options. The only problem with SmartWRITER is a few bugs contained in the program. Believe me all software programs contain bugs. Some bugs might be very hard to find and under normal use may never surface. SmartWRITER users have learned to live with these bugs with very little effort.

I really like SmartWRITER and still use it to answer letters from my customers. We now have two more SmartWRITER programs to choose from. Revision 81 contains some fixes and options. Revision 84 contains only fixes. I have only spent a day working with both revisions so I am sure this is only a partial list.

Revision 81:

- 1. Scroll bug fixed in window mode, this fixes several text formatting bugs.
- 2. Memory Full routine works better, but not perfect.
- 3. Search has a go to Top of Text, and End of Page command. This works real nice for larger documents.
- 4. Print has a print option to print from the cursor to end of document.

Revision 84:

- 1. Scroll bug fixed.
- 2. Clear memory option works great.
- 3. Memory Full routine works perfect.

You might wonder why Revision 81 contains new options while 84 contains only fixes. I would guess that Coleco started Revision 81 before they found out about the bugs. I believe Coleco intended to combine them into one after most of the bugs were worked out.

I have converted the 4 chip sets, used by Coleco programmers, to 2 chip sets used by most all production machines. I would like to be able to purchase enough eproms to get the lowest price possible. This would keep the cost down for everyone that would purchase a set. So let us know if you would be interested in purchasing a set.

If interest is high enough I would consider combining the new features and fixes from Revision 81 and 84 into a new revision. The new revision would require a lot of work because the assembly has to be done by hand. If the source code for SmartWRITER could be found it would make the job of combining the two revisions much easier.

I highly recommend either Revision 81 if you can live with the bugs and want the new features. Revision 84 if you want the bugs fixed and don't need the new features.

I would be glad to answer any questions you may have about either revision. If by mail please include a S.A.S.E. (ED. NOTE: If you are interested in purchasing either chip set, please contact N.I.A.D. by phone or mail as soon as possible).



WALTERS SOFTWARE CO.

c/o James N. Walters
Rd#4 Box 289-A
Titusville, PA 16354
(814) 827-3776

DATA PACK FORMATTER

When Coleco designed the ADAM Computer they decided to include a vastly updated tape drive called the Digital Data Drive. Other computer companies such as Apple, Commodore and Atari had long been using just a standard tape recorder. Using these tape recorders was very slow and tedious in finding the right area on the tape where the program(s) started. The Digital Data Drive was a god-send and heralded as a major development in tape storage after the initial wave of bugs was overcome. The drives operated exactly like a disk drive in it's use as far as loading and saving but were considerable slower, however, they were much faster than a tape recorder.

Since the Digital Data Drive was a unique product, the tapes used for storage were also unique so to speak. The plastic case of a digital data pack has a number of holes punched in it that a standard audio cassette does not have. This was Coleco's way of insuring that owners of the ADAM would have to buy digital data packs made for Coleco by Loranger and sold at an outrageously high price (at the time about \$10 for one!).

They did not count on the intelligence and ingenuity of the ADAM owners who found ways to make their own DDPs through the use of high quality tape decks, custom made tape formatters and the creation of the MegaCopy Tape Formatter. Unfortunately none of the above methods to create a DDP is reliable as I have found out over the years. However, just a couple of months ago I received a Coleco made Tape Formatter from a member who got it from an ex-Coleco hardware designer (I knew Coleco had to have made something for themselves in order to reformat all the bad DDPs that were returned to them).

The Tape Formatter is actually a converted Expansion Module #3 Memory Console that has been stripped of it's ADAMnet, printer power cord, expansion bus and Colecovision adapter connections. These have been replaced by a switching power supply inside the memory console covering the expansion slots (once you plug in the power cord to an outlet the unit is on and ready for use). The unit comes with two Digital Data Drives installed in their normal position that are marked respectively GAME for drive #1 and DATA for drive #2. Also included is a custom chip set installed on the logic board that contains the formatting software.

To use the formatter once it is plugged in all you have to do is decide what kind of DDP you want to create - either a Right Directory or Center Directory DDP. A Right Directory DDP does not have to be used for only the duplication of supergames that were made by Coleco but can also be used for storage of data files. To create a right directory DDP place the audio cassette (which you have punched out the necessary holes in it) into drive #1. To create a center directory DDP place the audio cassette into drive #2.

Once the cassette is placed into the appropriate drive and the door is closed there will be a short delay before the formatting process begins. After a couple minutes the formatting process will be completed and all that needs to be done is to INITIALize the freshly formatted data pack so that a directory block is written to it.

To date I have re-formatted a large number of data packs with this unit and it has worked flawlessly. I have not formatted an audio cassette into a data pack yet, but see no reason why this would not also work flawlessly.

If anyone is interested in this unit, please let me know immediately so that we can look into mass producing it if feasible.



MIDI: THE LINK BETWEEN THE ADAM & MS-DOS or How to Convert an IBM into an ADAM Peripheral by Ron Collins

So, you've been into MIDI for a few months now and have your eye on one of those neat new sound cards, 'eh? To bad they only work on an IBM compatible machine, isn't it? Did you ever wish there was some way you could play your MIDI songs on a high performance sound card - perhaps one with WAV tables?

There are a lot of different cards to choose from and a lot of features we could certainly find some uses for. Unfortunately, we don't have the correct bus connections to permit using any of them. If only someone would build an interface adapter for us to make these cards installable on our ADAM. Maybe someday, but not today.

Perhaps you've just purchased a fancy DOS compatible machine complete with a sound card and want to take advantage of your ADAM's MIDI capabilities while enjoying your sound card's instrument reproduction quality. Perchance the sound card even has a MIDI port and breakout box? Great! The sounds are probably quite an amazing collection of realistic sounding musical instrument representations. Still, what have you had to pay for this level of power?

Not counting the cost of an MS-DOS type computer system, you must still look at the price sound cards are going for. The average card with any real sound capabilities... and WAV synthesis, are to be averaged in the \$250 price range. A good example of this is the BSR MEDIA MASTER sound co-processor board from DAK. The board supports the Roland GS standard for standard MIDI voicings.

For those who don't follow such things, the Roland standard provides a list of musical instruments and specialized sound effects. It places them all in a neat order and locates them into specific voice numbers. Each MIDI instrument developer, if they so choose, can utilize this standard voice allocation to insure compatibility between equipment. The ADAM can play tunes that were created on a Macintosh, for instance. If both are set up with the GS General MIDI standards, our hardware will be able to play the songs with equal fidelity. These DOS sound cards are much more expensive than what we owners of Bonafide Systems' MIDI-MITE Interfaces have invested. A typical setup for creating and enjoying music on your ADAM would entail \$75 for the MIDI-MITE and included software, \$25 for the higher powered SEQuel music editing software, and around \$150 for a good quality keyboard. (Note... this isn't a GREAT quality keyboard... but those like my Casio MT-540 certainly do the job!) A more costly reproduction keyboard or synthesizer like the Roland MT-32 or Sound Canvas can be found in the \$450 range, so it's a matter of what you're willing to invest on your ADAM.

One of the drawbacks to the DOS type sound cards is that, while many support a MIDI interface, few also supply the 5-pin DIN jacks needed to plug in your MIDI keyboards, etc.! You have to go out and purchase another \$50 unit, the MIDI Breakout Box, to have this access.

Software can be another problem. The MEDIA MASTER Sound Card comes with primarily Window's based software. If you don't use Windows, you'll find very little in the way of DOS support on this unit. It has the ability, to be sure, but DAK tends to move more in the Windows environment these days.

A good friend of mine, John Villilo, recently added this board to his own clone... one that already supports a Sony CD-ROM drive. It's a very powerful computer system... but he doesn't happen to run any of the Windows versions on it. This left him stranded, so to speak, when he wanted to patch the voices on some MIDI song files he had downloaded from CompuServe and GE*nies. They were set up for other keyboards... he needed to change the instrument's controller numbers to the Roland GS standard. Volume also needed some changes on a

couple of these files.

How do you manage to do this with limited software? There are a good many shareware programs in the data libraries, but all of them send you a NO MIDI type error message when you try to run them. Why? Simply because they all search for a Roland MPU-401 or compatible MIDI interface. This is the DOS standard as the MIDI-MITE is the ADAM standard interface. The MEDIA MASTER has a MIDI port, but it is NOT MPU-401 compatible. Instead, you must use the supplied MIDI drivers to play any song files... but you can not modify these in any way without using Windows.

Recently, while attempting to get the DOS machine to play songs on the Casio keyboard and Yamaha FB01, we ran into quite a few problems. The song would process... and appear to play. The problem was that it didn't quite create any sound from either the Casio or the Yamaha. It just sat there! This started a dialog as to just what we would need to do to get songs patched to play on the MEDIA MASTER itself.

After knocking our heads together for several hours on this problem, I mentioned that it was "...to bad we couldn't hook the ADAM up to the Magnavox (Headstart Computer) and let SEQuel play songs on the MEDIA MASTER." "Can we do that?", John asked. "Who knows... it's never been tried!", was all I could come up with. We spent the next few minutes working out just how the hookup would be made.

Saturday afternoon, John called me on the telephone to hear a new MIDI song. "I've spent all morning moving my ADAM up to the computer room.", he told me. "It works.. just like we figured!" Well, since over a week had passed, I'd already forgotten all about our idea... but John hadn't! He's been thinking about this for quite some time. But what did he do?

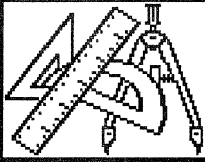
It's really pretty simple, when you stop to think about it. John moved his ADAM up beside the DOS machine and got everything hooked up. He then used the standard MIDI cables to connect the MIDI OUT jack on the ADAM's MIDI-MITE over to the MIDI IN jack on the DOS machine's breakout box. Another cable was connected from the ADAM's MIDI IN jack to the clone's MIDI OUT. Hardware-wise, that's all that is required.

Software was the next thing to work on. John booted up MINI-RECORDER, loaded a MIDI Format 0 song file and looked at the instrument voices. A few quick changes to make it conform his BSR sound card took only minutes. The MIDI drivers were booted on the clone to handle that end of the deal, and the portable amp and speaker setup that would produce the audio was turned on.

With all of this, the only thing left to do was to test it by pressing the PLAY SmartKEY on his ADAM. Even over the phone, I could detect a VAST improvement over what the song sounded like on my own Casio keyboard. This was just like LIVE music! To change the volume information and to further edit the song files, I took my copy of SEQuel for a visit. A few more minutes of edit time and I has some changes made that "should" really make it fit that sound card's requirements. It played PERFECT!

What the MIDI-MITE enabled us to do was to reduce a \$2000 MS-DOS compatible computer system to a simple MIDI musical device that we could control completely. It was great! To me, it was an exciting prospect. Many of us have invested in lower end MIDI keyboards like my Casio MT-540 or in FM sound generators like the FB01. Others have gone on to purchase expensive units costing between \$500 and \$1000, just to hear what the ADAM is capable of doing. The nice thing about

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FUNDEMENTALS OF COMPUTER PROGRAMMING

Chapter X: Points to Ponder

by John Y. Terry, Sr. / M.O.A.U.G. Newsletter

TESTING YOUR PROGRAM

- Test data needs to be carefully designed and planned. During the test, all possible limits of the program must be tested.
- Design test data to include negative as well as positive conditions.
- Use invalid data to insure that the program does its error processing properly.
- Number the various pieces of test data. As questions or problems arise during the testing, list the test data number on a piece of paper and note what question or problem has arisen.
- Check all printer output to insure that the spelling is correct and that the printing has occurred in the proper place on the page.
- Check the computer screen carefully to insure that all data is correct and in the proper location.
- Watch the system carefully to insure that the various devices are functioning in the order programmed.
- After all of your testing is finished, go back into the program and correct any problem that you found in testing.
- Run all the test data again, making notes of problems as before. Continue this process until all test data runs as the program was designed to run.

MEDIA HANDLING

- Both disks and data packs are far more sensitive than they may appear, and can be easily damaged or destroyed.
- Never touch the recording surfaces of disks or data packs. The oil in your skin will get on the medium and can cause permanent read / write errors.
- Keep all media away from magnetic fields (any electrical appliance such as stereo speakers.)
- Try not to drop any medium on the floor. Dust from the floor or carpet can damage the recording surface of the medium.
- Avoid static electric charges. Such charges can change or erase data on disks, data packs, or the computer memory.
- Do not force disks or data packs into the disk / data drives. If the medium does not go in easily, there may be a problem with the device or they may be a disk or data pack already in the device that needs to be removed.
- As a general rule, do not leave any medium in the disk or data drives while turning the computer on / off.
- Protect your medium by putting it away when not in use. Do not just leave the medium lying around where it can be damaged.
- Computer paper is just as sensitive as any other medium used on the computer. Moisture from the air can cause the paper to swell and not perform as intended. Keep your paper supply in its original box with the top closed.

COMPUTER ENVIRONMENT

- Where and how a computer is placed is very important. Keep the computer out of direct sunlight. The heat from the sun combined with the heat generated by the computer can cause serious problems.
- Always use an electrical surge protector on the outlet that you use to plug in your computer or any peripheral component.
- Keep your computer and peripheral equipment covered when not in use. This not only helps to keep it clean, but helps to control moisture.
- Keep the computer away from any water source. Water or any other liquid in the system will cause major damage and may totally destroy the computer.
- Keep the computer on a flat, stable surface.
- Avoid jarring the computer. Jarring may damage read / write heads on a disk drive, or loosen cables, causing errors.
- Keep the computer and all peripheral equipment as free as possible from dust and dirt. Dust and dirt will cause system problems.
- Keep pets and small children away from your computer and peripheral equipment. Pet hairs can cause damage, and so can unsupervised toddlers.
- Allow free flow of air around the computer and all peripheral devices to avoid overheating. Avoid stacking of components.
- Turn off the computer before attempting any cleaning or maintenance.
- When cleaning the computer, do not put fluids directly on any part of the computer. Put the cleaning liquid on a cloth and use the cloth to clean the computer and peripherals.
- If you have a noisy printer, placing a piece of foam carpet pad under the printer will help. A commercial typewriter pad will help even more.

SYSTEM TROUBLE-SHOOTING

- From time to time, there are going to be small problems with any computer system. These problems can be caused by humidity, by jarring the computer, by accidentally unplugging the computer or a peripheral device, and other adverse conditions.
- When trouble-shooting any problem, turn off the computer and all of the peripheral devices and insure that the power cord is unplugged from the outlet. Make sure that all devices are plugged into an active, grounded outlet. Push on the plugs to make sure that they are properly seated. Turn on the computer and peripheral devices in the proper sequence described in the manual that came with the computer. If the problem persists, turn off the computer. Then check all of the cabling between the various components of the system.
- Insure that all cable ends are properly seated. Turn on the computer and see if the problem has been resolved.
- Check all wires and cables for fraying, kinks, and other damage. If there is a frayed wire or cable, it must be replaced.

(CONTINUED ON PAGE 8, COLUMN 2)



WORKING WITH SpeedyWRITE

Part III: Odd Jobs and Tasks Made Easy

by David Sands / A.D.V.I.S.A. Newsletter

Letters aren't the only things we write in our daily lives. We write ourselves notes, grocery lists, and we certainly write cheques (or checks), and sign various and sundry pieces of paper other people thrust at us. Using a word processor for some of these odd jobs isn't sensible, or is it?

Let's eliminate signing cheques immediately. We'd all like that! But -- think of your grocery lists. Many businesses, of all kinds, use a 'par stock' or 'basic stock' list system. That's an inventory sheet for daily ordering, and it helps guarantee essentials don't get missed. If forgetting to buy salt, flour, potatoes, whatever, is a problem, use SpeedyWrite to make your own multiple column list and you'll never forget nails, towels, cigars, bullets or cinnamon again.

Depending on your own ADAM system, make sure you've got your SpeedyWRITE (SPW) disk or tape, loaded in the drive from which you started SPW, press STORE/GET, and then work your way through the options, with your arrow keys, to SYSTEM, then to LOAD and through the WHAT DRIVE prompt. SPW wants you to be exact when you enter filenames.

The filename, for the two column listing format, with a page number at the top, is ColumnsP. Nothing else will do. Remember as well that, this has to be at the top of your page, the very first thing showing on your screen.

If three columns would seem better than two, study the programming of the ControlP format, and good luck! The format comes up onscreen showing a set of instructions, so you don't have to remember exactly what to do each time, and you can do a test printout to see if you've got it working.

Those instructions don't print out -- they are 'comments' created with the CONTROL-V; (semicolon) command. This is a feature you can use if you're creating a document for yourself, that you want to print out for someone else, without revealing your sources or real opinions.

Another thing you could create with SpeedyWrite is you Christmas Letter. If you're not impressed with those things -- and they sometimes do set your teeth on edge -- pass on this. But, if informing your wide circle of friends about your year, is a chore, when you handwrote it, here's where the computer can help.

Here are a couple of other ideas: if you need a lot of copies, having a local 'quick print', or photocopy shop do them, after you get a good "original" from your ADAM printer, will certainly save time.

Check with the copyshop/printer. If they can do reduced sized copy, the result could be sharper, and easier to read. It may even fit into a card envelope more easily.

If your letter is long, think about formatting it so it can be printed on both sides of the paper, and then be folded.

Here again, this is a job you can take to the photocopy shop after you get a good original. Format your file so it fits neatly into two columns, across the short side of the paper. If you're using a dot matrix printer that has a 'landscape' mode, you may be able to print it out yourself, otherwise, it's a cut and paste job. When its folded, you have a little booklet. Pages 1 and 4 on the back of the page, and pages 2 and 3 on the front. With two simple folds the pages line up correctly and it all goes nicely into a card envelope.

While we're thinking about long documents, lets review page numbering, and headers, footers and footnotes. SPW gives you page

numbering with its regular CONTROL-V and code sequence. There are four different page numbering styles, centered, top and bottom and right hand, top and bottom. Also, SPW offers another System file, entitled TwoSidedA, that will allocate alternate page numbers to the outer edges of the pages, when you're printing both sides of your sheet.

Headers and footers appear on every sheet of a long document, sometimes to identify the author and document as for freelance writing, or to add a touch of elegance to a page. For example, of you're writing the Employee Policy Manual, the company name, chapter title and page number could appear across the top of each page with only a single use of the SPW Header command. This is CONTROL-V H, and then, (without a space) the Header text. Footers -- across the bottom of the page -- are entered with CONTROL-V F.

Footnotes, for academic writing, are performed by the SPW FootNoteA file, which is loaded just like our other examples.

Next time, lets make a macro of our own so something we do repetitiously in our writing gets done with a single keystroke. Macros are simply small programs stored away in your word processor. They can be real time-savers.

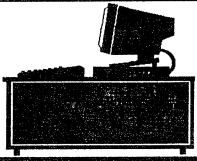
FUND. OF COMP. PROG., CONTINUED FROM PAGE 7

- Unplug all components and plug them back in several times in order to dislodge any minor corrosion that may have affected pin contact. Pins can also be cleaned GENTLY with a rubber pencil eraser.
- Unless properly trained, do not attempt any repairs on computer equipment. Get expert help. Better safe than sorry.
- Data Drives should be cleaned regularly, using alcohol and a cotton swab.
- Disk Drives are self-cleaning and should NOT be cleaned on a regular basis. A head cleaning disk should be inserted only when there is a general system failure caused by the disk drive. Keep in mind that, when a disk drive is operating, the read / write heads are never in contact with the surface of the disk, but float on a column of air above the disk. When a head cleaning disk is inserted into the drive, the head comes in contact with this abrasive disk, which causes excessive wear.

MISCELLANEOUS MATTERS

- When transporting a single-sided disk drive, always insert a blank disk in the drive and lock the drive door. This will help avoid head crashes while the drive is being moved. Caution is still required while moving the disk drive.
- Do not operate your computer during electrical or thunder storms. Even with a surge protector on the system, a near lightning strike can cause extensive damage. If you have a modem, unplug it from the wall jack when there is any threat of lightning.
- Do not operate your computer during times of electrical low voltage. Low voltage can sometimes do more damage than high voltage.
- Although some computers can use a TV set in place of a monitor, it is best to use a monitor. The image on a TV is usually not as sharp and clear as that of a monitor.

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WORD PROCESSING WITH SmartWRITER

Part II: Press that Return Key!

by Norman J. Deere / E.C.A.U.G. Newsletter

When using a typewriter, you need to press the Carriage Return key (or throw the lever, if it is an Armstrong machine), when you get to the end of each line, and want to go on to the next one. With the ADAM computer you can press the RETURN key, and your cursor moves to the next line. On some other computers, this key is marked ENTER. It does the same thing.

The reason is, that when you press RETURN (or ENTER) you are telling ADAM that you wish to end the line you're on and for it to move down to the next line. You are also telling it to ENTER this information in it's RAM memory. So ONE command, has TWO effects. Place a "CR" (carriage return) at the end of any line, or paragraph, or at the END of an article or a letter. Failure to do so CAN cause you problems.

When you columnize an article, and it is too long to fit on a page as one column, you can print the second (or 3rd, etc.) column by ESCAPEing, then changing the margins of your column to 42 & 75 or whatever you wish. Then move the top line, of the REST of the article, down below the screen margin. Then, by using the CLEAR key, followed by "SmartKEY V" (CLEAR SCREEN) and "VI" (FINAL CLEAR), you "erase" the text ABOVE (that you have already printed out). You probably will have to repeat the "clear" process three times per column.

Then, after you readjust the paper for the next column, you go ahead and press PRINT, "V", "V", just like you did before, and print the second column right beside your first column. If you have more than two columns, you just change the margins back to 5 & 38, or whatever you had before; and continue, using the same process. At first, this may sound a bit confusing, but after you try it, I feel sure you will get the idea. Just be sure you SAVE the article BEFORE you begin to experiment then you can always get it back, if you make a mistake!

Remember, when you are using a disk drive with ADAM, it must be turned ON, before you turn your ADAM system on. If you turn it ON after turning ADAM on, it won't be recognized as being there. If you use a multi-outlet box with a cord that plugs into the duplex wall outlet, you can turn everything ON at once just by throwing the switch on the outlet box. It solves the problem. Also, remember, you can't access disk drive #2 in SmartWRITER. However, there are new programs now available, like "SmartWRITER HELPER", that will let you access a second disk drive in SmartWRITER word processing mode.

We mentioned SEARCH (SmartKEY III) before. Keep in mind, it won't search for anything beyond an END PAGE marker. So, in case you have a long article, in which you have already placed an END PAGE marker, you must DELETE it in order to SEARCH the entire length of the document. If your purpose is just to quickly reach the end of a long article, just tell ADAM to search for XXX, or something you know it won't find.

SmartFILER is a Coleco program for the ADAM, that's been around a long time. A lot of users consider it a good program; however, I was never overly impressed by it. I may have overlooked something but I feel I can do better and faster in SmartWRITER. I think SmartFILER takes too long to access and to use. One of it's features that I consider the worst, is that when you want to print lists of something like names and addresses, on a page, in two columns; you are stuck with this format, and if you want to DELETE, or ADD, a name and address, you end up with a blank space on that page. Also, you can't ADD a NEW name or address, in alphabetical order, without getting the page out of order. If you have names and addresses, that you are keeping for a long time, I suppose it can be of use; but for frequently changed lists, like a membership list, I find it of little use.

SmartWRITER can do just about anything you may wish; however there

are SOME things that it won't let you do. But then, no program is perfect. If you DO want to make an effort to do these impossible things; take a look at ShowOFF II, which was written by Sol Swift of Digital Express.

There IS one thing, ShowOFF II was written for use with a dot-matrix printer. The program also requires a 64K memory expander, as do many of the newer programs.

ShowOFF II is not a word processing program, it is a SmartWRITER enhancer. This means that it adds to the SmartWRITER abilities and enables it (and you) to do some things, you wish that SmartWRITER COULD do, but it can't. And you don't need to be a genius to learn to use ShowOFF II. Instead of having to read a whole volume of information before you start, you can learn all you need to know in TWELVE pages!

You use it, by embedding command codes at the beginning of your text, that tell the printer what to do. Other commands can also be inserted, at points where you wish to make other changes in print style, format, and etc.

You can "justify" right and left. You can "Auto-Justify" your text. You can "center" text. You can use boldface, compressed or wide print fonts. You can use proportional spacing, which squeezes your letters together, according to the letter width. In other words an "i" will use less space than a "w" or an "m". This saves space on a line of text. You can underline and use italics. Underlining with a dot-matrix printer can sometimes be a problem.

Another thing you can do is change the spacing between lines of text. You can vary the space between lines, so that they print closer together or further apart. This enables you to get more text into the same sized space.

FUND. OF COMP. PROG., CONTINUED FROM PAGE 8

- Because of that difference, considerable eye strain can result from prolonged periods of use. Color monitors or TV sets are more restful to the eyes than black and white TV sets or monochrome monitors.
- Consider insuring your computer equipment and software. Homeowner and renter insurance policies usually exclude computer equipment or limit the amount of liability payable by the company. There are some very good insurance policies available at reasonable rates to protect the large investment in computer hardware and software.
- Start and maintain a Run Book. This is a loose leaf binder sectioned off by program. Set up a section of the binder for each program in your library. Document any hard-to-remember items concerning each program. Also document any problems or difficulties with the program. The Run Book can be a big timesaver for programs that are not run very often.

Well, this concludes this series of articles. I hope all you readers found it informative and educational. If you have any questions or additions, you can send them to:



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EXPLORING SmartBASIC

Part XVI: Random Numbers

by Guy Cousineau / A.U.F.G. Newsletter

I have written on several occasions about random numbers. I will probably continue to do so until such time as we have exhausted all the questions, gripes, and hacks. This expose will explain how and why RANDOM works, and help you get the most out of using it.

The RND function returns a random number between 0 and 1. Although the value is never 1, it is possible for it to equal exactly 0. There are 3 ways to ask for a random number:

RND(1) or **RND(2)**, or any positive number, will extract the NEXT random number from the generator. The argument value is unimportant.

RND(0) will restore the previously generated random number. This might be useful if your program FORGETS what the last random number was and you want to double check its value without affecting anything else.

RND(-x) will reset the random seed to a particular value based on the supplied number. This can be useful in GAME debug situations where you may want to recreate an exact condition.

Now what to do with random numbers? What use is a number between 0 and 1. Well quite simply, you multiply it by the number of choices you have to make. If you want to randomly decide whether to go North, South, East or West, use something like:

```
move=INT(RND(1)*4+1)
```

Note that we multiply by 4 (the number of choices) and add 1 before taking the INT. This will give us a random INTEGER which is 1, 2, 3, or 4. This result can be used with an ON GOTO statement to branch to the correct routine.

Random number generation on the ADAM is accomplished by a complex routine at 4696(1258). It either loads the floating point accumulator with the 4-byte CURRENT random seed, or with 4 bytes representing the user-supplied value if RND(-x) was used. It then points to 4 constants at address 4552(11C8). These values are 45, 230, 64, and 187. You can change those if you wish but they will likely cause your random number generator to fail. Each of these numbers is multiplied in turn to the current value in the FPA. After each recursion, one of the 4 CURRENT RANDOM bytes is updated with the OVERFLOW of the calculation. The resulting value in the Floating Point Accumulator (FPA) is then reduced to a number between 0 and 1 to return to the caller.

If all that sounds confusing, it is! But there is more...

NEW and **RUN** insist on re-initializing the random seed by copying the 4 static bytes FB 40 D2 92 into the random generator at address 16190 (3F3E) and 16192 (3F40). The routine that accomplishes this task is found from 11907 (2E83) to 11918 (2E8E). This is supposed to prevent the random number generator from breaking down but it has the effect of generating the same random numbers every time a program is run. I have run some quite severe tests on the random generator. I have left it crunching away for a full day and periodically reporting the distribution of numbers. I have seen no evidence of the generator breaking down at all.

You may have seen some random routines which try to overcome this problem. While there are many approaches, I will outline some of the more common random routines, illustrating their concept and their shortcomings.

1) The Random Keypress

In the beginning, we had little knowledge of ADAM's workings, but we knew something about RND (-x). So what we needed was a variable (-x). Some of the first efforts just asked you to press any key; its value would be the random seed. Unfortunately, most people press the same key when ANY KEY is asked for. Thus a program using this approach will likely be random between different players rather than different each time the same player plays it:

```
10 PRINT "Press any key to start"
20 GET key$
30 x=ASC(key$)
40 r=RND(-x)
```

2) The PDL Approach

If a game uses the joystick, then the PDL function is useful to set a random seed. Here, the basic principle is HOW LONG before a button on the keypad is pressed:

```
10 PRINT "Press any key on the keyboard"
20 x=x-1: REM start to set a random seed
30 IF NOT PDL(1) GOTO 20: REM carry on until key is pressed
40 r=RND(x): REM set the seed
```

This routine can be defeated quite easily by holding down a button while typing RUN. You can make this more complex by asking for multiple buttons; it is unlikely that buttons will be pressed at the same speed every time:

```
10 PRINT "Press 1-2-3 on the keypad"
20 GOSUB 100: REM wait for a button
30 IF x<>1 GOTO 20: REM did not press 1
40 GOSUB 100: REM wait for a button
50 IF x<>2 GOTO 40
60 GOSUB 100: REM wait for a button
70 IF x<>3 GOTO 60
80 GOTO 120
100 x=PDL(13): IF x<15 THEN RETURN: REM a button was pressed
110 y=y-1: GOTO 100: REM set seed and wait
```

Using this kind of routine was for a long time our only source of randomness. It became annoying when a program used only the keyboard for input but required joystick input to start it.

3) Reading the Keyboard

Trying to use the above approach with the keyboard was unsuccessful at first. The GET function would wait forever until a key was pressed. This was partly the reason for something like a random key as outlined in number 1. Finally, we discovered that the last keypress was recorded in memory address 64885. We had also figured out that we could POKE that high by resetting the POKE limit. The following (with a few editorial remarks) was submitted years ago by Bob Tarnowski (unknown origin):

```
10 POKE 16149,255: POKE 16150,255: REM reset POKE limit
15 POKE 64885,0: REM reset the last keypress
20 PRINT "Press Any Key to Continue"
30 a=a+1: IF a>2000 THEN a=1
40 IF PEEK(64885) THEN r=RND(-a): GOTO 60
50 GOTO 30
60 REM continue with your program
```

This routine was quite advanced at its time. Bob had figured out that large RND(-x) numbers did not effectively create a random seed. You can illustrate this quite easily by trying the following program:

```
10 INPUT "Large number please ";x
20 r=RND(-x)
30 FOR x=1 to 10: PRINT INT(RND(1)*10);" ";: NEXT
40 PRINT: x=x+1: GOTO 20
```

This program will show the difference in random seeds from something like 100000, 100001, 100002, etc. With numbers of that size, everything appears normal. Now try 100,000,000 or any number in that vicinity. You will see that the random numbers don't appear to be as random any more. Loosely, that can be equated to the INFINITY+1=INFINITY paradox; numbers of that size can't distinguish themselves from another that is just one bigger.

Rather than use the RND(-x) approach, why not just DEAL random numbers off the top of the deck until the contestant yells STOP! This is the way magicians perform random card tricks is it not? Since we already suspect that the random number generator does not deteriorate, there is no problem if hundreds (or thousands) of numbers are dealt.

So now you can go back over the previous examples and substitute the INCREMENT value with something like R=RND(1). Thus each time a PASS is made, another random number is dealt from the top of the deck. Don't forget to also remove the RND(-x) line in the routines.

4) The Random Word

This one is similar to the PDL function one using multiple keypresses. In this case, we ask the player to type his/her name. The random seed is set, not by the letters themselves, but by the time taken to type them in. I would suggest the use of this type of routine only if the player's name will actually be used somewhere in the program:

```
100 POKE 16149,255: POKE 16150,255: REM POKE limit
110 PRINT "Enter your Name: "
120 POKE 64885,0
130 p=PEEK(64885): IF p=0 THEN r=RND(1): GOTO 130: REM wait
140 IF p=13 GOTO 200: REM must be end of name
150 n$=n$+CHR$(p): GOTO 120: REM build name 1 letter at a time
200 REM program starts here
```

Particularly if a player's name is very long, this routine could yield thousands of different starting positions.

5) High Tech Approach

Machine language programmers know that the Z-80 has a refresh register. This register will contain a random value between 0 and 127. It is the trigger that is used to REFRESH memory. Enter this submission, also from an unknown source:

```
100 FOR i=0 TO 5: READ d: POKE 1056+i,d: NEXT
110 DATA 237, 95, 50, 38, 4, 201
120 CALL 1056: x=RND(-PEEK(1062))
```

The first two lines POKE in a routine which gets the refresh value and POKE it into address 1062. We then extract that value and use it to create a -x type seed. Unfortunately, this method only gives us 128 unique starting positions. Still, it is better than nothing and it cannot be cheated since there is no way the PLAYER can know what state the refresh register is in. We will come back to this one in a moment.

But why should BASIC reset the seed and force me to do all this extra work? NO REASON. As a matter of fact, you can POKE zeroes into addresses 11907 to 11918 to disable the re-setting of the random seed. I have experienced no ill effects from this approach.

Furthermore, for those using my zero page clock, you can make your random generator use the Hours, Minutes, Seconds and Jiffies as a random seed with the following:

```
10 DATA 42, 84, 0, 34, 62, 63, 42, 86, 0, 34, 64, 63
20 FOR x=11907 TO 11918: READ y: POKE x, y: NEXT
```

Add this routine to your HELLO file and you won't have to worry about randoms any more. Remember, however, that the clock is turned off when in GRAPHICS modes. A game that terminates in graphics mode will restart with the same random seed if RUN is typed from the graphics mode. Accordingly, those games should end with a TEXT command to restart the clock.

6) Higher Tech

If we go back to example number 4, we can combine a few things we have learned. Rather than having to CALL a routine that gets the REFRESH register, why not incorporate it into the routine that would normally have RESET the seed every time a program is run... follow closely:

```
110 DATA 237, 95: REM this gets the REFRESH into register A
120 DATA 111: REM this puts it in register L
130 FOR i=0 TO 2: READ d: POKE 11907+i, d: POKE 11913+i, d: NEXT
```

The last line replaces the two routines which load the HL register with a static value with one that inserts a DYNAMIC one. This true random fix can be inserted into your HELLO file and run only once as it is a permanent fix. This routine will work if you are in GR, HGR or TEXT mode. Its only disadvantage is that it creates only about 256 starting random seeds. As it is always functioning for you automatically, you could supplement it with a simple keypress routine as in the first three examples. Although this approach cannot be MY personal favorite since I did NOT invent it, it is the one that I recommend the most because of its simplicity and apparently permanent nature.

7) Using the Interrupts

The following routine, with a few more remarks thrown in, is also from an unknown source. It makes use of the Z-80 non-maskable-interrupt (or NMI). BASIC uses the NMI as an automatic/timed interrupt to run the FLASH mode. It does not matter whether or not FLASH had been activated, the routine at 66(hex) or 102(decimal) is executed 60 times per second. The following routine must be executed in the exact order shown below as timing is critical when POKEing around in a routine that gets executed 60 times per second... there is no room for error:

```
100 DATA 229, 42, 64, 63, 35, 34, 64, 63, 225, 201
120 FOR x=172 TO 181: READ ml: POKE x, ml: NEXT
130 POKE 171,0: REM let the end of the routine fall through
140 POKE 11907, 201: REM disable the random RESET routine
```

Line 120 POKES in a routine which increments two of the 4-byte random seed number. Such a small change, effected at 60 times per second is enough to truly randomize not only the first number you get, but all the others that follow. This means that even if by chance, you start at a predetermined position in the DECK, your chances of getting the same number on the second pass are very remote. The routine itself is POKEd in AFTER the RETURN from the NMI routine at 102 (it ends at 171). Thus while we are POKEing data, nothing is happening. Once all the data is POKEd in, we open the door at line 103. The final line disables the routine that puts those nasty static numbers every time a program is RUN.

While it is an ingenious way of creating truly random numbers, this routine places some extra work on the CPU. The only way you might notice a step down in speed is when you have a very intensive loop such as in a sort routine. Note also that this routine will have no effect

on the seed while in GR or HGR mode.

WARNING!!! If you are using my zero page clock, this routine is incompatible as it uses some of the same memory areas.

8) Low Tech but Effective

The following is my favorite in simplicity and safety -- it is a hard one to understand let alone CHEAT. You can prelude this one with a preset from the refresh register or by disabling the RUN reset altogether if you want a bit more flexibility. Basically, it remembers what key was pressed at the time the program started. It then stalls until a different key is pressed. Thus if you type "RUN" followed by "N", the program will not start until you press a key other than "N" and then press "N" again. It is possible to cheat this one as well but I won't tell you how. Many of my previous games used something along those lines so I don't want to give away all my secrets.

```
100 REM ask for instructions and set random seed
110 REM can be included at any program start
120 REM instructions or help question is a convenient way
130 REM of getting a key press
140 REM
150 PRINT "Do You Want Instructions (Y/N)?"
160 p=PEEK(64885): REM record current keypress value
165 REM stay here until a different key is pressed
170 IF p=PEEK(64885) THEN r=RND(1): GOTO 170
180 p=PEEK(64885): REM get current key
190 REM now check for y, Y, n, or N
200 REM if none of the above branch back to 170 until different
```

While not fool proof, this method will give the hackers a hard time. But look at it this way: If I play a game it's no fun if it is the same all the time. Those who want to play THE SAME GAME will find a way so don't bother with them.

9) The Last Word

Finally, with special thanks to Bob Currie (E.A.U.G.) and the A.N.N. network which published his article on random numbers, I have another addition to the randomness of random numbers. Following is an extract from his article:

"If we scan all of the accessible memory locations in the ADAM, we find that there are three addresses at which one does not always get the same number. At 17003(dec) we get a zero seven times out of ten and a one three times out of ten. At 65220(dec) we get a 4 seven times out of ten and a 140 three times out of ten. At 17011(dec) we get the numbers from 1 to 12 with a pretty much even chance of getting any one of them."

Bob goes on to say that you can add the 3 values at these addresses to form the basis for a RND(-x) routine. I have come upon a more ingenious method. Firstly, adding the numbers together gives the results ranging from 5 to 17 or 141 to 153 or 26 unique combinations. If we instead use the value at 17003 as a multiplier, we can increase the range to 48 unique combinations:

$$r = \text{Peek}(65220) + \text{Peek}(17011) + 12 * \text{Peek}(17003)$$

The first half of the equation yields 5 to 16 or 141 to 152. Adding 12 times the value at 17003 expands this range to 5 to 28 or 141 to 164. But now what do we do with this number? Well, we could always use a RND(-x) function (as Bob suggests), but that would limit us to ONLY 48 unique combinations. Just POKE it into one of the RANDOM SEED

values prior to scanning the keyboard. This will effect some change in the seed number while not always having the same effect. Following is the example:

```
100 REM ask for instructions and set random seed
110 REM can be included at any program start
120 REM instructions or help question is a convenient way
130 REM of getting a key press
140 REM
145 POKE 16191,PEEK(65220)+PEEK(17011)+12*PEEK(17003)
150 PRINT "Do You Want Instructions (Y/N)?"
160 p=PEEK(64885): REM record current keypress value
165 REM stay here until a different key is pressed
170 IF p=PEEK(64885) THEN r=RND(1): GOTO 170
180 p=PEEK(64885): REM get current key
190 REM now check for y, Y, n, or N
200 REM if none of the above branch back to 170 until different
```



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MIDI: THE LINK BETWEEN ADAM, CONT. FROM PAGE 6

MIDI is you can use just about any unit that has MIDI IN/OUT ports on it! Except sound cards.

With the cost of IBM XT compatible systems dropping to the \$100 range, it occurs to me that upgrading our MIDI hardware with a top quality sound card would actually be cheaper than adding a hard drive or large capacity disk drive to the ADAM. The Sound Blaster card is now priced in the \$75 range while other cards of tremendously greater capabilities can be had in the \$200 and up price range. It's really just a matter of how serious you are about your music and your ADAM. If you want to use one of those new cards, this is a pretty unusual way of doing it... but one that works! The use of that IBM XT as a way to format your ADAM disks, saving wear and tear on your ADAM drives, is just icing on the cake. Somehow, though, I don't think this is QUITE what IBM had in mind... but who cares what THEY think anyway!

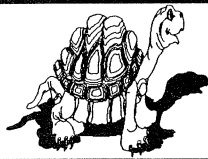
NORTHERN OHIO ADAM HACKERS

c/o Ron Collins
529 Grandview Ave.
Barberton, OH 44203

For further information on the MIDI-MITE Interface, compatible MIDI equipment and a complete listing of over 20 volumes of MIDI Public Domain software write to:

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c/o Chris or Elizabeth Braymen
45280 S. Oakview Dr.
Oakhurst, CA 93644
(209) 658-8530

Other sources for MIDI public domain and or shareware software / songs include our own N.I.A.D. Public Domain Library, ADAM's House, ADAMLink of Utah, R & R Software, CompuServe, GENie and the many fabulous ADAM Bulletin Boards around North America.



THE LOGO NOTEBOOK

Part XIV: Using Expansion RAM in SmartLOGO

by Guy Cousineau / A.U.F.G. Newsletter

Firstly, let me say that I am not a LOGO expert. Some of the techniques described in this article may not be the most practical and/or efficient way of doing things. I have, however, discovered a rudimentary way of accessing expansion RAM in LOGO.

First, some technical stuff. LOGO can use the memory area below 31740 for machine language routines. Bytes are reserved via the .ALLOCATE primitive. Expansion RAM can be switched in, in halves - the part residing from 0 to 32767 OR the part residing between 32768 and 65535. In order to pass values from standard RAM to EXPANSION RAM, one must use this two step approach so that one part of the controlling program has access to 1/2 of the REAL memory before taking over.

Thus the approach I used; set up a machine language routine in the lower half which will get the ADDRESS TO PEEK/POKE and the value (if POKE). This machine language routine switches in the upper half of ERAM and sends that information to another controlling routine. When this second routine takes over, it switches in the lower half of ERAM and executes the PEEK or POKE. Everything is then switched back to normal settings.

This presented me with quite a complex problem: how to POKE all that machine language stuff into memory. I wrote the drivers (in CP/M) and assembled them creating a PRN file which had all the POKE values (in HEX). Problem number two: how to POKE HEX values using LOGO. After quite a bit of work, I came up with the procedures which you will find in the SETERAM LOGO listing.

Following this article, you will find the complete machine language source listing for the routines required. It is divided into 5 components.

SENDBYTE is the routine which will send a byte to the expansion RAM. It extracts the address from 31738-31739 and the value from 31740. It then jumps to the controlling routine in expansion RAM which handles the actual transfer.

GETBYTE is the reverse function which gets a value from expansion RAM and places it in address 31740 where LOGO can extract it for further use.

The next two routines are the companion drivers to SENDBYTE and GETBYTE. They switch in the other half of expansion RAM and move the byte in question. They then return control to the calling routine in regular memory.

The last routine is the one used by LOGO to move the drivers into expansion RAM. It is not required after its first use.

The LOGO program contains a procedure to move the drivers into expansion RAM. Another procedure POKES the controlling program into standard memory. Both of these use a somewhat verbose HEX procedure to POKE values starting at a particular address from a LIST containing HEX values. It calls the CONV procedure to change these numbers into decimal prior to using .DEPOSIT.

The program then defines two procedures: PEEKERAM and POKEERAM gives you the syntax for using them... all values are decimal at this point. The final step is to erase the procedures which will not be required... only PEEKERAM and POKEERAM remain and can be merged into other programs. Since the program is self destructive, I did not make it AUTORUN by using ' MAKE "STARTUP "START '. To get it running, type the following:

ENTER: LOAD "SETERAM <CR>

ENTER: START <CR>

You can then try the following to ensure that it is working:

ENTER: PEEKERAM 1000 <CR>
ENTER: PRINT [PEEK] <CR>
ENTER: POKEERAM 1000 50 <CR>
ENTER: PEEKERAM 1000 <CR>
ENTER: PRINT [PEEK] <CR>

WARNING! Do not POKEERAM between 8000H and 80FFH, 32768 and 33023 inclusive. This is where the controlling routines reside, I will let the LOGO experts improve the POKEERAM routine to disable POKES within that range.

Now for the potential problem: Demons and other such things. I presume that LOGO uses interrupts to handle DEMONS, and keyboard scanning for ESCAPE, and perhaps a few other things. When the upper half of ERAM is switched in, part of the LOGO program disappears and a branch to a DEMON routine would create havoc. Furthermore, when the lower half of ERAM is also switched in, a NON MASKABLE INTERRUPT would branch to 66H. This could be halted with a 'RET NMI' instruction POKEd into 66H of ERAM (there's another address we can't use.) If other interrupts are used, where do they branch. I will let the LOGO experts work on that. Enjoy the routines.



```
;ERAM driver for LOGO
;31740=byte to put if POKE or received byte if PEEK
;31730, 31739=ERAM address to work with
;
;the LOGO routine must place valid bytes in these
;prior to making the ".call"
;it should also check that the area
;from 8000H and 8100H is NOT used
;that is where the drivers reside.
;
7BCE      STARTAT EQU          31738-TRANSLNGTH
.PHASE    STARTAT
;
SENDBYTE                                     ;=31694 *****
7BCE 3E 09          LD  A,9          ;switch upper half in
7BD0 D3 7F          OUT (127),A
7BD2 3A FC 7B      LD  A,(31740)     ;get byte to send
7BD5 ED 5B FA 7B   LD  DE,(31738)   ;address to send it
7BD9 21 DF 7B      LD  HL,GETBACK1  ;make sure we getback
7BDC C3 00 80      JP   8000H       ;jump to e-ram

GETBACK1:
7BDF 3E 01          LD  A,1
7BE1 D3 7F          OUT (127),A     ;back to normal RAM
7BE3 C9            RET
;
GETBYTE:                                       ;=31716 *****
7BE4 3E 09          LD  A,9
7BE6 D3 7F          OUT (127),A     ;switch upper half
7BE8 ED 5B FA 7B   LD  DE,(31738)   ;address to read from
7BEC 21 F2 7B      LD  HL,GETBACK2
7BEF C3 80 80      JP   8080H

GETBACK2:
7BF2 32 FC 7B      LD  (31740),A    ;put byte where LOGO
;can read it
7BF5 3E 01          LD  A,1
```

```

7BF7 D3 7F      OUT (127),A
7BF9 C9         RET
;
TRANSLength EQU    $-SENDByte
.dephase
;
;driver section which must be loaded to e-ram
.PHASE 8000H
;put byte section pokes (DE) with A
8000 0E 7F      LD C,127
8002 06 0A      LD B,10
8004 ED 41      OUT (C),B          ;switch lower half
8006 12         LD (DE),A
8007 06 09      LD B,9
8009 ED 41      OUT (C),B
800B E9         JP (HL)          ;back to original
                                   ;caller exit routine

.dephase

.phase 8080H
;
;get byte routine PEEKS (DE)
;
8080 0E 7F      LD C,127
8082 06 0A      LD B,10
8084 ED 41      OUT (C),B          ;switch lower half
8086 1A         LD A,(DE)
8087 06 09      LD B,9
8089 ED 41      OUT (C),B
808B E9         JP (HL)          ;back to caller
;
.dephase
;
;now we need a ML routine to POKE the ML routine
;I.E. switch in the upper half and move data
;   from somewhere below      31737
;   to                          32768 (8000H)
;
;since drivers may be expanded to cover larger erams
;I have allowed 80H bytes of code for each driver
;so we POKE the destination address at 31738,31739
;this will be 8000H for part 1 and 8080H for part 2
;
;our data needs to be poked in
;below the routine that will transfer it
;the routine below is bytes long
;
;so our data starts at 31738-80H-15H
;   or 31589... remember that number
;   we'll use in the ".DEPOSIT" routine
;
.phase 31738-15H
7BE5 routinestart          ;31717 *****
7BE5 3E 09      LD A,9
7BE7 D3 7F      OUT (127),A
7BE9 21 65 7B   LD HL,31589
7BEC ED 5B FA 7B LD DE,(31738)
7BF0 01 80 00   LD BC,80H
7BF3 ED B0      LDIR
7BF5 3E 01      LD A,1
7BF7 D3 7F      OUT (127),A
7BF9 C9         RET
7BFA endroutine   equ $
0015 routinelen   equ endroutine-routinestart

```

←

```

TO START
TELL ALL HT
.ALLOCATE 152
MOVEXFER

```

```

MOVEDRIVER
PRINT [ ]
PRINT [EXPANSION RAM DRIVE HAS]
PRINT [BEEN INSTALLED]
PRINT [USE]
PRINT [POKEERAM ADDRESS VALUE]
PRINT [ . . . OR . . . ]
PRINT [PEEKERAM ADDRESS]
PRINT [ ]
PRINT [IN THE LATTER CASE THE]
PRINT [VARIABLE PEEK WILL CONTAIN]
PRINT [THE DESIRED VALUE]
ER [MOVEXFER MOVEDRIVER HEX CONV]
ER [START]
END

TO MOVEXFER
PRINT [ ]
PRINT [INSTALLING E - RAM TRANSFER]
PRINT [ROUTINE]
HEX 31717 [3E 9 D3 7F 21 65 7B ED 5B FA 7B 1 80 0 ED B0 3E 1 D3
7F C9]
HEX 31738 [0 80]
HEX 31589 [0E 7F 6 0A ED 41 1A 6 9 ED 41 E9]
.CALL 31717
HEX 31738 [80 80]
HEX 31589 [0E 7F 6 0A ED 41 1A 6 9 ED 41 E9]
.CALL 31717
END

TO MOVEDRIVER
PRINT [ ]
PRINT [INSTALLING MAIN TRANSFER]
PRINT [DRIVER]
HEX 31694 [3E 9 D3 7F 3A FC 7B ED 5B FA 7B 21 DF 7B C3 00 80 3E
1 D3 7F C9]
HEX 31716 [3E 9 D3 7F ED 5B FA 7B 21 F2 7B C3 80 80 32 FC 7B 3E
1 D3 7F C9]
END

TO HEX :VAL :LIST
IF EMPTY :LIST [STOP]
TYPE :VAL TYPE [ \ ] PR FIRST :LIST
.DEPOSIT :VAL CONV FIRST :LIST
HEX :VAL + 1 BF :LIST
END

TO CONV :HNUM
IF EMPTY :HNUM [OP 0]
IF EMPTY BL :HNUM [OP SUM ASCII :HNUM IF NUMBERP :HMUM
[-48] [-55]]
OP 16 * ( CONV BL :HNUM ) + CONV LAST :HNUM
END

TO PEEKERAM :ADDRESS
MAKE "HIGHAD INT ( :ADDRESS / 256 )
MAKE "LOWAD :ADDRESS - 256 * * :HIGHAD
.DEPOSIT 31738 :LOWAD
.DEPOSIT 31739 :HIGHAD
.CALL 31716
MAKE "PEEK .EXAMINE 31740
END

TO POKEERAM :ADDRESS :VALUE
MAKE "HIGHAD INT ( :ADDRESS / 256 )
MAKE "LOWAD :ADDRESS - 256 * * :HIGHAD
.DEPOSIT 31738 :LOWAD
.DEPOSIT 31739 :HIGHAD
.DEPOSIT 31740 :VALUE
.CALL 31694
END

```



PUTTING THE SQUEEZE ON

File Compression in CP/M and T-DOS

by David Cobley / A.D.V.I.S.A. Newsletter

In the world of telecommunications and data processing, the need to reduce costs is just as important as it is elsewhere in our free enterprise system. Costs of data transmission vary directly as the distance over which data is transmitted, plus the size of the data package. The same is true of data storage, since the less actual storage space the data occupies the lower per unit cost for storage.

In CP/M (T-DOS) and the more modern Operating Systems, such as MS-DOS and PC-DOS, several systems for making data occupy a smaller space have been developed. This function of reducing the size of a given data package is usually referred to as "file compression".

The Oxford Dictionary defines "compress" as "squeeze together, bring into smaller compass, condense". That is precisely the intention of the various compression techniques presently employed in data processing.

In CP/M and TDOS, which are the two operating systems we are likely to use with our ADAM's, there are several basic file compression systems, like Squeeze/Unsqueeze, Crunch/Uncrunch, CRLZH/UCRLZH, and Zip/Unzip.

Squeeze, an earlier version of a compression system, is hardly used nowadays. **Crunch** is faster than Squeeze and compresses data more than does Squeeze. **CRLZH**, which is more recent, compresses smaller than Crunch, is slower than Crunch, but not quite as slow as Squeeze. Finally there is **Zip**, which is the latest we in ADAMdom have available to us. Those readers who own MS-DOS or PC-DOS units as well as their ADAM's will also have access to their own version of Zip, known as Pkzip, not available to we ADAM users.

Squeeze, Crunch, CRLZH and Zip are not compatible with one another and therefore, with one notable exception, files compressed with one system cannot be "decompressed" with another. (You can use CRLZH to decompress both Squeezed and Crunched files as well as it's own production). Each compression system uses a significant character, or characters, in the filename extension to identify files compressed with that system.

Here are the identifiers:

- Squeezed files use a filename extension of ***.?Q?**
- Crunched files use a filename extension of ***.?Z?**
- CRLZHed files use a filename extension of ***.?Y?**
- Zipped files use a filename extension of ***.ZIP**

Unfortunately, we in the ADAM world, do not, as yet, have a means of creating a "Zipped" file on our own computers, although we do have two Unzip programs.

I'm told that this is due to the current size of the "Zipper" programs, which exceed the available memory space for our limited Random Access Memory. Whether or not one of our experienced T-DOS programmers can produce smaller programs yet remains to be seen. But we can Unzip files that are Zipped on another system and transferred to an ADAM compatible medium. So we are part way there.

One of the limitations we find, in accessing modern Bulletin Boards, that are operated on more sophisticated hardware than our own, is the fact that the world of file compression continues to progress at much the same rate as the additional speed and flexibility of each new

computer system. As microprocessors become more and more sophisticated, their ability to access larger memories and to process data faster, provides scope for an ever increasing range of compression processes. And we in our small, small world of ADAM have to try to play catch-up ball, which we unfortunately fail to do. Every time someone produces a new system for ADAM to access compressed files available to MS-DOS and PC-DOS users, they already have a newer, faster and more capable compression system, which defies our access.

Nevertheless, we do have a considerable collection of CP/M and T-DOS programs that are available to us in a compressed form to provide the maximum possible data space within the smallest possible storage. And, not only are these files "compressed" but they are, in many instances, gathered or grouped together into what are termed "Library" files or "Archives". Once again these are identified in their filename extensions to show what system has to be used. Librariated files are usually given a filename extension of *.LBR. And archived files use *.ARK, which distinguishes them from MS-DOS or PC-DOS archives which use the extension *.ARC.

We, in the ADAM world, are extremely fortunate to have such people as Guy Cousineau working on our behalf. Guy has produced a sensational file directory maintenance utility, for use under T-DOS, called MAINT.COM, which can: build libraries, view and extract file from libraries, Crunch and Uncrunch / Unsqueeze files, and a range of other file maintenance activities associated with good file management. Like most of Guy's products, MAINT is in the public domain. The utility, which was written to operate under T-DOS, can also be used with any CP/M 2.x and CP/M 3.x system, which greatly increases it's target audience.

This short article was not meant to be highly technical since that would be beyond the knowledge of the writer, but, if there is something more you would like to know about file compression, write me a note, and I'll try to find answers to your questions.

A QUICK NOTE ABOUT THE N.I.A.D. CP/M LIBRARIAN: DOUG ROSENVINGE

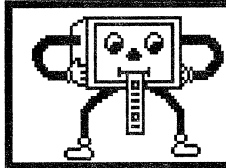
by Jim Notini

Over the last couple years, Doug Rosenvinge has worked with N.I.A.D. and for the N.I.A.D. members in the position on CP/M Librarian. Doug has worked extremely hard in compiling new public domain volumes, organizing the old volumes into a database listing (available on CNDV Vol. #56 and recently updated) as well as writing countless articles that have been published in this and other newsletters.

Recently, however, he has had to take a little time out to concentrate on his personal life and place some ADAM projects on the back-burner for the time being. He has asked N.I.A.D. to pass along this information to the readers due to the fact that a number of members have contacted him asking why he hasn't written any new articles of late. He wants everyone to know that he is still alive and kicking and as devoted as ever to the ADAM and the ADAM community.

Once Doug is able to devote the time necessary to writing articles, you will once again see his work published in this newsletter. We would like to thank Doug for his efforts and vast contributions over the years and we eagerly await his next package of articles and P.D. volumes.

In the meantime, we will continue to run CP/M and T-DOS related articles by other authors to fill this temporary void. Also, check out the Public Domain Workshop for details on a new P.D. volume.



AN INTRODUCTION TO T-DOS

Part I: Getting Started with a New O.S.

by James Poulin / M.O.A.U.G. Newsletter

I have been asked to write a series of articles to familiarize our readers with the T-DOS Operating System. During the course of these articles, I will use passages directly from the T-DOS documentation files. This is done because I feel that the existing documentation explains technical matters better than I might be able to. A brief explanation of what T-DOS is, is in order. T-DOS is a public domain CP/M 2.2 replacement operating system written by Tony Morehen. T-DOS stands for Tony's Disk Operating System (or so I've been told). This system has gone thru many modifications and improvements with the current version being 4.59. I must caution you to use only those files that come with T-DOS V4.59, files from previous versions may not be fully compatible.

T-DOS is a flexible system that can handle disk drives of various sizes, ram disks up to 2 megabyte, parallel printers, internal and external modems, hard drives, terminals and much more.

It comes with many built-in features which reduce the number of utilities required to run the system as compared with the standard CP/M provided by Coleco. It also comes with it's own set of specific utilities to help manage the system and files.

T-DOS is made up of three components: the CCP, BDOS, and BIOS.

● **1. CCP (CONSOLE COMMAND PROCESSOR):** The CCP is the low level interface between the operating system and the user. It has rudimentary features which help you manage your files and is responsible for processing batch files.

● **2. BDOS (BASIC DISK OPERATING SYSTEM):** The BDOS is responsible for character input/output functions, and is a major player in file input and output. Most programs use BDOS functions to accomplish their major input/output tasks.

● **3. BIOS (BASIC INPUT OUTPUT SYSTEM):** The BIOS is the high level interface between the programs (and BDOS) and the physical devices composing your system. It has the necessary drivers to access your TV, monitor or dumb terminal, the tape and disk drives, the expansion memory, hard drive, etc. The T-DOS BIOS supports up to four disk drives of different sizes, and one hard disk partitioned into four logical drives.

The operating system is smart enough (via the user installation) to access only the devices that you have at the time of installation. You may change your system configuration by adding a disk drive or other peripheral and re-install T-DOS to match.

The operating system resides on disk, tape (or cartridge) and is loaded into memory when you boot your system. The CCP and BDOS are also copied to an unused area in Video RAM. When programs exit with a warm boot, the system is instantly re-copied to memory. You will no longer have to leave the system disk in the boot drive or wait for time consuming reboots when exiting from your favorite utilities. Lets run thru an installation for a system configured as follows: a TV, 2 SSDD disk drives, 2 tape drives, a ram card and an ADAM Printer.

You must have a bootable version of CP/M or T-DOS to install T-DOS V4.59. Have ready a blank CP/M formatted disk or DDP. Installation is as follows:

→ 1. Boot CP/M or T-DOS (Remember, the boot drive is the default "A" drive).

→ 2. Insert the T-DOS Program disk into drive "A" and then type the following command:

Type **40TDOS45** <CR> (The program will load and run).

→ 3. Insert the blank formatted disk into the default drive.

→ 4. Answer the following questions as indicated:

→ A) Which drive to install TDOS on? Type "A" (default drive)

→ B) Place Ram Disk Before or After Disk & Tape Drives (B or A)? Select "A". The program displays the system configuration as it will be installed:

```
DISK DRIVE 1 = A
DISK DRIVE 2 = B
TAPE DRIVE 1 = C
TAPE DRIVE 2 = D
RAM DRIVE = E
```

Press <RETURN> to Continue

→ C) Maximum size of Disk Drive "1"? Type 1 (145K)

→ D) Maximum size of Disk Drive "2"? Type 1 (145K)

→ E) Serial Port 1 Parameters? Type 0 (No Change)

→ F) Serial Port 2 Parameters? Type 0 (No Change)

→ G) I/OBYTE Settings:

1. Select CON=CRT for television
2. Select LST=LPT for the ADAM Printer

→ H) Current Path=A0: Change (Y/N)? Type N

→ I) Background Color: White
Foreground Color: Blue
Change (Y/N)? Your choice

→ J) Do you have EVE VD-MB 80 column display (Y/N)? Type N

→ K) Change Key Translations (Y/N)? Type N

→ L) Display SmartKEYS on line 25 (Y/N)? Type Y (your choice)

→ M) Edit SmartKEY Strings (Y/N)? Type N

→ N) Hit ENTER to install T-DOS

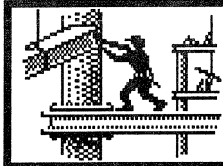
At this point the T-DOS Operating System will be written to the floppy disk in the default drive.

→ O) Do you want to install another (Y/N)? Type N

To run the newly installed T-DOS Operating System, pull the reset switch and the system automatically loads. You can then remove the boot disk and run programs from any of the installed drives.

Next time we'll get into some of the ramifications of making alternate choices during installation. We'll also discuss the built-in commands. I think you will find T-DOS to be very user friendly and customizable.

If you have any questions or need help with T-DOS, you can contact me (James Poulin) at the following phone numbers: Work - (407) 853-4775, Home - (407) 631-0958, Fax - (407) 730-3025.



TOOL TIMES WITH ADAM

ADAM Printer Problems

by Bob Blair / S.F.A.U.G. Newsletter

Following is an extensive listing of ADAM printer problem symptoms and causes which has become my bible in fixing printers, written by Monte Jones. The following is the first in a series of messages containing a combination of the things that I have discovered about the ADAM Printer through research and/or my own repair attempts.

Always UNPLUG THE PRINTER FIRST!!!

General Advise first, then more specific:

1) To prevent computer lockup caused by overheating:

- a. Keep a small fan directed at the rear of the printer and connected to the same power strip as the rest of the computer, especially if room temperature exceeds 80 degrees, or heavy use.
- b. Remove the lid of the metal box over the U2 computer chip to allow air to circulate over heat diffuser on top of chip. (Pop the cover off with a screwdriver)
- c. Use a printer stand that allows air to circulate under and around the printer (See #4 below).

2) Keep the large black roller clean with a moist cloth (if extremely bad use a little WD-40 on the cloth) and dried with a quality paper towel. Use WD-40 sprayed on a cloth on the chrome bars inside, do not dry.

3) Use a slightly moistened brush to clean the vents and ribs on the printer case, and a soaped, but only damp, towel to scrub the rest of the case.

4) Use Sponge feet on the printer to reduce sound level. MEI/MICRO (1-800-634-3478 and they take credit cards) has a neat Universal Printer Stand with foam pads for \$3.49 that does the trick plus enhances use of fan-fold paper (see below).

5) To use Fanfold paper, attach a rubber band to each of the tabs at each end of the small pressure bar over the black roller. Stretch each rubber band forward over front of printer and affix at bottom front with a hook made from a paper clip. Or connect the two bands together and attach a third (will make a Y shaped band) that is stretched over the front of the printer to a single paper clip. Use Poker chip guides in vent ribs to keep paper straight.

6) Reverse the air direction on your canister vacuum, pop the printer case cover off and blow out dust inside printer. Tilt printer front down and do not get nozzle too close to insides.

7) Make sure the wide plastic paper guide located directly under the front of the black printer roller is attached and undamaged. The paper slides too easily if there is a problem here.

8) A good ribbon seems to cure most poor printing problems. (or tightening a loose daisy wheel)

9) On newer printers (with cylindrical print driver head) don't try to adjust print strike without loosening the two tension screws on each side of driver head (after removing ribbon, of course). The adjusting screw is the plastic one in the oval-shaped hole at the rear of the cylinder. Tighten tension screws after making adjustments. On old printers, I use needle nose pliers to bend the driver platform. Be gentle with it.

10) Most operational problems (at least in my experience) are in the switch on the case on left side of the ribbon (resets the ribbon at beginning of page margin) or in the small circuit (printer logic) board (the one that the small metal box sits on).

- a. The switch arm can be bent or broken. I keep a supply from old printers, but try to rebend original if I can. (This may be the source of your "chattering" problem.)
- b. Regarding the small circuit board, the U2 chip (the big one inside the metal box) is usually the culprit. I wedge the old one out of its socket with a tiny screwdriver and put the new one in with my fingers, without taking the printer apart. It can be done without taking the printer case apart. I Hoard a supply of salvaged (working) printer parts for later use, especially U2 chips and whole logic boards (no I will not part with any). The whole circuit board can be easily removed (cut the three wires in the back in the middle and twist, solder & tape back with new board. The symptoms of bad U2 chips are usually: printing scrambled characters or random geartrain advances or printing stops after a few minutes.

11) If the print driver is not working properly, or you just cannot get the right strike, no matter what you try, you may have to replace the Carriage assembly. The whole assembly (what the ribbon sits in), including the conduit and connectors are easy to get out and replace. Just spread the front clamps on each side of the assembly case with your thumbs, very wide, and tilt the daisy wheel up and back, then do the same with the back clamps (may have to use screwdriver to wedge them wide enough to remove housing. Then remove screw holding the wires and pull the connectors off the Logic Board (write down how they were attached). Cut any plastic wire retainers with scissors.

12) DO NOT MESS WITH THE STRING THAT MOVES THE CARRIAGE ASSEMBLY!!! I've wasted a lot of time on that darn thing!!



OTHER THINGS I LEARNED WHILE USING MY ADAM... the hard way!

- 1) It's impossible to make something foolproof because fools are so ingenious.
- 2) The ADAM and it's printer work better if you plug it in to a wall outlet.
- 3) In computer programming, the one language that all programmers will know best is profanity.
- 4) The end of my program is usually the place where I got tired of thinking.
- 5) No amount of careful planning will ever replace dumb luck for the experienced as well as novice user.
- 6) Continuous-feed paper is always the strongest at the perforations.
- 7) After finally reassembling my ADAM, extra parts will be found under the table.
- 8) Whom computers would destroy they must first drive insane.

That's about it. Maybe others have tips for us beyond these and will share them with us.



PRODUCT REVIEWS

TYPE
HARD DISK DRIVE

RELEASED
JULY 1992

PowerMATE 20/40 I.D.E. H.D.D. by Micro Innovations

PRICE
\$299.95 / \$399.95

MEDIA
HARDWARE

Reviewed by Alan Neeley / A.L.U. Newsletter

My last review on a Micro Innovations Hard Disk Drive was on the PowerMATE LC/40 Prototype H.D.D. that I demonstrated at ADAMCON 03 and later purchased. As it turned out only two of those prototype versions exist - the other one is owned by Rich Cossaboon. For some reason, the type of hard disk drive being used in the prototypes has a very low success rate. However, the two prototypes continue to work flawless to this very day (and I hauled mine to Cleveland and back without a single problem).

So Mark Gordon went back to the drawing board to develop a more dependable hard disk drive. It was a year later at ADAMCON 04, when the new I.D.E. Hard Disk Drive was introduced. The operating software was incomplete (as Mark and Tony Morehen feverishly worked to complete it right there at the convention) yet I could tell right away that this setup was going to be the way to go. I was pleased to find that when the 20 MEG and 40 MEG units I purchased made it back to Salt Lake City, Utah the information on them was still intact. I was even more pleased when the completed operating software arrived in the mail a couple of weeks later and all worked as hoped after exhaustive testing on the units!

One of the first things I found was that the H.D.D. Interface card was designed to plug into ADAM's Expansion Slot #1 inside the Memory Console, not Slot #2, like the prototype version. Mark informed me that a card for Slot #2 would be made available upon request for an additional \$25. The Slot #2 card has a Parallel Interface and a socket where an AUTO BOOT PROM can be inserted for automatically booting the hard disk drive upon power up. It also provides the connection for the large memory expanders to work correctly.

Two other M.I. products are available to compliment the hard disk drive. The M.I.B. 3 can be used with the card designed for Slot #1 to provide 2 Serial Ports, 1 Parallel Port, Auto Boot Prom Socket for installation of any Boot Prom and Addressor. The Dual Serial I/O Card can be used with the card designed for Slot #2 to provide 2 Serial Ports.

So what is a M.I. hard disk drive like with an Auto Boot Prom installed on the Slot #2 interface? It's like pure heaven! There's no need to put in a digital data pack or a disk to patch in the hard disk drive. When you turn your computer on or pull the <Computer Reset>, the hard disk drive is automatically patched in and the boot block on the hard disk drive is loaded (which will send you to E.O.S. or T-DOS depending on how the user has it setup). If a disk or data pack is in one of the other ADAM storage devices, they will be booted up instead with the hard disk drive patches installed. If the hard disk drive power is not on, the ADAM will go through the normal process without the hard disk drive patches installed (it will function as a normal ADAM).

The new I.D.E. hard disk drives are not compatible with the operating

software designed for any of the other hard disk drives (the prototypes are the previous style PowerMATE compatible). Obviously the reason why new operating software had to be designed. Versions of T-DOS and E.O.S. HARD DISK are included.

All user software that works with the operating software for the other hard drives should work just fine with the versions for the new I.D.E. hard disk drives. I have tried programs like ADAMLink V, PowerPAINT (hard drive version), Electronic Flashcard Maker, ExpeTYPE, SmartFILER, and many others and all work just fine. A patched version of SmartBASIC that allows access to all E.O.S. partitions is included. File Manager is also included as well as BOOT files and instructions on how to convert several of the original Coleco programs to work on a hard drive. Several utility programs are included for use with T-DOS along with a large amount of documentation to be printed out. Note that numerous others programs are being patched to work properly from all the available hard disk drives.

The operating speed of both the 20 MEG and 40 MEG models is comparable to the other M.I. Hard Disk Drives I have owned. The Minni-Winni Hard Disk Drive by HLM/GMK Hardware & Software Co. is a little bit faster but nothing that is really noticeable unless you are comparing them side by side. In any case, the I.D.E. Hard Disk Drives are much, much faster than a Floppy Disk Drive (be it a Coleco or Micro innovations model) let alone a Digital Data Drive.

The I.D.E. Hard Disk Drive is enclosed in a casing that matches the M.I. ADAMnet Floppy Disk Drives. I stack the hard disk drive on top of two floppy disk drives. It actually takes up less space than the original PowerMATE 40 enclosure. Even better, with a little ingenuity and modifying of the ADAM, the I.D.E. Hard Disk Drive can actually be installed INSIDE the Memory Console! (I know, I've done it).

It is my opinion that Mark has achieved his goal of providing an inexpensive and dependable hard disk drive for the ADAM Computer. If you are tired of those old-slow-undependable Digital Data Drives and/or need more storage capacity for your computer, then you can't go wrong by upgrading to either one of these fine products.

You can order these and many other fine Micro innovations products through ADAM-Link of Utah, ADAM's House, N.I.A.D. and many other vendors or order direct through M.I.:

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

SYSTEM REQUIREMENTS

- MEMORY: BASE ADAM SYSTEM WITH R80 REVISION
- PRINTER: ADAM PRINTER AND OR DOT MATRIX PRINTER
- DRIVES: 1 OR MORE DISK DRIVES AND OR DIGITAL DATA DRIVES
- OTHERS: 64K UP TO 2Mb MEMORY EXPANDER OPTIONAL
- OPTIONS: M.I. PowerMATE SLOT #2 HARD DISK DRIVE INTERFACE

HARDWARE RATINGS

- HARDWARE DESIGN A+
- HARDWARE INSTALLATION A+
- INSTRUCTIONS A-
- EASE OF USE A-
- VALUE FOR THE DOLLAR..... A+

OVERALL

A

BASIC PROGRAM. TUTORIAL

by L.C. Austill

Reviewed by Jim Notini

TYPE: SmartBASIC PROGRAMMING TUTORIAL
RELEASED: JUNE 1992
PRICE: \$14.95
MEDIA: 64-PAGE BOOK WITH DISK OR DDP

Basic Programming Tutorial by L.C. Austill is a SmartBASIC programming tutorial that covers many of the fine points that were missed by Coleco in their SmartBASIC manual. Basic Programming is broken up into seventeen chapters with the last chapter being a compilation of program listings which are also available on the included disk or ddp. This is the perfect replacement to Coleco's manual if you have lost your manual or did not receive one with your ADAM.

The entire 64-page manual is a compilation of articles that L.C. Austill had written in 1987 and placed into the public domain for all to use and now thanks to the efforts of ADAM's House we have available a printed hardcopy version. While you can get the disk or ddp collection for considerably less, it is recommended to purchase the printed book especially in the case where you have to look up something. Would you rather have to search a number of different files on a disk or ddp or flip through some pages of a book to find what you are looking for?

Following is a breakdown of all seventeen chapters:

- **CHAPTER I:** RETURN Key, PRINT commands, Variables, Arithmetic symbols, Error Messages and List.
- **CHAPTER II:** Editing Functions, FOR/NEXT Introduction, RUN, HOME, SPEED, Formatting, TAB, SPC, VTAB and HTAB.
- **CHAPTER III:** Storing Programs, SAVE/LOAD, Merging material, CATALOG, DELETE, INIT, Drive Identification, Formatting Disks.
- **CHAPTER IV:** Variables, %, \$, LEN, VAL strings, STR\$, ASCII Codes, CHR\$ and String Commands.
- **CHAPTER V:** INPUT, GET, IF/THEN, GOTO, COLON, DATA/READ, RESTORE, FOR/NEXT and Nested Loops.
- **CHAPTER VI:** Transfers, GOTO, GOSUB, POP and IF/THEN.
- **CHAPTER VII:** Menus, ON X GOTO, ON X GOSUB, SmartKEYs, PEEK, POKE, CHR\$(7), INVERSE and Color Changes.
- **CHAPTER VIII:** Arrays and DIMension Statements.
- **CHAPTER IX:** Data Files, File Commands, Sorting, Add Data and Delete Data.
- **CHAPTER X:** RND Numbers, Casting Dice and Shuffling Cards.
- **CHAPTER XI:** Graphics Introduction.
- **CHAPTER XI-A:** Low Resolution Graphics, GR, Color, Plot, Text, HLIN, VLIN and SCRIN.
- **CHAPTER XI-B:** High Resolution Graphics, HGR, HGR2, HPLLOT, HPLLOT a,b TO c,d, DEF FN, FN, SHAPES, SCALE, ROT, DRAW AT and XDRAW.
- **CHAPTER XI-C:** SHAPE Tables, LOMEM and HIMEM.
- **CHAPTER XI-D:** Pattern Plane - brief introduction.
- **CHAPTER XI-E:** Sprites - brief introduction.
- **CHAPTER XII:** Program Listings.

Overall Basic Prog. Tutorial is the perfect addition to Coleco's manual since it goes a step further in explaining programming techniques that are briefly touched on and most importantly it contains clear and well documented examples for the reader to put to use and learn from.

BOOK RATINGS	OVERALL
● PAGE LAYOUTA-	<h1>B+</h1>
● PAGE LEGIBILITYA-	
● BOOK CONTENTB	
● EASE OF READING / USEA-	
● VALUE FOR THE DOLLAR.....B	

MODEM TANK

by Bonafide Systems

Reviewed by Gene Welch

TYPE: MODEM ARCADE GAME
RELEASED: JULY 1993
PRICE: \$10.00
MEDIA: DISK OR DIGITAL DATA PACK

It's time to put on your camouflage pants and army helmet, "Modem Tank" is here. Seriously though, Bonafide Systems (MIDI-Mite, SEQuel) has released what may be the only telecommunications based game utilizing graphics. Modem Tank is a nice rendition of the ubiquitous battle tank games with a great new twist. Modem Tank can be played "on-line", with another ADAM computer, allowing up to four players at once.

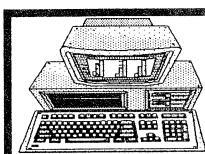
Putting Modem Tank into your disk drive and pulling the reset will reveal a very nice boot screen, and then the main option screen. Here you are given choices on what type of modem or serial interface you will be using, or you can choose to play the game locally. Playing a local game will limit the action to only two players. Next comes baud rate selection, both of the connected ADAM's must be matched in baud rate. The Call or Answer screen is next, unless you are playing locally which goes directly to the start of the game. Immediately upon "connection" the tank battle field screen appears. Here each participant "logs in" by pressing the fire button on their joysticks.

Upon Logging into the game, a countdown begins and then the tanks enter the battle field. When a tank enters it is protected by a shield for about ten seconds, this keeps your opponents from praying on tanks as they pass thru the door. These shields can be recharged by touching an energy triangle that matches your tank in color. Your tank is also equipped with an inexhaustible supply of shells. When all but one player's tanks are destroyed, the winner is announced by the battle field flashing in their color. The game then starts with a new battle field (4 in all), and asks for combatants to log in. All during game play and between rounds players can type (via keyboard) messages back and forth. We found this to be a great way to complain about that last cheap shot someone laid on you. Or to tell them just how many pieces you are going to blow them into.

Modem Tank is a great video game, it is designed with colorful Hi-Res graphics, and neat sound effects. Add in the ability to play "on-line" and you have a superb piece of software that we have lots of fun playing with either way. I highly recommend it to anyone who likes video games. It also seems to be a good way to introduce children to telecommunications. My hat is off to Bonafide Systems for creating this unique software product for the ADAM community. In fact, I can think of a few other games that would be quite nice to have. How about "Modem Jeopardy", "Modem Family Feud", "Modem Chess", or maybe "Modem Phrase Craze".

SYSTEM REQUIREMENTS	
● MEMORY:	BASE ADAM SYSTEM WITH R80 REVISION
● PRINTER:	ADAM PRINTER AND OR DOT MATRIX PRINTER
● DRIVES:	1 OR MORE DISK DRIVES AND OR DIGITAL DATA DRIVES
● OTHERS:	ADAMLINK 300 BAUD OR EXTERNAL SERIAL MODEM
● OPTIONS:	OPPONENT(S) TO PLAY OVER THE PHONE LINES

SOFTWARE RATINGS	OVERALL
● GRAPHICS / SCREENS.....B+	<h1>A</h1>
● MUSIC / SOUNDB+	
● INSTRUCTIONSA+	
● EASE OF USEA+	
● VALUE FOR THE DOLLAR.....A	



N.I.A.D. PRODUCT LIST

PRODUCTS & PRICING SUBJECT TO CHANGE
 PRODUCT LIST EFFECTIVE MARCH 1, 1994

ADAM HARDWARE

- ADAM COMPUTER SYSTEM (STAND-ALONE MEMORY CONSOLE)\$239.95
- ADAM COMPUTER SYSTEM (EXPANSION MODULE #3 WITH COLECO)\$209.95
- ADAM DAISY WHEEL PRINTER\$109.95
- ADAM DIGITAL DATA DRIVE\$49.95
- ADAM DISK DRIVE POWER SUPPLY\$19.95
- ADAM EXP. MOD. #3 MEMORY CONSOLE WITH DIGITAL DATA DRIVE\$69.95
- ADAM EXP. MOD. #3 MEMORY CONSOLE W/O DIGITAL DATA DRIVE\$54.95
- ADAM KEYBOARD WITH 7ft. ADAMnet CABLE\$24.95
- ADAM MEMORY CONSOLE WITH DIGITAL DATA DRIVE\$109.95
- ADAM MEMORY CONSOLE W/O DIGITAL DATA DRIVE\$89.95
- ADAM MONITOR CABLE WITH AUDIO\$9.95
- ADAM PRINTER POWER SUPPLY\$49.95
- ADAM PRINTER POWER SUPPLY COVER WITH ON / OFF LIGHT\$14.95
- ADAM TAN HAND CONTROLLER\$4.95
- ADAMLINK 300 BAUD MODEM WITH ADAMLINK I (DDP)\$49.95
- ADAMnet 7ft. CABLE\$2.95
- COLECOVISION GAME SYSTEM WITH DONKEY KONG CART\$59.95

EXPANSION MODULES

- EXPANSION MODULE #1 ATARI 2600 ADAPTOR\$44.95
- EXPANSION MODULE #2 DRIVING CONTROLLER WITH TURBO CART\$44.95
- ROLLER CONTROLLER WITH SLITHER CART\$44.95
- SUPER ACTION CONTROLLERS WITH SUPER ACTION BASEBALL CART\$44.95

MEMORY EXPANDERS

- M.I. 64K MEMORY EXPANDER\$29.95
- M.I. 256K MEMORY EXPANDER\$69.95
- M.I. 1,024K (1 Mb) MEMORY EXPANDER\$149.95
- M.I. 2,048K (2 Mb) MEMORY EXPANDER\$249.95
- MEGARAM 256K SIPP MODULE\$34.95

ADAM INTERFACES

- ADAM HOME AUTOMATION PACKAGE (Disk or DDP)\$89.95
- ADAM HOME AUTOMATION APPLIANCE MODULE\$14.95
- ADAM HOME AUTOMATION LIGHT DIMMER MODULE\$14.95
- ADAM HOME AUTOMATION WALL PLUG MODULE\$14.95
- ADAM HOME AUTOMATION WALL SWITCH MODULE\$14.95
- BONAFIDE SYSTEMS MIDI-MITE INTERFACE (DDP)\$74.95
- M.I. DUAL SERIAL I/O CARD (Disk or DDP)\$49.95
- M.I. PARALLEL PRINTER INTERFACE (Disk or DDP)\$34.95
- M.I. M.I.B. 3 INTERFACE (Disk or DDP)\$74.95
- M.I. PARALLEL PRINTER CABLE\$14.95
- M.I. RS-232 SERIAL CABLE\$14.95

FLOPPY DISK DRIVES

- 5 1/4" 320K FLOPPY DISK DRIVE UPGRADE KIT (Disk)\$89.95
- 3 1/2" 720K FLOPPY DISK DRIVE UPGRADE KIT (Disk)\$109.95
- M.I. 5 1/4" 320K ADAMnet FLOPPY DISK DRIVE\$199.95
- M.I. 3 1/2" 720K ADAMnet FLOPPY DISK DRIVE\$249.95
- M.I. 3 1/2" 1.44Mb ADAMnet FLOPPY DISK DRIVE\$299.95

HARD DISK DRIVES

- M.I. PowerMATE 20Mb HARD DISK DRIVE\$299.95
 - M.I. PowerMATE 40Mb HARD DISK DRIVE\$399.95
 - M.I. PowerMATE SLOT #2 HARD DISK INTERFACE\$25.00
- Also provides Parallel Interface, Memory Addressor and BOOT PROM.

ADAM CARTRIDGES

- ADAM HOME AUTOMATION\$39.95
- ADAM'S DESK TOP\$39.95
- COLECO GRAPHICS PROCESSOR (aka. Project Name By Line)\$39.95
- SMARTBASIC V1.1\$29.95
- SMARTMATE (for PowerMATE 2 and 4 Hard Disk Drives by M.I.)\$39.95
- SMARTWRITER ELITE\$34.95

NOTE: The cartridges listed above are for use with the ADAM Computer and cannot be used on the Colecovision Game System alone.

PROGRAM EPROMS

- ADAM'S DESK TOP\$29.95
- M.I. PowerMATE HARD DISK DRIVE BOOT EPROM\$10.00
- SmartWRITER ELITE\$29.95

ADAM & MISC. ACCESSORIES

- 256K COLECO ADAM DIGITAL DATA PACK\$2.00
- 256K RIGHT DIRECTORY ADAM DIGITAL DATA PACK\$1.00
- ADAM PRINTER RIBBON - BLACK ONLY\$5.95
- ADAM PRINT WHEEL (3 STYLES: PICA, COURIER, or EMPHASIS)\$5.95
- ADAM DUST COVER: PRINTER\$8.95
- ADAM DUST COVER: KEYBOARD\$8.95
- ADAM DUST COVER: STAND-ALONE MEMORY CONSOLE\$8.95
- ADAM DUST COVER: EXP. MOD. #3 MEMORY CONSOLE\$8.95
- ADAM DUST COVER: 5 1/4" OR 3 1/2" COLECO DISK DRIVE\$8.95
- ADAM DUST COVER: 3 PIECE SET (KEYBOARD, PRINTER, CONSOLE)\$21.95
- PANASONIC KX-P145i RIBBON FOR KX-P1123, 1124, 1124i, ETC\$12.95

ADAM MANUALS & BOOKS

- ACCESSING VRAM MANUAL\$12.95
- ADAM PROGRAMMING GUIDE (Disk or DDP)\$15.95
- BASIC PROGRAMMING TUTORIAL WITH SOFTWARE (Disk or DDP)\$14.95
- E.O.S. PROGRAMMER'S MANUAL\$11.95
- EzREF GUIDE 101, 102 & 103\$9.95
- FROM BASICS TO BASIC WITH ADAM\$19.95
- HACKER'S GUIDE TO ADAM VOL. I\$11.95
- HACKER'S GUIDE TO ADAM VOL. II\$11.95
- HACKER'S GUIDE VOL. I & II PROGRAMS (Disk or DDP)\$5.00
- LEARNING TO DRAW WITH ADAM (Z-80) (Disk or DDP)\$24.95
- LEARNING TO READ WITH ADAM (Z-80)\$24.95
- LEARNING TO WRITE WITH ADAM (Z-80) (Disk or DDP)\$24.95
- MacADAM MANUAL\$19.95
- MacADAM DEMO FILES (Disk or DDP)\$5.00
- N&B PIX REFERENCE BOOK\$12.95
- SmartBASIC DISASSEMBLY\$CALL
- THE OFFICIAL A.N.N. ADAM GLOSSARY\$4.95
- THE OFFICIAL A.N.N. ADAM SURVIVAL GUIDE\$24.95
- TDOS V4.5x OWNERS MANUAL\$4.00
- THE BEST OF ELECTRONIC ARTS OWNER'S MANUAL\$4.00

N.I.A.D. BACKISSUES

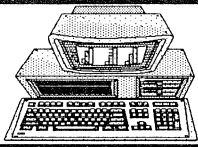
- N.I.A.D. NEWSLETTER BACKISSUES\$1.00
- All backissues of the N.I.A.D. Newsletter are available at this price of \$1.00 except for the issues listed below. The following backissues of the N.I.A.D. Newsletter are out of original print and therefor are available for \$2.00 each: Issues # 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 19, 20, 23, 42, 55, 66/67, 70, 73, 74, 75, 78/79, 81, 88, 89, 92 and 94.

UPGRADES & CONVERSIONS

- COLECO 'FILER PROGRAM UPGRADES\$4.00
- Send in your original Filer program Disk or DDP to be upgraded. Latest versions of the Coleco 'FILER programs are fully compatible with earlier versions. These versions will work correctly with any size 5 1/4" or 3 1/2" ADAM floppy disk drives. Specify whether you wish to receive a 5 1/4" 160K disk version of the 'Filer program if you send in a data pack master: SmartFILER R28D, RECIPE FILER R17, ADDRESS BOOK FILER R10D.

- DISK CONVERSION OF DATA PACK SOFTWARE\$4.00
- Send in your title card from your Coleco data pack to be converted to disk. Titles which can be converted include: Buck Rodgers, Donkey Kong, Donkey Kong Jr., Dragon's Lair, Zaxxon, Recipe Filer, 2010: The Text Adventure, Richard Scarry's Best Electronic Wordbook Ever (available on Flippy 160K, 320K or 720K disk), The Best of B.C., SmartLetters & Forms, CP/M 2.2 & Assembler or any other data pack software which you can not make a working copy to disk of. If you do not have proof of purchase, the original DDP must be mailed in as proof of purchase.

- INFOCOM CONVERSION TO ADAM CP/M 2.2 FORMAT\$4.00
- Send in your INFOCOM titles to be converted to an ADAM CP/M or TDOS format disk. We can convert: Zork I, II & III, Planetfall, Deadline, Starcross, Hitchhiker's Guide to the Galaxy, Leather Goddess' of Phobos, Stationfall, Plundered Hearts, Seastalker and Ballyhoo. Please inform us whether you would like the ADAM version written onto the original Infocom disk.



N.I.A.D. PRODUCT LIST

PRODUCTS & PRICING SUBJECT TO CHANGE
PRODUCT LIST EFFECTIVE MARCH 1, 1994

ENTERTAINMENT

2010: THE TEXT ADVENTURE	\$19.95
ADAM BOMB (64K)	\$19.95
ADDICTUS	\$19.95
BEST OF BRODERBUND	\$19.95
BEYOND TREK (64K)	\$15.95
BIBLE JEOPARDY	\$14.95
BILLY SAGA VOL. I or II	\$15.95
BLACK GOLD	\$15.95
BRAINSTORM	\$16.95
CHESS CHAMP (64K)	\$15.95
DEMONS & DRAGONS I or II	\$19.95
DIABLO	\$15.95
DINOSAUR DIG (64K)	\$16.95
DRAGON: THE CHINESE CHALLENGE	\$19.95
DRAGON'S LAIR	\$19.95
ELECTRONIC GAME PACK I or II	\$14.95
FAMILY FEUD	\$19.95
FAMILY FEUD QUESTION PACK	\$10.95
G.A.M.E. SET VOL. I or II	\$12.95
GHOST ZAPPER (64K)	\$11.95
JEOPARDY QUESTION PACK	\$19.95
KID'S TRIVIAPAK	\$12.95
L.V.A.C. ARCHIVES	\$9.95
LAB MOUSE	\$15.95
LAS VEGAS CRAPS	\$16.95
M&M JEOPARDY QUESTION PACK	\$14.95
MAGE QUEST	\$15.95
MIND OVER ADAM	\$11.95
MR. T SEARCH	\$12.95
MR. T SEARCH: GAMEPAK	\$9.95
MR. T SEARCH: TRIVIA WORD SEARCH	\$9.95
PHRASE CRAZE	\$19.95
PHRASE PAK I or II for Phrase Craze	\$12.95
PITY	\$18.95
PRO FOOTBALL STRATEGY	\$18.95
REEDY ENTERTAINMENT PACK	\$15.95
REEDY SOFTWARE LIBRARY	\$19.95
ROBOTHIEF	\$19.95
SMARTGAMES PACK	\$9.95
STAGE FRIGHT	\$15.95
STOCK MARKET GAME	\$15.95
STRATOZAP	\$16.95
SUB RAIDERS	\$24.95
SUPER PARROT	\$14.95
SUPER ZAXXON	\$9.95
TEMPLE OF THE SNOW DRAGON	\$19.95
TRIVIAPAK	\$12.95
U-MATCH-EM	\$14.95
VASE OF TURR	\$19.95
WIZARD'S PINBALL ARCADE	\$14.95
ZORAN III	\$13.95

CONSTRUCT. KITS

FAMILY FEUD WRITER	\$10.95
JEOPARDY WRITER	\$10.95
MAGE QUEST CONSTRUCTION SET	\$15.95
PHRASE PAK CONSTRUCTION SET	\$12.95

EDUCAT. / TUTOR

EASY AS A, B, C & 1, 2, 3	\$9.95
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EL ESPANOL	\$15.95
ELECTRONIC FLASHCARD MAKER	\$9.95
E.F.M. FLASH FACTS: HISTORY	\$6.95
EXPERTYPE	\$9.95
FRANCAIS POUR LES CHIC	\$15.95
MASTERING MUSIC	\$9.95
MATH MENTOR	\$15.95
MUSICPRO	\$15.95
ROYAL AMBASSADOR EDUC. PACK	\$9.95
SCHOOL DAZE	\$16.95
STATES RACE	\$15.95
WACKY WORD GAMES	\$19.95

MEDIA UTILITIES

6801 DECIMAL DISASSEMBLER	\$10.00
ADAM CONNECTION (IBM DISK)	\$24.95
ADAM'S DESK TOP	\$24.95
ADAM'S TOOLKIT	\$24.95
ADAMCALC & LINK II D.M. PATCHES	\$9.95
BASIC SYSTEM MGR. 3.0 / FASTERUN	\$18.95
COPYCART+ V2.0 (DISK)	\$19.95
COPX	\$10.00
DECIMAL DISASSEMBLER	\$19.95
DISK DOCTOR	\$10.00
E.O.S. DIRECTORY SORTER	\$10.00
E.O.S. FILE INDEXER	\$10.00
E.O.S. PROGRAMMING KIT	\$29.95
EDIX	\$10.00
FILE MANAGER V3.0	\$19.95
FORMATTER III (DISK)	\$9.95
FORMAX	\$10.00
GUY'S E.O.S. UTILITIES	\$20.00
HEXACE SYSTEM DOCUMENTATION	\$12.00
LIBRARIAN	\$10.95
MEDIA HELPER	\$19.95
MEMDSK FOR SmartLOGO (64K)	\$10.00
MR. T LIBRARY	\$10.95
OPENFILER V3.0 with OPENRECIPE	\$14.95
SmartDSK III & UTILITIES	\$24.95
Z80 DECIMAL DISASSEMBLER	\$10.00

HOME / BUSINESS

ADAMCALC	\$29.95
ADAMLINK V	\$24.95
ADAM MAP: U.S. ATLAS (64K)	\$17.95
ADAM MAP: STATES VOL. #1 STATES: IA, MN, NE, ND, SD	\$6.95
ADAM MAP: STATES VOL. #2 STATES: MT, ID, OR, WA, WY	\$6.95
ADAM MAP: STATES VOL. #3 STATES: CA, NV, UT, AZ, CO	\$6.95
ADAM MAP: STATES VOL. #4 STATES: TX, MO, NM, KS, OK	\$6.95
ADAM MAP: STATES VOL. #5 STATES: AR, LA, TN, AL, MS	\$6.95
ADAM MAP: STATES VOL. #6 STATES: GA, FL, SC, NC, VA	\$6.95
ADAM MAP: STATES VOL. #7 STATES: WV, OH, MD, DE, KY	\$6.95
ADAM MAP: STATES VOL. #8 STATES: AK, VT, ME, NH, MA	\$6.95
ADAM MAP: STATES VOL. #9	\$6.95

STATES: PA, NY, NJ, CT, RI	
ADAM MAP: STATES VOL. #10	\$9.95
THE HAWAII ISLANDS	
ADAMTALK V1.1 (EVE SS-CC)	\$19.95
ADDRESS BOOK / CALENDAR	\$9.95
APPOINTMENT BOOK	\$24.95
AUTOAID	\$24.95
AUTOWRITER	\$14.95
B&R HANDYMAN VOL. I & II	\$14.95
BASICAIDE V2.0	\$9.95
BUSINESS PACK I V2.0	\$18.95
CLIP-ART VIEWER & CONVERTER	\$24.95
CLIPS & LABELS	\$12.00
CP/M 2.2 & ASSEMBLER	\$29.95
EASY COME, EASY GO	\$15.95
FILE PRINTER	\$17.95
INVOICER V3.2 (64K)	\$19.95
LABEL MAKER DELUXE (DISK)	\$9.95
LABELWORKS, THE	\$24.95
MISSPELLER for SpellingAIDE	\$9.95
P.A.L. (Personal Appointment Lister)	\$10.00
PRINTWORKS, THE	\$24.95
RECIPER FILER	\$9.95
SEQuel	\$24.95
SMARTBASIC V1.x	\$29.95
SMARTFILER	\$9.95
SMARTLETTERS & FORMS	\$9.95
SMARTLOGO	\$15.95
SMARTTERM V1.02	\$15.95
SMARTWRITER ELITE	\$19.95
SMARTWRITER'S HELPER	\$10.00
SOFTPACK I V2.0	\$18.95
SPEEDYWRITE V2.0	\$39.95
SPEEDYWRITE SPELL (64K)	\$24.95
SPELLINGAIDE	\$19.95
SUPERBASIC PLUS	\$9.95
VIDEOTUNES	\$24.95

GRAPHICS DESIGN

ADAM GRAPHICS FOR IBM (DISK)	\$19.95
BOLD GLORY	\$16.95
BORDERSPLUS for PrintWORKS	\$10.95
CHROMANTICS	\$16.95
CLIPPER	\$15.95
FANTASY! V1.A or V2.A	\$16.95
FONTPOWER	\$14.95
GRAPHIXPAINTER WITH GRAPHIXPIX I	\$19.95
GROOVY GRAPHICS	\$14.95
IBM CLIP-ART FOR ADAM VOL. I & II	\$14.95
M&M GRAPHICS	\$9.95
NORMAN'S RAILROAD	\$14.95
PAINTAIDE with the SWIFT FONT KIT	\$16.95
PERSONAL CALENDAR UTILITY (64K)	\$19.95
POWERPAINT (64K)	\$29.95
POWERTOOLS	\$16.95
SHOWOFF I	\$18.95
SMARTPRINT PLUS	\$15.95
SMILEY FACE: WHAT AN ATTITUDE!	\$9.95
SPRITEPOWER	\$15.95
SWIFT LABEL PRINTSHOP (64K)	\$19.95
SWIFTPRINT (64K)	\$15.95
VISI-SPRITE V6.5	\$19.95
WAYNE'S TRAINS	\$19.95
YULE TOOLS I	\$16.95

\$3.00 DISK

N.I.A.D. PUBLIC DOMAIN SOFTWARE PLEASE NOTE: Specify VOLUME #, TITLE and DISK OR DDP

\$4.00 DDP

MISCELLANEOUS VOLUMES

- ADAMCALC ANDY #1-34:** 34 different volumes containing ADAMCALC spreadsheet formulas, tutorials and demonstrations. All volumes require the user to boot ADAMCALC first and contain SmartWriter or ADAMCALC documentation file(s).
- ADAMGALC ONDY VOL #1-18:** 18 different volumes of commercially copyrighted programs that were released to the Public Domain. Contains entertainment, adventure, productivity, education, business, telecommunications, arcade brain etc. programs complete with documentation.
- CLASSIC UNRELEASED CARTRIDGE VOLS #1-2 :** 2 different collections of cartridges. Vol. #1 - Fall Guy, Video Hustler, W.A.S.I., Super Cobra, Memory Manor, Word Fend, Arillery Duel and Tomcat the Barbarian; Vol. #2 - Cabbage Patch Kids, Adventures in the Park Enhanced, Yokes on You and Wlznah. Some were never released and others wouldn't work on the ADAM in their cartridge form. Each volume contains SmartWriter documentation for each game.
- CPM 2.2 ONDY #1-63:** 63 different volumes containing CPM 2.2 utilities, games, interpreters, patches, compilers, word processors and other misc. programs.
- MDI SONGS MNDV #1-16:** 16 different volumes containing many assorted song files each for use with Mini-Recorder by Bonafide Systems for the MIDI-MATE.
- NI.A.D. GOLD VOL #1-5:** 5 different volumes of enhanced SmartBasic programs. Vol. I - Games; Vol. II - Text Adventures; Vol. III - Science & Education; Vol. IV - Home & Business; Vol. V - Utilities. Each volume contains documentation.
- PINBALL GAMES PNDV #1-8:** 8 different volumes containing Pinball Construction Set pinball games which were designed with this public domain program by Coleco. Each volume is auto-booting and contains SmartWriter documentation.
- SMARTBASIC BNDV #1-36:** 36 different volumes containing SmartBasic entertainment, application, graphics, patch, utilities and other misc. programs. Most volumes are auto-booting and contain SmartWriter documentation.

- SMARTBASIC UTILITIES UNDY #1-2:** 2 different volumes containing SmartBasic utility programs such as file copiers, backup utilities, patches and other misc. programs. Volumes are auto-booting and contain SmartWriter documentation.
- SMARTLOGO LNDV #1-5:** 5 different volumes containing SmartLOGO entertainment, application, graphics, utilities, patches and other misc. programs. Volumes require the user boot SmartLOGO first, contain SmartWriter documentation.
- SOLO-ADVENTURE PACK VOL #2-3:** 2 different volumes of Solo Adventures for use with Mega Quest by Reedy Software. Each volume requires the user to boot Mega Quest first and contain SmartWriter documentation.
- SUPERIOR SOFTWARE ENDV VOL #1-4:** 4 different volumes of commercially copyrighted programs that were released to the Public Domain. Vol. I - Pro Golf Champ, Vol. II - Linkbuilder, Vol. III - AFL Football and Vol. IV - SuperBASIC V3.0. Each volume contains documentation in SmartWriter form or in the program.
- DUKKS MINI-REVIEWS VOL #1-2:** 2 different SmartFILER databases with mini-reviews of hundreds of software and hardware products. Requires that the user boot SmartFILER first and then follow the included instruction sheet on how to access.
- VIDEOTUNES SONGS VNDV #1-4:** 4 different volumes containing many assorted song files each that are for use with Videotunes by FutureVision.

GRAPHICS VOLUMES

- G.G.P. PIX VOL #1-4:** 4 different volumes of 13 picture files for use with the Coleco Graphics Processor. All pictures are taken from Coleco / ADAM programs, and carry through the use of the cartridge version of The Coleco Graphics Processor.
- DN & B PIX VOL #1-32:** 32 different volumes of 13 SmartPAINT format picture files to be viewed / edited in PowerPAINT, ShowOff, etc.
- PAINT PALETTE:** For use with PowerPAINT. Will provide you with over 200 different shades of color, where normally the total number of colors accessible is 16. Contains SmartWriter documentation.
- PAINTFORMERS VOL #1-4:** 4 different volumes of assorted letterheads, labels font files and miscellaneous graphic files for use with PowerPAINT by Digital Express.
- PAINTMATES VOL #1-15:** 15 different volumes of clip-art, sprites and font files for use with PowerPAINT, SpinnerPOWER and CLIPPER by Digital Express. The Print Works or The Label Works by Walters Software Co. and other assorted programs.
- CPD SIGNS SNDV #1-4:** 4 different volumes containing SignShop/NewsMAKER graphic files for use with these programs by Strategic Software. Volumes require the user boot SignShop/NewsMAKER first and contain SmartWriter documentation.
- CREEDY ART GALLERY VOL #1-2:** 2 different volumes of 13 SmartPAINT format picture files to be viewed in SmartBasic V1.0 with the included loader program or in PowerPAINT and other programs which support the SmartPAINT format.
- FILE PICS VOL #1-4:** 4 different volumes of FILE picture files which can be viewed in SmartBasic V1.0 with the included ObPicFAST program or in PowerPAINT, also contains SmartWriter documentation.

ENTERTAINMENT VOLUMES

- DA-CHESS (SARGON):** Great graphic chess game which was developed in CPM

and modified by Chris Braymen. Comes on an auto-booting media and includes documentation on how to use.

- DADAMWARS II:** A simulation of the real life pitfalls and successes which are experienced by you finally ADAM retailers. Great graphics and sound effects. Contains SmartWriter documentation.
- CHESSE SOUTHAIR:** Great graphics version of chess where you try to guess the moves of the masters (15 different classic games are included). Also contains a second game, Knight's Tour, and documentation in program.
- JEOPARDY:** Coleco's supergame pack of the popular television game show. Fabulous game with great graphics, multi-player ability, load / save games and a Hall of Fame options as well as an instruction sheet.
- MOAUG PHRASE PARK:** An additional 300 phrases for use with Phrase Craze by Reedy Software. Compiled by George Drank. Contains SmartWriter documentation.
- SUPER BUCK RODGERS:** This is the supergame which comes with the ADAM computer, and is offered here for replacement in the case of damage to your original.
- SUPER DAM BUSTER:** Supergame version of the cartridge with added screens and Hall of Fame. The only flight simulator available for ADAM and one of the best games ever made. Are you good enough to defeat the NAZI forces?
- SUPER DONKEY KONG JR - 5 SCREENS:** Coleco's In-House version of Super Donkey Kong Jr. with an additional 5th play level. MARIO'S BAKERY (arcade version doesn't even have this level). This version automatically runs through all screens.
- SUPER SUB-HOC:** Coleco's supergame pack version of the Sub-Hoc cartridge. This is a tremendous 3-D arcade action game with great graphics and a Hall of Fame option as well as an instruction sheet.
- TEMPLE OF APSHAI Revision 2:** EPX's supergame pack which was never released. This is a role playing adventure with graphics and some arcade sequences.
- DISK and DDP not compatible:** Comes with instruction sheet.
- THE ABDOMINABLE COGNOMAN:** Search the Great White North for the Illusive Abominable Snowman. Be careful in your quest, there are many pitfalls that you will face. Contains SmartWriter documentation.
- THE BEST OF B.C.:** A two supergame pack with B.C.'S QUEST FOR TREES and B.C. II: GREGG'S REVENGE developed by Coleco of Canada. Help Top past obstacles to find One Chick and to find the Wearing of Life.
- THE BEST OF ELECTRONIC ARTS (Pinball) Con. Set / Head Hat March:** Coleco's supergame pack contains two great games in one package. New bug free version w/ 2 demo pinball games and an instruction sheet. **Add \$4.00 for 40 page manual.**
- TIROLL'S TALE:** Coleco's supergame pack originally developed by Silrus Software. This is a children's adventure game with good graphics and offers a strong challenge as well as an instruction sheet.

UTILITY VOLUMES

- DADAM UTILITIES:** Coleco In-House utilities, test and demo programs contained on an auto-booting media. Memory expander required for some of the system testers. Also, includes Adam Diagnostic and an instruction sheet.
- COLECO GAME COPY:** Coleco In-House cartridge copy utility, as well as a media backup utility (not into one program. Will copy most of the available cartridges).
- COLECO IN-HOUSE PROGRAMS:** Six separate programs; three diagnostic programs along with the Turne'n'Trills, ADAM and Music demos.
- D.E.O.S. DISK MANAGER:** Coleco utility program which was supplied with the 5 1/4" 160K Disk Drive. Also, contains the most current Coleco E.O.S. Revision, Rev. 7.
- HELPER'S FRIEND:** Patching program for Hexaco Software's popular SmartWriters HELPER. Allows owners of SmartWriters HELPER to customize their backup copies with added embedded printer codes and change the default devices. Comes with documentation file on media.
- MACRODAM: Z80 / EOS Assembler** written in machine code for the intermediate to advanced machine code programmer. Contains manual in SmartWriter format.
- MEDIA MATE:** Three tremendous utility programs for editing data packs and disks in SmartBasic V1.0. Contains informative SmartWriter documentation.
- MIDI DRIVERS & DEMOS:** A collection of MIDI SmartBasic V1.0 utilities programs along with technical information of the MIDI file setup. Contains SmartWriter documentation.
- MIDI UTILITIES:** A collection of 6 mapper / UDOS midl format 1 song files. SmartWriter documentation files and 1 CPM or TDOS compatible midl utility. All mapper utilities are SmartKey driven and machine language programs.
- QUICKCOPY V5.0:** Excellent machine code copy program (block and file) with additional ramdrive and ramcopy software. Compatible with all memory expanders and disk drive sizes. Contains a 37 page manual in SmartWriter format.
- RL1.D. TEST:** Coleco's own In-house utility designed specifically for testing the operation of the 5 1/4" 160K Coleco media disk drive. No technical knowledge required just boot-up and wait for the results. Contains SmartWriter documentation.
- SHAPE-MAKER:** Great SmartBasic V1.0 utilities for creating shapes and placing text on the HGR or HGR2 screen. Shapes created can be used in PowerPAINT. Contains SmartWriter documentation.
- SOFTWARE BACKUP V1.0:** Allows for the backing-up of bootable programs onto

the same media. Up to six self-booting programs can be placed on one Software Backup media. Most programs work fine. Contains SmartWriter documentation.

- DISK CHECK V2.0:** Enhanced Coleco digital drive test program to assure proper speed operation of drives for best read / write performance. Best results will occur by purchasing disk from us instead of ddp and then copying over to ddp.
- STRATEGIC SOFTWARE PATCHES:** SmartBasic V1.0 programs for patching Strategic Software's SignShop, NewsMAKER, MultiWriter, MicroWRKS, etc. programs for use with dot matrix printers as well as major enhancements made to the MultiWrite Word Processor. Contains SmartWriter documentation.

PRODUCTIVITY VOLUMES

- DADAM <-> DOS 1.0:** A shareware IBM compatible program by Bonafide Systems that allows for the transferring of ADAM files to an IBM and vice versa. Other options include: directories, file deleting, hex dumps, initializing, block copies, formatting, etc. ADAM files and 5 1/4" 160K or 320K disks on an IBM compatible. Requires an IBM compatible with a 5 1/4" drive running PC-DOS or MS-DOS. Comes with documentation file, DISK ONLY.
- DADAMLINK II:** Coleco's advanced telecommunications software with all the features of ADAMLINK I and the added ability to up and download ASCII files. Comes with addendum instruction sheets to the ADAMLINK I manual.
- MAISTALLMAN SmartBASIC:** Enhanced SmartBasic V1.0 with SmartKey display of some of the most often used SmartBasic commands (ie: RUN, LIST, SAVE, etc).
- BASEBALL STATISTICIAN:** Comprehensive stat compiler for pitching, batting and team statistics with full line of edit features, save option, print features for ADAM Printer or dot matrix by Wizard's List. Comprehensive instructions in SmartWriter.
- COLECO GRAPHICS PROCESSOR:** Coleco's graphic design utility used to create graphics for cartridges and supergames. Now, on an EOS media. Instructions are provided as well as a picture file conversion program. Requires memory expander.
- COLECO PRESENTS: SOFTWARE:** Coleco self-booting database program containing lists of planned Coleco software and cartridges for the ADAM and ColecoVision. DDP ONLY.
- DADAONIC:** Great graphic design utility from France using a point-and-click method of operation along with a SmartBasic V1.0 utility to convert DADAONIC files into GRAPHPAINTER files. Contains SmartWriter documentation. DISK ONLY.
- DADWOGONE DAWGS:** This program will, on a consistent basis, select the dog most likely to win at the local dog track through data that is inputted by the user. However, this is not a get-rich-quick scheme. Contains SmartWriter documentation.
- FLASH FACTS: MUSIC STUDIES:** Eight flashcard files for use with the Electronic Flashcard Maker by Coleco dealing exclusively with music theory. Requires the user boot F.E.M. by Coleco first and contains SmartWriter documentation.
- FRENCH BASIC:** Great modification of SmartBasic V1.0 with demos. Must have version for the serious programmer that includes 10 new commands for using sprites, windows, easy color changes, etc.
- MARKET MONITOR:** Coleco of Canada management system program for the personal investor. Not totally bug free. Contains SmartWriter documentation.
- DISMPLAINTER WITH SIMPLE FAX:** A tremendous collection of graphics utilities which extend the capability of PowerPAINT along with a number of conversion programs. Contains SmartWriter documentation.
- SMARTBASIC V1.0:** Coleco's original SmartBasic which came with the ADAM. This is available for replacement on DDP / DISK and has been enhanced for disk owners.
- SMARTBASIC V2.0:** Coleco's extended / enhanced version of SmartBasic V1.0 (48k versus 28k) with memory expander access, but is not fully compatible with V1.0. Contains SmartWriter documentation.
- SMARTBASIC V2.0 40 COLUMN:** 40 column text version of SmartBasic V2.0 which works in STDWEM or EXTWEM modes. No longer do you have to bother with a non-standard 31 column screen. Contains SmartWriter documentation.
- SMARTBASIC V2.1:** Nice modification of SmartBasic V2.0 that adds macros for string inputs, formatter and backup programs. Contains SmartWriter documentation.
- SMARTBASIC CONSTRUCTION KIT:** Designed to aid the novice programmer better understand the many commands resident in SmartBasic V1.0. Fully menu driven and auto-booting. Contains SmartWriter documentation.
- OSP-1 CUSTOM PRINTER SOFTWARE:** Specialized software patches for use in SmartWriter. Used to imbed software comments. Available for the following printers: Panasonic 1060 / 91 / 82 / 83, Star G10 / G20, Epson FX / RX, Blue Chip, Olympia R80, Brother 2024L, Smith Corona Fasttek 80 / D200, Oki 182 / 192.
- DT-DOS V4.58:** Super enhanced version of CPM 2.2 which operates much like MS-DOS. Many new features. Available on 2 - 5 1/4" 160K Flippy disks - 5 1/4" 32K disks or 1 - 3 1/2" 720K disk - please specify when ordering. Manual in Doc file. For printed 40 page owner's manual add \$4.00.
- UTXK PLANNER:** Coleco of Canada business software which will create a clearer and more complete picture of your tax situation. Contains SmartWriter docs.
- TRACKER:** Allows for the tracking of Hurricanes in the Gulf Coast area. Enter 14 x and Y coordinates and then save them as a file or view the hurricane in action on the high-resolution map of the area. Includes SmartWriter documentation file.

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(Shipping address - If different)

Qty.	Item Name / Number	DDP / Disk	Price Each	TOTAL PRICE

Please do not forget SHIPPING/HANDLING. Use the chart Below

Sub Total Range	() US UPS	() US MAIL	() CANADA
1.00 20.00	\$ 5.00	\$ 5.00	\$ 5.00
20.01 50.00	\$ 6.00	\$ 6.00	\$ 7.00
50.01 100.00	\$ 7.00	\$ 7.00	\$ 8.00
100.01 200.00	\$ 8.00	\$ 9.00	\$ 10.00
200.01 and up	\$ 10.00	\$ 12.00	\$ 14.00

Sub Total _____

Ship / Hndl. _____

Initial ANNUAL Membership Fee required for Bi-Monthly Newsletter

New or
Renewal Fee _____

PAYMENT METHOD

Check or Money Order Enclosed

Charge my:

Write Credit Card Number in Boxes

\$25 minimum charge

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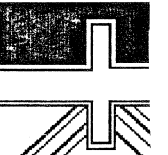
Exp. date: _____

Signature: _____

Balance or
Credit Due _____

U.S. Funds Only

**TOTAL
INCLUDED** _____

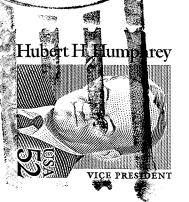
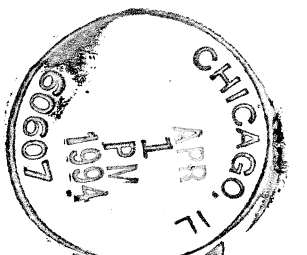


NIAD

Northern
Illiana ADAM
User's Group

9389 Bay Colony #3E - Des Plaines, IL.
60016 - Phone #: (708) 296-0675

MULTI - FUNCTION USER GROUP
MONTHLY NEWSLETTER - PUBLIC DOMAIN LIBRARY
DISCOUNT BUYING SERVICE FOR HDW & SFTW



N.I.A.D. NEWSLETTER FOR —————>

Member # ----->1294spi1v912075
Steve Pitman
5705 Church St.
Cincinnati, OH
45244

ADDRESS CORRECTION REQUESTED

POSTMASTER: DATED MATERIAL - PLEASE DELIVER