

**MULTI - FUNCTION USER GROUP
MONTHLY NEWSLETTER - PUBLIC DOMAIN LIBRARY
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Editor: James Notini

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FROM THE EDITOR'S DESK

by Jim Notini

Welcome to the September issue of the N.I.A.D. Newsletter. As you may have already noticed, we have changed a few things around again in the layout of the newsletter. Starting with this issue we have returned the index to the front page in order to make referencing backissues an easier task for yourself and well as us. In place of the index we will now be listing all product specials for the month. These two small changes have, in effect, freed up another 1/2 page to be used for articles, news, etc. Over the last six months the newsletter has gone through quite a number of changes and we would like to get some feedback and/or suggestions from you, the readers, concerning the look and content of it. Remember, this is your newsletter and without your feedback we will assume that you are satisfied with the contents and look of it.

Not only has the newsletter been in a state of flux, but also the N.I.A.D. Product List. I am sure many of our readers have been wondering why the software product list has been dwindling in size of late instead of growing through the release of new software products. Well, over the last four months I have kept myself very busy looking over the software products that we handle for resale. This has been a very tedious process that I would not wish upon anyone, but the advantages of my hard work will be very beneficial to all ADAMites who purchase products from us.

Over the years there have been so many similar programs developed by different companies and sometimes even the same company that it doesn't make sense to carry them all and confuse the purchaser's selection process. Ramdisk software is the perfect example of this. Not only do we have the fabulous ramdisk programs made by Walters Software Co., but also available are the ones made by Digital Express Inc and now Hexace Software. Now we all know that these are three of the most prolific and talented companies that have developed software for the ADAM, but how do we decide which ramdisk package is the best for our needs especially since all their programs have received high praise and marks throughout the ADAM community. One word will sum it all up, TRUST.

N.I.A.D. has been involved in the resale of ADAM products as long or longer than anyone else still supporting the ADAM and we are ADAM users just like yourself. We would not want to buy a number of different, but like, programs to perform particular functions when there is one available that will do them all and we know that this holds true for everyone else. We have all the resources available to us to be able to make these judgements and therefore make your selection process much simpler. Previously I thought that the quantity and quality of products was the best thing for the ADAM, but I have come to realize that only the quality of the product is what matters. I certainly would not want to end up purchasing five different ramdisk programs and have to always swap between them in order to get the desired setup when there is one available that will perform all the functions of the other five, would you? This would make using your ADAM computer confusing,

tedious and time consuming which is exactly the opposite of what a computer is supposed to be able to do for it's owner.

By the way, the ramdisk programs that have survived the cut down are ADAM'S DESK TOP by Walters Software Co. and MEMDSK FOR LOGO by Hexace Software.

Eventually, all this hard work and study of software will culminate in an article where I will list out the best available software products by category. Please do not hold your breath for this article as it will take me a little more time to weed through everything (I never did realize how many programs have been developed over the years for the ADAM until I started this project).

Aside from that, by the time you receive this issue it will be the end of September already and Christmas will be upon us sooner than we would like. I strongly recommend all members to get your orders in earlier than usual this year and to make things easier for yourself, we will be making all our Christmas specials available to you in the October issue instead of the November issue, which has been the norm over the years.

So, until next month...

KEEP ON ADAMing!

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N.I.A.D. SPECIALS

MEMBERS ONLY - LIMITED SUPPLIES - PHONE ORDERS ONLY



ADAM BOOKS & MANUALS

	WAS	NOW
● THE ADAM SURVIVAL GUIDE by A.N.N.	\$24.95	\$17.95
● BASIC PROGRAMMING TUTORIAL by Adam's House	\$14.95	\$8.95
● FROM BASICS TO BASIC WITH ADAM by Mel Ostler	\$19.95	\$12.95
● HACKER'S GUIDE TO ADAM VOL. I by Hinkle Public.	\$11.95	\$7.95
● HACKER'S GUIDE TO ADAM VOL. II by Hinkle Public.	\$11.95	\$7.95
● LEARNING TO READ WITH ADAM by Mel Ostler	\$24.95	\$15.95
● UNCOMM. DIS. OF ADAM EOS7 by Mel Ostler	\$24.95	\$9.95
● UNCOMM. DIS. OF SMARTBASIC V1.0 by Mel Ostler	\$24.95	\$9.95

ADAM HARDWARE

● ADAM KEYBOARD	\$24.95	\$14.95
● ADAM PRINTER POWER SUPPLY	\$49.95	\$29.95
● ADAMLINK 300 BAUD INTERNAL MODEM	\$49.95	\$34.95
● EXPANSION MODULE #2 WITH TURBO CART	\$44.95	\$29.95
● MEGARAM 256K SIPP MODULE	\$34.95	\$24.95
● ROLLER CONTROLLER WITH SLITHER CART	\$44.95	\$29.95

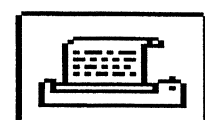
ADAM SOFTWARE

● ADAM'S DESK TOP by Walters Software Co.	\$39.95	\$34.95
● ADAM'S TOOLKIT by Walters Software Co.	\$24.95	\$14.95
● ADAMCALC by Coleco Electronics	\$29.95	\$19.95
● ADDICTUS by Reedy Software	\$19.95	\$10.95
● APPOINTMENT BOOK by Maine ADAM Library	\$24.95	\$14.95
● BACKUP 3.0 by M.M.S.G.	\$10.95	\$4.95
● BOLD GLORY by Eyezod Graphics	\$16.95	\$11.95
● C.G.P. CART & DISK by Coleco Electronics	\$39.95	\$24.95

	WAS	NOW
● CLIPPER by Digital Express Inc.	\$15.95	\$10.95
● COPYCART+ D2.0 by M.M.S.G.	\$19.95	\$14.95
● DRAGON'S LAIR by Coleco Electronics	\$16.95	\$9.95
● E.O.S. PROGRAMMING KIT by Walters Software Co.	\$29.95	\$14.95
● IBM CLIP-ART FOR ADAM by Maine ADAM Library	\$14.95	\$9.95
● INVOICER III by ADAM's House	\$19.95	\$12.95
● LABEL WORKS by Walters Software Co.	\$24.95	\$14.95
● MisSPELLER by Walters Software Co.	\$9.95	\$6.95
● NORMAN'S RAILROAD by Norman's Software	\$14.95	\$7.95
● PERSONAL CALENDAR UTILITY by Phoenix 2000	\$19.95	\$14.95
● PHRASE CRAZE by Reedy Software	\$19.95	\$9.95
● PHRASE PAK I by Reedy Software	\$12.95	\$4.95
● PHRASE PAK II by Reedy Software	\$12.95	\$4.95
● POWERTOOLS by Eyezod Graphics	\$16.95	\$11.95
● RAMBOOT by Walters Software Co.	\$19.95	\$4.95
● REEDY ENTERTAINMENT PACK by Reedy Software	\$15.95	\$7.95
● SHOWOFF II: WRITERMATE by Digital Express Inc.	\$14.95	\$4.95
● SMARTDSK III by Walters Software Co.	\$24.95	\$9.95
● SMARTTERM V1.02 by Keheo Software	\$15.95	\$6.95
● SMARTWRITER ELITE by Walters Software Co.	\$19.95	\$14.95
● SPEEDYWRITE SPELL by White Co.	\$24.95	\$17.95
● SPELLINGAIDE by Walters Software Co.	\$19.95	\$14.95
● STAGE FRIGHT by Reedy Software	\$15.95	\$7.95
● STRATOZAP by Allied Creative Engineers	\$16.95	\$8.95
● SWIFT LABEL PRINTSHOP by Phoenix 2000	\$19.95	\$14.95
● SUPER ZAXXON by Coleco Electronics	\$9.95	\$4.95
● TAX HELPER 1991 by Gary Hoosier Software	\$19.95	\$9.95
● TEMPLE OF THE SNOW DRAGON by Digital Adven.	\$19.95	\$16.95
● U-MATCH-EM by Phoenix 2000	\$14.95	\$9.95
● VASE OF TURR by Walters Software Co.	\$19.95	\$14.95
● YULE TOOLS by Eyezod Graphics	\$16.95	\$11.95



N.I.A.D. PROCEDURES



⇒ N.I.A.D. is published monthly, except for the months of May / June and July / August, which are combined issues by the Northern Illiana ADAM User's Group. Individual issues may be purchased for the current month or a backissue for \$3.00 (always check Product List for current pricing). The September issue of N.I.A.D. is the 90TH issue published by N.I.A.D., there are 89 preceding issues. When ordering backissues, please specify the number of the issue, month and year.

⇒ The standard membership rate for 10 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 **0992** 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

⇒ **THE ADAM HOME AUTOMATION PACKAGE** software has been vastly upgraded by Chris Braymen of Bonafide Systems. This new enhanced control software for the X-10 Control Interface is now 100% SmartKEY driven to allow for easier use and programming of the X-10, works with any of the available Serial Interfaces (EVE, OBS or M.I.), and is now also available on cartridge as well as disk or data pack. N.I.A.D. does not supply the cartridge (it is available through Alan Neeley of ADAMLink of Utah), but we do have all the other A.H.A.P. products available. Check the Product List for current prices.

⇒ **T-DOS** developers, Tony Morehen and Guy Cousineau, have made known details of future upgrades for the T-DOS Operating System which include extra RAM with a memory expander. The T-DOS V4.5x series are the standard sort of CP/M 2.2 versions. The TDOS V4.6x series will be the ZCPR versions and the next series, probably V5.x, will require at least a 64K Memory Expander. It will use part of the M.E. not so much for extra memory, but to store parts of the Operating System itself. This means that the T.P.A. (Transient Program Area) could grow from 48-50K to about 60K. Essentially, this means that you could run programs that are 10K bigger! This is tremendous news for T-DOS users, the only bad news is that we will have to be patient for these major upgrades to be completed, tested and documented.

⇒ **MICRO INNOVATIONS** has informed us that the M.I. PowerMATE H/P Hard Drive is supplied with the Hard Drive Boot Prom already installed in the H.D. Interface Card that plugs into Expansion Slot #2 at no extra cost. However, for those that purchase the M.I. PowerMATE L/C Hard Drive, the Boot Prom still has to be purchased separately and installed in either the M.I. Parallel Interface or M.I.B. 3 (also sold separate).

⇒ **SCREEN SAVER** and **POST-IT** have been released by Jim Walters of Walters Software Co. Screen Saver provides a means for ADAM owners to blank out their screen while the ADAMs are not in use, but still on. This will prevent screen burn-in of the display on the monitor or T.V. picture tube. Two different options are available: display a different color on the screen every 5 to 10 seconds or blank the screen entirely (no color). Post-It allows for the creation of short notes, up to 12 lines long, just like those you place on your refrigerator. Many other uses can be found for Post-It including: a daily diary, appointment book, address book, etc. Full editing options are available, files are SmartWRITER compatible and 1K in length allowing for up to 158 files on one disk, and printing options are available. Both Screen Saver and Post-It are 100% machine language programs, SmartKEY driven, are ADAM's Desk Top compatible (eventually both programs will be incorporated into ADAM's Desk Top), and available through Walters Software Co. for only \$9.95 on disk or \$10.95 on data pack.

WALTERS SOFTWARE CO.

c/o Jim Walters
RD#4 Box 289-A
Titusville, PA 16354
(814) 827-3776

⇒ **ADAM'S DESK TOP** and **SmartWRITER ELITE** have been made available by Jim Walters of Walters Software Co. as Boot Proms that can be plugged into the newly updated M.I. Parallel Interface and M.I.B. 3 cards. Once installed, the program will automatically boot when the system is powered up. Pricing for each of the Boot Proms is \$29.95.

⇒ **ADAM MAP: STATES VOL. #4** and **#5** have been released by Carl Harrison of Harrison Productivity. The fourth and fifth state volumes

are a collection of five states each: Vol. #4 - Texas, Missouri, New Mexico, Kansas and Oklahoma; Vol. #5 - Arkansas, Louisiana, Tennessee, Alabama and Mississippi. Watch for further States Volumes coming soon. Retail price for each volume is \$6.95.

⇒ **SmartPRINT PLUS** has been released by Bob Sebelist of the Maine ADAM Library. This print utility is a major modification of the SwiftPRINT program by Digital Express Inc. Features include the ability to load and save in multiple ADAM graphics formats (SmartPAINT, HGR, RLE, etc.), SmartKEY displays, a memory expander is not required, multiple printout options with margin and tab settings, picture flipping horizontally and vertically as well as foreground and background color changing. Retail price for SmartPRINT PLUS is only \$15.95. Also available from M.A.L. is a picture catalog of all the IBM Clip-Art for ADAM volumes (some 40 or so in all which sell for \$2.00 each) available for \$5.95. SmartPRINT PLUS and the IBM Clip-Art for ADAM products are available through:

THE MAINE ADAM LIBRARY

c/o Bob Sebelist

P.O. Box 85

Waterford, ME 04088

(207) 583-4923

⇒ **THE FIDONET ADAM ECHO** has been picked up by The Chicago Syslink BBS which is operated by George Matyaszek in Berwyn, IL. What this means is that all Chicagoland ADAMites now have the source available to access the ADAM Echo via a local phone call (no long distance or toll call!). The ADAM Echo is quickly expanding and now covers most of the United States and Canada (please refer to the article by Barry Wilson in the April '92 issue for all the details on ADAM Echo). I strongly urge all Chicagoland N.I.A.D. members who own a modem to call Chicago Syslink immediately and leave George a message about accessing the ADAM Echo on his system:

CHICAGO SYSLINK

Fidonet #1:115/622

(708) 795-4442 - 300-2400bps - Parameters: 8-N-1

⇒ **THE SmartBASIC DISASSEMBLY GUIDE** has been released by Guy Cousineau of AJM Software. This book contains a detailed disassembly of Coleco's original SmartBASIC V1.0. It has been put together as a guide for the hacker who is interested in knowing what makes SmartBASIC V1.0 tick. The listing is not intended to be a re-assembly package to make modifications to SmartBASIC; it only provides details of the operations, tables, vectors, messages, etc. Further details will follow next month along with retail pricing and hopefully a complete review - space permitting.

⇒ **THE N.I.A.D. PUBLIC DOMAIN** has once again grown in size this last month. New P.D. volumes include ADAM <--> DOS by Bonafide Systems (reviewed in this issue), The ADAM Information Manager by Chris Braymen and Ron Collins, and all of Superior Software's titles which include Pro Golf Champ, LinkBuilder, AFL Football and SuperiorBasic V3.0. All four of these titles were originally released as commercially copyrighted programs but last year their author, Derrick May, released them to public domain (this was confirmed by Rich Clea at ADAMCON 04). The ADAM Information Manager and all of the Superior Software titles will be reviewed in an upcoming issue. Note that the Superior Software titles have been assigned as Superior Software ENDV Vol. #1 - 4 respectively.



KEEP YOUR ADAM RUNNING

Part VI: Databases on the ADAM

by John Burns

EDITOR'S NOTE: This is second installment of the sixth and final part of this series by John Burns subtitled "Beginners Guide to Research and Selection". This series was originally published in the Metro Toronto ADAM Group, MTAG, Newsletter, and was made available to us by Richard Clee. John goes into a discussion of a number of ADAM database programs, most of which are no longer available or we don't recommend. The remaining two programs, SmartFILER and RecipeFILER by Coleco Electronics, are the best E.O.S. database programs available to date. A number of problems he experienced, such as the inability to make a backup copy of his database to me points to user error and not a flaw with the SmartFILER program. If you need a database program and don't use CP/M 2.2 or TDOS V4.5x, I strongly recommend SmartFILER. Let's not forget The Label Works by Walters Software Co., E.O.S. File Indexer by AJM Software, Mr. T Library by Mr. T Software and Label Maker Deluxe by TCR Software, which are not covered in this article since they were released after the article was written.

ADAM PROGRAMS:

There are a number of database programs for ADAM. Some are simplistic, others are sophisticated. Normally, the more complex or sophisticated, the higher the cost. (ED. NOTE: not anymore!) Sophistication is determined in many ways. Some items of consideration are the Number and Lengths of Fields, the Number of Searchable Fields, (some are very limited), the Number of Records it will intake, whether the Fields are re-definable in mid-process, the Type and Number of EXTERNAL FORMATS that can be tied into the database and mainly, the SPEED of operation on a given machine. Different programming languages are processed and read more quickly than others. The speed, the variety of ways the program can manipulate information and the number of entry records it will take are critical. In general, there isn't nearly the selection of database programs available for ADAM as there are for other applications such as word processing, games or graphics.

ADAM DATABASE PROGRAMS:

There are a few varieties of databases for ADAM. I haven't tried them all. For example, I haven't tried MicroFile, the database out of the Strategic Software people on their integrated MicroWORKS program. Some of the ADAM database programs I've tried are as follows:

RecipeFILER:

This was a Coleco program designed for quick and simple entry of things like cooking recipes. Database programs, like RecipeFILER, are quite inexpensive (approx. \$10) but they are also quite structured and allow very limited fields and information inserts. The returns are also simple and it is really nothing more than just a convenient way to store, call up and display your recipe file cards. Instead of going through a filing box and pulling out the BATCH of cards for CAKES and then searching for the card on SHORTBREAD CAKE, you call them up by item type or direct name. [Index all CAKES] or [Select SHORTBREAD CAKE]. This low-powered program has limited cross referencing. You wouldn't likely want to ask it to select every recipe that contained eggs, butter and milk. By the time it found and printed all the options, you'd have starved to death or the eggs would go bad. It would have to find each item, one at a time, by going through every recipe. On data pack, that takes a LONG time.

This program works but you will likely outgrow it very quickly. Most owners I talked to said they mainly used the program just to get the organized, hard copy file cards it would type. They found it was quicker to use the cards than fire up, load and recover info using the computer. But, as a beginner tool to learn the basics of database entry and operation, RecipeFILER isn't bad.

SmartFILER:

This is a more sophisticated program and now cost about \$10. It has the basics of a good but modest database, if only it were reliable. It will display and print information in several field selections, do mailing labels and merge database information into FORMATS (Forms, Form letters, Documents requiring inserts or simple REARRANGEMENT of the database Fields) you create. In general, it has reasonable flexibility in structuring the fields, will intake a fair number of records and has SOME flexibility in it's search and recovery skills. For the price, it isn't bad but it has real limitations if you are a serious database user. It is limited to a maximum input of 24 characters and spaces on 32 fields, of which 4 are searchable fields. Total input is 255 characters per record. SmartFILER will only allow you Character and Numerical fields but not Logical (True/False, Yes/No). It will allow only one database per media (disk or data pack). You must use the separate program media to prepare each storage media and then you must load the program media each time you want to open up your storage media. A disk will take only about 180 RECORDS of the 255 character maximum size forms. A data pack will take about 400 records but it's very slow and the search time to get them out is long. But the main limitation of SmartFILER is that it will only SEARCH up to four fields. This means you could have 32 headings of information on each record but the program will only search and select four of them by title.

I have to be honest and say that while I really liked several features of SmartFILER, I also found problems. I liked it because it was quick, relatively easy to structure, easy to enter and feed and gave fairly flexible returns. I really liked the fact that the last item on any entry template (form) was automatically a TEXT field. This means that instead of being a limited Numerical or Character entry, the last entry item could be up to two pages of remarks or unstructured comment TEXT. The upside of this is great. It's just like having the ability of putting personal notes on the bottom or back of a filing card. The first downside is the inability to search or cross reference the comments. The second and bigger downside is the space allowance given. While the program would tell me I had the ability to store up to 2 pages of text on 180 records, it would run out of text storage space, without warning, by the time I got down to about 100 records. I was only inputting 6 to 8 lines per record, not 2 pages. That meant the last 80 records simply had no space for comments. The biggest rock I have to throw against SmartFILER, however, concerns the problems or reliability and backup files. In a word, it AIN'T and you CAN'T.

SmartFILER R27D:

I have two different copies of SmartFILER. Both are store bought Coleco originals. Both are disks and I have guarantee cards on them. (Not much good now!) On both copies, I have had problems re-entering databases after I have gone to the trouble of creating them. One of the peculiarities of SmartFILER is that the program must initialize any storage media. If there is anything else on the media, the initializing will clear it, database or not. In theory, once initialized and with a new database in place, you should be able to re-enter the storage database by simply running in the program, bringing up the ENTRY screen and punching SmartKEYs to tell the storage that you want to view, or to get a report or add more data. The theory is good except that on, at least, six occasions, I have been unable to get back into the database because the program disk want to re-initialize the storage database disk, whether I want that or not. When it happens you kiss your hard earned database good-bye. You can prevent it initializing again and wiping the database out but then you still have the problem of getting back into the database. I couldn't get back in, so thinking it was operator failure, I had to wipe out the database and start again.

That led directly to the second problem. I could not conveniently make

back-up storage media copies. The first warning was the fact the instruction book index didn't even have the word 'COPY' or 'BACKUP' in it. I tried to make backups using SmartFILER itself, then using Disk manager, and finally going to a dedicated copy program. I tried going from disk to disk, disk to tape and tape to tape. Nothing. Even when I used a program like COPY3 or PROCOPY, the backups created just wouldn't work. In all fairness, I have to say I talked to other owners of SmartFILER and they don't seem to have complaints. I don't know whether that's because there haven't pushed SmartFILER as hard and far as I have or if they have different versions. My versions are both REVISION 27D, 8/16/84 (you find the revision by holding down CONTROL and R keys at the same time after SmartFILER has loaded). I get very suspicious of anything that isn't right after 26 previous revisions. I'm fairly sure it's not operator error because when SmartFILER works, it works well, but then it will just blink out. Regardless of the cause, I don't trust or rely on SmartFILER any more so I kiss \$80 down the drain.

INDEX:

Index by Strategic Software is a form of database that I do trust and use a lot. This program is normally contained on a commercial utility program called TURBOLOAD. Cost is about \$25 but you get three distinct programs on one data pack. You get TurboLoad, File Organizer and INDEX, a very simple database program that is worth every cent of the cost of the whole TurboLoad data pack. I only use it once or twice a month and it's still worth it. All it does is produce a printed, alphabetic, index listing of up to 1,000 files contained on almost any number of data packs or disks. All you do is run in the program, then start stuffing in your media, data pack or disk, into the computer while you hit one SmartKEY. As the directory of each data pack or disk is flash read, the name of the media 'volume' pops onto the screen. When you have finished entering all your media, use print commands as normal. You will get back an alphabetized INDEX list of all your directories, showing FILE NAME, TYPE, LENGTH and, best of all, which MEDIA IT IS CONTAINED ON. Fantastic! Wonderful! No more looking through the directories of 50 disks to find that one file. The downside is that it has no provision for putting the index on screen or to memory. Print it or lose it. As a database, this one has a darned short memory but it does a great utility job. If you have a lot of data packs and or disks like I do, this is the best little database program ever designed.

EASYFILER:

This was touted as being the Canadian equivalent of SmartFILER, only better. It was designed by a fellow in Toronto and sold through CompuStores at about \$30.00. It was supposed to do big databases, giving a lot more records than SmartFILER. An advantage listed was that you could use several data packs to store a large database or put several databases on one data pack. It would take 40 fields, input up to 30 characters on each and search all 40 fields. Sounds great until you check and find that the maximum each record will take is only 128 characters. THAT'S SHORT! It really means you could only do about 4 1/4 of the 30 character lines on a record. You might have 40 fields but you wouldn't even get 4 input characters in each field. By comparison, SmartFILER takes 255 input characters plus the text at the bottom.

EASYFILER had 9 typewritten pages of documentation, contained as a SmartWRITER 'DOC' file on the data pack. It looked good but after working with it, I found it had so many omissions I had to write to the designer. He called me and proceeded to tell me about a lot of 'tricks' that didn't get put in the documentation. I never really did get it to work consistently.

A more serious problem was the data pack itself. The data pack was a Memorex audio cassette. They are sealed and have no screws as do the Loran data packs. If you have a jam, you have to string forty feet of tape out to clear it. And it did jam. I think the Memorex tapes do not have enough drag to allow for the highspeed reversing of the digital data drive. The feed reel kept spewing tape and created frequent jams. Between the incomplete documentation, the small input



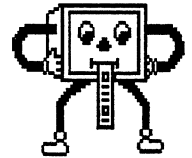
and the tape jams, this one went into permanent storage. It still wasn't worth the aggravation. Sorry guys, no gold medal for this one, even if it is a Canadian product.

INFORMATION BUSINESS:

Obviously, nothing I had tried so far on ADAM had come anywhere near a serious MICRO or MINI computer database but I still had the need. My business is made on information and a lot of ideas come to me when I'm at home. The faster I can define, locate and recover information or the more varieties of ways I can use the database with different format letters or applications, the better off I am. If I can get an ADAM database that will be compatible in with my office database or will allow modem communication, that would really help me.

dBASE and CP/M:

It's taken a long while to get and set up a database that meets my requirements but the one I think will do the job is dBASE II for use in the CP/M or TDOS operating system. dBASE II was designed by Ashton-Tate Inc. for the IBM environment but some helpful programmer melded it to the CP/M environment and it will run on almost any kind of computer, including our orphan, ADAM. It's not cheap at over \$100 plus the CP/M operating system (ED. NOTE: TDOS V4.59 is available in the Public Domain and is far superior to CP/M and 99% compatible) but if it does a reliable and convenient job, it may be worth it.



According to the documentation, dBASE II is a "Data Management System containing a Relational Database Manager and a 4th Operation Application Development Language." (Whatever that means!) The language contains over 100 commands for the manipulation of information but you really need only 10 or 15 commands to get started. I've just gotten started in it but I find it quite easy to operate on a Level 1 basis. It uses plain English rather than the type of codings for some of the other programming languages. A huge advantage is that dBASE II is the same language as dBASE III and III+ and the new IV but dBASE II can be operated on the 64K memory of ADAM. While dBASE II has been superseded by the other varieties of dBASE, it is just a smaller version. It does not have some of the more sophisticated commands nor will it support the number of fields that later versions handle. For example, dBASE II handles 32 fields while dBASE III supports 128. In spite of this, it certainly is not a dead or lightweight language. Even companies like Xerox still use it for some of their programming. I am led to believe you can integrate dBASE II files, programs and databases into dBASE III+ operations.

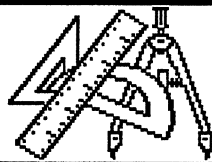
FIELD / TYPE LIMITATIONS:

On the technical side, dBASE II can have 32 totally searchable Fields with 254 characters each, a total of 1000 characters per Record and up to 65,535 Records in a File. I still haven't figured out how many disks that will take but it's a giant leap up from SmartFILER. All Field Titles are 8 spaces. Numerical Fields take up to a 10 space input. Character fields take 1 to 254 spaces. Logical Fields take only 1 space.

The difficulty with dBASE II is that it is a combination of a ready to use simple database but it is also a whole programming language where you write further applications. It is not a full structured database as it comes. You have to do much more set up work than with any of the other database programs. On the other hand, it also allows much more customization to your exact needs. You can design screen entry forms that are difficult, if not impossible, on SmartFILER. A big advantage is you can change your mind and expand or eliminate fields in mid-process.

Maybe this is THE database for ADAM. It seems to be compatible with my CP/M 2.2 format and looks like it can live on my battered ADAM (ED. Will work even better with TDOS, an 80 column display, hard drive, floppy disk drive, memory expander or any combination of these hardware items).

Good ADAMing to all of you.



A SILLY MILLIMETER LONGER

Update: 24-Pin Printers on the ADAM

by Patricia Herrington

As regular readers know, there are some almost IRRESISTIBLE buys on 24-pin dot matrix printers these days. BUT they are not without their problems. For one thing, IF it matters to you (and it may not) there is a slight difference in the height of the printout when using a 24-pin printer as opposed to the old familiar 9-pin. That is no longer a real problem, as software developers such as Walters Software and Hexace continue to come out with new, inexpensive software designed specifically for the 24-pin models. Even without special software, the 24-pin printers do a great job. IF.....

If you can get them to work with the ADAM at ALL! When the bottom fell out of the pricing, a lot of us found it impossible to resist purchasing a 24-pin printer. I was one of the lucky ones. My new Panasonic KX-P1124 worked right off the shelf. I plugged it into my existing parallel cable (attached to an Orphanware Parallel Printer Interface) and it purred like a kitten. Others weren't so lucky.

The reports began to come back: This printer did not work with the E&T Parallel Printer Interface. It would either refuse to print at ALL, or it would print garbage (intermittently.) At that time, the reports were that the EVE and Orphanware Parallel Printer Interfaces worked fine. But all the counties hadn't been heard from. Well, I have still not heard of a case where the EVE interface caused problems, but that may be due to the fact that there are fewer of them out there. It is certain that some Orphanware interfaces have the same problem. (You just can't IMAGINE how grateful I am that mine was not one of the problem boards!!! Usually, if anything CAN go wrong, I am the one it goes wrong FOR.) I have heard from people who own 2 or 3 Orphanware cards, NONE of which was completely compatible with the KX-P1124.

So what was to be done, short of returning the printer? Well, it seems that a printer buffer would take care of the problem. This information was widely printed. And sometimes it worked. BUT NOT ALWAYS. There are buffers and then there are buffers, and they are not all created equal. Not all of the print buffers solved the problem. I am not a "techie", so I really can't explain why without stuffing my foot in my mouth. But it got confusing.

Mark Gordon to the rescue! At Terry Fowler's request, Micro Innovations hardware developer came out with a brand new printer interface that worked just FINE with the KX-P1124 with or WITHOUT a printer buffer. This new interface is available from ADAM's House, N.I.A.D., ADAMLink of Utah, etc., as well as direct from Micro Innovations, at the very reasonable price of \$34.95; and so far I have heard nothing but good reviews of the product. Problem solved.

EXCEPT.... what if you have the one of the first two versions of the PowerMATE Hard Disk Drive by Micro Innovations (the new PowerMATE L/C and H/P models are fully compatible)? The new printer card works fine, BUT it plugs into Expansion Slot #2... the same slot as the PowerMATE Hard Disk Drive Interface card! Obviously, you do not want to give up your hard drive capability just to run your printer!

That was the problem faced by M.O.A.U.G. member Joe Peppers. He bought the new M.I. Parallel Printer Interface from Micro Innovations, and he was thoroughly satisfied with its performance, but he did NOT want to give up his PowerMATE Hard Disk Drive.

Joe did a little independent research, and found a company called Technologic Systems that offers a 512K printer buffer for less than a hundred dollars. That's right, **512K!** He had no way of knowing if the buffer would solve the problem or not, but being the gutsy guy he is, he ordered it anyway. Well, Joe is thrilled with it. It is not just a matter of solving the incompatibility problem. He can save an enormous amount of time when printing out multiple copies. According to Joe, the first

copy takes about the usual amount of time to print, but subsequent copies are MUCH faster. In fact, it takes about 1/3 of the normal time to print from the buffer.

So if you have been drooling over that lovely KX-P1123 or KX-P1124 at fire sale prices, you can be sure that there are at least three ways to get it to work with your system, even if your current interface can't handle it alone. 1) If you don't yet own an interface, you can buy the Micro Innovations card. 2) If you already have an interface (Orphanware, E&T or EVE) that is not compatible, you can replace it with the Micro Innovations card (a lot cheaper than buying a printer buffer and you know it will work). 3) If you own one of the first two versions of the PowerMATE Hard Disk Drive (the interface card plugs into Expansion Slot #2) and you can't give up, you can buy one heck of a buffer and increase printout speed to boot. Granted that this solution is a bit expensive, it will provide you with other benefits... and time is VALUABLE!!!

PRINTER BUFFER TEST

by Joe Peppers

I have had a Panasonic KX-P1092i printer now for some time. It is a 9-pin printer and runs at 240 cps in Draft-Elite mode. Recently I bought a Panasonic KX-P1124i printer for \$260. It is a 24-pin printer and prints at 240 cps in Draft-Elite mode.

I could not get the 1124i to work with either one of my Orphanware printer cards. The 1124i would not work with the ADAM until a new Micro Innovations printer card was ordered from ADAM's House. While this solved one problem, I could not get the 1124i to work with the PowerMATE Hard Disk Drive Interface (ED. this interface used to only support 9-pin printers).

I read that a printer buffer might help resolve incompatibility problems, so I bought one from Technologic Systems along with the required adaptor and cable for \$119 (including shipping). The PowerMATE now works just fine with the 1124i.

This is just a little background for the subject of this article: the buffer test.

To make it easy for someone else to run this test for comparison, I used the picture "bomber" from the PowerPAINT medium. I used MOVE/COPY and then SmartKEY III (Copy Cell) to copy "bomber" to three other cells. This created a half page that I could print out. To print, I used PRINT WORKSPACE and then SmartKEY V (Light Hardcopy). I then made another printout directly from the buffer. Finally, I repeated the entire test using the 9-pin printer. To make it easier to visualize, I have included a chart:

PRINTER	BUFFER	TIME
KX-P1092i	no	1 min. 50 sec.
KX-P1124i	no	1 min. 50 sec.
KX-P1092i	yes	40 sec.
KX-P1124i	yes	35 sec.

I did the same test with the PowerMATE and came up with the same results. In each case, I printed the graphics first from PowerPAINT. The second time I printed from the buffer. The buffer was hooked up at all times. There was no difference between the PowerPAINT printout and the buffer printout, except for the time involved.

Not only can this buffer resolve incompatibility problems, but it will significantly speed up printing of multiple copies.



BEYOND SmartWRITER

Part I: The First Wave - Strategic Software Inc.

by David Sands

EDITOR'S NOTE: This article was supplied to us by The ADAM News Network and originally appeared in the Vancouver Island Senior ADAMphiles Newsletter.

Since 90% of all computers, including ADAMs, are used for word processing, it's not surprising that the biggest selling computer programs are for word processing.

Our ADAM was shipped with its own word processor, the SmartWRITER, we all know and love. This article will survey three replacements for the built-in; Strategic Software's MultiWRITE, MicroWORKS and NewsMAKER.

These are not new programs, but they are still available and if you're growing impatient with SmartWRITER, worth consideration.

The three programs are different in many ways, but share some similarities with each other. All are written in SmartBASIC, will work with the basic ADAM, and tend to be slow in use.

The earliest replacement for SmartWRITER was **MultiWRITE**. This 1986 program from Strategic Software of Lindenhurst, New Jersey, got generous reviews for its 64 character-wide screen display and relative speed compared to SmartWRITER.

Early reviewers mentioned its WORDSTAR-type control code operation which meant much faster operations in formatting and setting margins, faster and easier operation in Insert and Delete, its formatting controls which allow justified columns, centered text, and line spacing in half-line increments, i.e. .5, 1, 1.5, etc.

MultiWRITE uses most of the ADAM keyboard keys for their jobs, and even found a job for the Wild Card key – it inserts spaces at the cursor position. MultiWRITE uses a single key and Return, for example, to Delete, and never asks you if you're sure. It doesn't use the SmartKEYs and you work from its screen menu to load files, edit files or print them. And you may miss the Return marker at the end of your paragraphs.

But the thing that attracted the most attention was the 64-column screen. (The ADAM was made to display on TV screens, which have lower resolution than computer monitors. Some monitors can also only display up to 40 characters.) This will also continue to be MultiWRITE's big attraction.

When this program appeared, the problems with ADAM's display on the TV screen were well known; the 80-column board had been introduced and was very expensive, and any CP/M word processor, like WordStar, required constant cross-screen scrolling and was awkward to use.

Unfortunately, MultiWRITE creates 64 column display and eyestrain at the same time. As I understand it, the ADAM's video chip creates each character from eight pixels on the screen; to get more characters, you must use fewer pixels, hence MultiWRITE's characters are simplified to make them smaller. A monitor, rather than a TV, is a good idea with MultiWRITE, or use a resolution enhancer like those available from Radio Shack to get a sharper TV screen image.

Like SmartWRITER, MultiWRITE operates in overtype mode, and like SW, it word-wraps, has a screen buffer if you type ahead of the cursor, and stores on data packs or disks. MultiWRITE must convert SmartWRITER files to its own format to edit them, and SW can't load or edit MW files.

What you notice first about MultiWRITE is the small character size (compared to SmartWRITER) necessary to get 64 letters and spaces on

a screen where you've used to about 35, but the biggest benefit of MultiWRITE is its speed, again, compared to SmartWRITER. The cursor moves faster and the actions are quicker. Insert and Delete especially are a joy to use compared to SmartWRITER's clunky multiple SmartKEY routines. Search is only down from the cursor, though, although the HOME key gets you to the top of the file quickly.

On the other hand, the type is small and some characters are strange – 's' and 'a' are especially awkward – and you will find printing slower as well. In fact, it's half the speed of SmartWRITER, because MW prints in only one direction. MultiWRITE must call up another program from its data pack or disk in order to print. And, you must then wait while it calls up the word processor program to get back to your file. Some features, like justified type, don't display on screen, so you only see the result on printouts. If MultiWRITE has justified a line with too few words, they can be stretched across the column.

However, since SmartWRITER can't justify at all, MW is a good choice for any job where a regular, formal look is important. Many ADAM newsletters are now using two justified columns per page and look better for it. The other 'but' with MultiWRITE is its loading time: you first load SmartBASIC V1.0, then load MultiWRITE via a 'run' command, and wait for it to come up on the screen. Plan on about a 5-minute wait for a data pack. Strategic Software released its products only on data pack, but the programs are now available from some dealers on disk. MultiWRITE was around \$36.95 (US) when new, but it's about \$19.95 now.

Knowing your way around SmartBASIC and a good supply of patience is also necessary. MultiWRITE seems prone to "I/O Error" and similar messages, or to freezing if you do something wrong. Sometimes it drops you back into SmartBASIC, sometimes you start again from zero.

While I don't find the 64 column display too thrilling on my monitor (an antique Apple II green screen job) and the cursor acts like it's on street drugs - Insert, Delete, Move and Copy are quick! The Control codes require a simultaneous hit on both Control and the letter code keys. These are mnemonic, i.e. Control-u for underlining, so they are quick to learn, and the speed of use is noticeable.

On the minus side, are loading time, printing time, strange changes in screen format after inserts and deletes, and occasional problems with the cursor overshooting.

I have dealt with MultiWRITE at length because it's the most likely to be considered as a SmartWRITER replacement of the three Strategic Software offerings. MicroWORKS and NewsMAKER are more specialized in their applications.

MicroWORKS is an integrated system, and is, I believe, the only one available for the ADAM. An "integrated" application combines software like database, spreadsheet and word processor and allows easy transfer between them, indeed, that's the rationale. Non-ADAM examples such as Apple Works, Microsoft Works, etc. share, beside the common suffix, the same idea; do everything in one program.

MicroWORKS offers a text editor, spreadsheet, database, business graphics and picture editor. Unfortunately, it does this at the cost of requiring small file sizes: 9.4K maximum. MultiWRITE, which Strategic describes as a text editor, is the word processor part of the program. "Text editor" normally describes a simple word processor in which you work on a single line at a time, inserting a return at the end of each line. Somewhat similar to SmartWRITER in its Standard Mode, and to using a typewriter.

(CONTINUED ON PAGE 14, COLUMN 1)



EXPLORING SmartBASIC

Part X: High Resolution Graphics

by Guy Cousineau

EDITOR'S NOTE: The following is the tenth in a series of articles on SmartBASIC written by Guy Cousineau of the ADAM User-Friendly Group. This article was made available to us by Ron Mitchell, President.

HIGH RESOLUTION GRAPHICS

High Resolution Graphics can be invoked in 2 fashions. The HGR command leaves a few lines for text at the bottom and provides a DRAW window of 256 by 160. The HGR2 command leaves no text window so the full 256 by 192 screen is available for drawing.

HCOLOR, similar to COLOR sets the default pen color for drawing. As with the GR mode, the color value is checked for values between 0 and 15, translated and placed in the table. In HGR, it is highly recommended to disable the check and translation; see H PLOT for applications. The value check is disabled with a POKE of 255 at 11127(2B76). The translation check is disabled by POKE 18747(493B),0.

The H PLOT command is similar to the PLOT command in GR; it turns on one pixel based on the selected color. Although you can draw shapes in any color you want, the colour bleeding problem rears its ugly head here again. One problem which can partially be solved is the bleeding problem when neighbouring pixels are turned off and on. Try these DEMO programs after fixing the HCOLOR check and translation illustrated above:

```

10 REM bleeding demo
20 HGR
30 PRINT "draw a box"
40 HCOLOR = 5
50 FOR y = 100 TO 150: FOR x = 100 TO 150
60 H PLOT x,y: NEXT: NEXT
70 PRINT "Now erase the centre"
80 HCOLOR = 0
90 FOR y = 110 TO 140: FOR x = 110 TO 140
100 H PLOT x,y: NEXT: NEXT
110 PRINT "draw a diagonal in the centre"
120 HCOLOR = 10
130 FOR x = 110 TO 140
140 H PLOT x,x: NEXT
150 PRINT "ooppss"

```

This program proceeds OK to draw a box and erase the centre. When it comes to drawing the diagonal, the other neighboring pixels are still LIVE and get turned on when the diagonal is drawn. We can borrow the technique used by the XDRAW command to partially cure this problem. An HCOLOR value over 128 (high bit set) will instruct PLOT commands to turn off pixels rather than paint them a different colour. Try this:

```

10 REM partial fix of bleeding
20 HGR
30 PRINT "draw a box"
40 HCOLOR = 5
50 FOR y = 100 TO 150: FOR x = 100 TO 150
60 H PLOT x,y: NEXT: NEXT
70 PRINT "Now erase the centre"
80 HCOLOR = 128
90 FOR y = 110 TO 140: FOR x = 110 TO 140
100 H PLOT x,y: NEXT: NEXT
110 PRINT "draw a diagonal in the centre"
120 HCOLOR = 10
130 FOR x = 110 TO 140
140 H PLOT x,x: NEXT
150 PRINT "much better"

```

Now we notice a difference when the centre of the blue box is erased: the left and right borders are the same size. Also, when the yellow diagonal is drawn, we get a line instead of a bunch of blocks. Note that there is still some color bleeding on the ends of the diagonal but that can also be partially cured by choosing even multiples of 8 for the start and end points. In the program above, replace ALL the 110's and 140's with 120 and 136 to see the difference.

There are no HLINE or VLINE commands in the HGR mode, but H PLOT is a versatile utility which can draw complicated shapes in one command in much the same fashion as a hand-drawing is made without lifting the pen. The syntax is: H PLOT x1,y1 TO x2,y2 TO x3,y3 ...etc. There is no limit (except input line length) to the number of successive points which can be drawn. Drawing squares seems to be a problem: they are not square! Try this demo program which sets up a subroutine to draw a square of the specified size:

```

10 REM square subroutine
20 x = 50: y = 50: REM upper left corner
30 z = 100: REM size of square
40 HCOLOR = 15
50 GOSUB 1000: REM draw a square
60 END
999 REM square drawing routine
1000 H PLOT x,y TO x+z,y TO x+z,y+z TO x,y+z TO x,y
1010 RETURN

```

The square is deformed because of the mechanics of plotting in which the pen advances one pixel in the chosen direction but does not turn on the dot until it moves to the next pixel. The trick is then to adjust the corners by +-1 to square things off. That's why we use a subroutine so we only have to do it right once:

```

10 REM square subroutine
20 x = 50: y = 50: REM upper left corner
30 z = 100: REM size of square
40 HCOLOR = 15
50 GOSUB 1000: REM draw a square
60 END
999 REM real square drawing routine
1000 H PLOT x,y TO x+z+1,y
1010 H PLOT TO x+z,y+z+1
1020 H PLOT TO x-1,y+z
1030 H PLOT TO x,y
1040 RETURN

```

Now this one draws a REAL square. Note also the different syntax used in the subroutine. H PLOT commands can be given with only a TO address. In this case, the H PLOT starts from the LAST PLOTTED POINT or the current position. For program clarity, the second example is better but for execution speed, it is better to chain them all into one.

Although the HGR mode is suitable to complex graphics, it can be quite tedious to map out the entire screen one pixel at a time. That's why we have shape tables. The format of shape tables is complex and will be the subject of further discussions at a later date. Suffice it to say for now that a shape table can be installed anywhere in free memory and its address POKED into memory addresses 16766 and 16767.

The SCALE command defines the magnitude of the shape. A scale of 1 will advance one pixel for each plot command in the shape table. The scale can range up to 255 for incredibly large shapes which wrap around the entire screen. When the HGR mode is initialized, the scale is set to 255. It is important then to set the scale to the size you want to use. If you don't, your first draw command will write all over the screen

and may take several seconds to complete before you can abort it with CONTROL-C.

The DRAW command prints out a shape definition using the current HCOLOR at the screen coordinates provided: DRAW 1 at 100,100. The draw command can also be given without coordinates in which case it will draw starting at the last pen position. Try this program out using the default shape installed in SmartBASIC:

```
10 REM repeat DRAW
20 HGR2
30 HCOLOR = 15
40 ROT = 0
50 SCALE = 2
60 DRAW 1 at 100,100
70 FOR x = 1 to 100
80 DRAW 1
90 NEXT x
99 END
```

The XDRAW command works just like DRAW to erase a shape. Simple animation can be achieved by XRAW and DRAW commands:

```
10 REM animation using shapes
20 HGR2
30 HCOLOR = 15
40 ROT = 0
50 SCALE = 2
60 FOR x = 10 to 200
70 DRAW 1 AT x,100
80 XDRAW 1 AT x,100
90 NEXT x
```

Now your shape darts across the screen. Note that for proper animation, the bulk of the processing time (deciding on move direction, obstacles, and other game conditions) should take place between line 70 and 80 so that the PLAYER is on longer than off.

The ROT command is used to specify the rotation of the shape. ROT values range from 0 to 63 representing different angles in a quadrant. All 64 rotations can only be interpreted if the SCALE value is greater than 15 since the nuances in angular displacement cannot be determined at lower values:

```
10 REM rotation demo
20 HGR2
30 SCALE = 16
40 HCOLOR = 15
50 FOR z = 0 to 63
60 SCALE = z
70 DRAW 1 AT 100,100
80 XDRAW 1 AT 100,100
90 NEXT z
```

ROUTINE ADDRESSES

The HGR command executes at 25484(638C). It fixes up the cursor, space, and flash flags and sets up the text window. The character colour is at 25568(63E0) in the format 16*set color+clear colour. The window parameters are as follows:

LINES	25573(63E5)	25576(63E8)
4	3	20
5	4	19
6	5	18
7	6	17
8	7	16

The HGR2 command executes at 25370(631A0). Since there is no text window, the only initialization done is the graphics screen initialization which is identical to HGR:

ADDRESS	VALUE	DESCRIPTION
25431(6357)	color byte	border color
25471(637F)	17*color byte	default screen colour on init
25479(6387)	color byte	current HCOLOR value

The HCOLOR command is parsed at 14875(3A1B) where it calls a routine to get a numerical value or equation. The execution is at 11119(2B6F); it gets the value, checks for legal entry, calls the translation routine at 18728(4928) and stores the value in memory.

HPlot is parsed at 15102(3AFE). It looks for "TO" and then gets a value, looks for comma and another value, then cycles through again looking for another "TO". The routine execution is at 11487(2CDF). It starts by checking for a "TO" token in which case it gets the FORM coordinates from memory. Each x, y coordinate is extracted and checked for overflow. If there is no TO coordinate, a single point is plotted. Otherwise, the vector is extracted and the LINE drawn at 25686(6456). Upon return, the input line is checked for another "TO". The draw line routine basically extracts the character map from memory and flips pixels on based on the direction calculations. This routine is complex and lengthy; it runs up to 26122(660A).

The SCALE command is parsed at 14875(3A1B); similar to HCOLOR. The execution is at 11473(2CD1) where the value is extracted from the token line and passed to the calculation routine at 26333(66DD) which sets the scale value. If the byte is out of range, the scale is set to 255. You can change this if you want by modifying the byte at 26339(66E3). Also, the default SCALE value is located at 16765(417C). Set it to 1 to avoid messy drawings if you forget to set the scale in your programs.

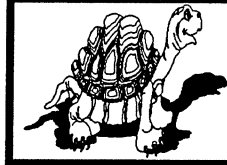
DRAW and XDRAW are parsed in a similar fashion at 14875(3A1B) and 14976(3A80). The first routine extracts the shape number, and the second looks for "AT" and an x,y coordinate. DRAW executes at 11358(2C5E). It gets the shape number and looks for coordinates. If none are found, the DRAW routine at 26317(66CD) is executed. Otherwise, the coordinates are extracted and checked and the DRAW routine at 26588(67DC) is executed. XDRAW works in a similar fashion at 11405(2C8D) and calls XDRAW routines at 26297(66B9) and 26884(6904) respectively.

The DRAW routine at 26317 extracts the LAST x,y from memory and jumps into the main draw routine. This one finds the data address for the shape table and extracts the vector to the chosen shape. The shape bits are then analyzed and bit-mapped on the screen in the chosen HCOLOR. This routine is also quite complex and runs up to 26883(6903). The XDRAW routines simply set the high bit of the HCOLOR value (erase) and call the corresponding DRAW routine.

ROT is parsed at 14875(3A1B) where a value is extracted. The execution is at 11459(2CC3) which gets the value and passes it to the routine at 26344(66E8). This one divides the value (0-63) by 8 to obtain the quadrant value. It then sets the appropriate pointers so the DRAW routine knows which way to turn the shape.

The default shape table resides in memory at address 26574(67CE). It contains the following bytes:

10	number of shapes (1)	
40	offset to first shape (4)	
54	plot-down	plot-down
63	plot-left	plot-left
36	plot-up	plot-up
36	plot-up	plot-up
45	plot-right	plot-right
45	plot-right	plot-right
54	plot-down	plot-down
54	plot-down	plot-down
63	plot-left	plot-left
0	end-of-shape	



THE LOGO NOTEBOOK

Part VII: Trying to Solve a Mystery

by Ron H. Mitchell

EDITOR'S NOTE: This is the seventh in a series of articles by Ron Mitchell, Editor of The ADAM User-Friendly Group newsletter, covering SmartLOGO and the many aspects of programming in SmartLOGO.

In this segment of the Notebook we've got something of a mystery, and I wouldn't mind hearing from someone with a suitable explanation. My four source texts on the LOGO language provide absolutely no clue at all, unless I'm missing something. That's possible!

At any rate, here's what it's all about.

Last article as part of our RICH.OR.BROKE procedure, we use two sub-procedures called GETNUM.A and GETNUM.B. The idea was to permit the user to input two variables from the keyboard, income and expenses. Each was to be a number.

Initially, when writing the procedure and sub-procedures, I ran into a brick wall, generated by the LOGO turtle no doubt. He's for some time been resisting my attempts to learn this language.

Nevertheless, I persisted and typed the following (just to see what worked and what didn't):

```
MAKE "X RL
```

And LOGO dutifully waited for me to input something from the keyboard. The full form of this line, by the way is:

```
MAKE "X READLIST
```

Now that says to the LOGO interpreter, wait for the user to type in a list and when the user indicates that he's finished typing the list by pressing <return> then assign whatever he has typed to the variable "X. Hence, we could have the following - the program instruction is indented, my responses are not:

```
MAKE "X RL
```

```
PRANCER DANCER DONNER BLITZEN
COMET CUPID AND SOMEONE AND VIXEN
AND OF COURSE THE DUMBO WITH THE
RED NOSE <RETURN>
```

So then I type:

```
PR :X
```

and LOGO responds:

```
PRANCER DANCER DONNER BLITZEN
COMET CUPID AND SOMEONE AND VIXEN
AND OF COURSE THE DUMBO WITH THE
RED NOSE
```

All of this was done in the interactive mode. We're not using procedures here, we're just trying things out. Ok let's try something else:

```
MAKE "X RL
```

```
LOGO: 12
```

```
PR :X
```

```
LOGO: 12
```

Right. So far so good. Let's push a little further:

```
MAKE "Y RL
```

```
LOGO: 2
```

```
PR :Y
```

```
LOGO: 2
```

Right again! Now let's really see what you can do.

```
PR :x + :y
```

```
LOGO: + DOESN'T LIKE [2] AS AN INPUT ?
```

Ok! I'll get you, you sad excuse for a computer program!

```
PR :Y + :X
```

```
LOGO: + DOESN'T LIKE [12] AS AN INPUT ?
```

Anybody got a gun? I'm gonna shoot this thing. It took me 90 minutes to figure out 4 lines of code.

Turns out, that the operation READLIST does precisely what it says. It reads a LIST. [12] and [2] are lists NOT numbers! And the INFIX OPERATION + requires numbers as inputs.

Now if I was operating in SmartBASIC, (which I was sorely tempted to do), things would have been easy.

```
10 INPUT x,y: PRINT x+y
```

And I would have had the answer. So how do we get LOGO to do what SmartBASIC does so handily; ie. tell the difference between numerical variables and string variables? READLIST doesn't seem to care what it takes as input.

The answer lies in the operation FIRST, although not one author in 4 LOGO books explains why.

FIRST, according to the book, outputs the first element of it's object. Remember that there are three types of LOGO objects, numbers, words,

and lists. So let's go back to the list we input earlier and say that that's what we typed in as a response to:

```
MAKE "X RL
```

So then we could say:

```
PR FIRST :X
```

and LOGO would reply:

```
PRANCER
```

Ok, let's move on to the other lists we dealt with and see what happens. The statements would look something like this:

```
MAKE "X FIRST RL
```

```
LOGO: 12
```

```
MAKE "Y FIRST RL
```

```
LOGO: 2
```

```
PR :X + :Y
```

```
LOGO: 14
```

Brilliant! Now let's try one more thing.

```
MAKE "X FIRST RL
```

```
LOGO: PRANCER DANCER
```

```
MAKE "Y FIRST RL
```

```
LOGO: SANTA CLAUS
```

```
PR :X + :Y
```

```
LOGO: + DOESN'T LIKE SANTA AS INPUT ?
```

```
NEITHER DOES SCROOGE
```

```
LOGO: I DON'T KNOW HOW TO NEITHER ?
```

Disregard the last three lines... I'm being silly. Note however that in this case "X is a list made up of two elements, PRANCER DANCER and "Y is a list also made up of two elements, SANTA CLAUS. So FIRST :X would be PRANCER and FIRST :Y would be.... (you guessed it) SANTA.

The point is this. It would appear that the operation FIRST knows whether or not the user's input is alpha or numeric. You can try inputting other values of :X and :Y other than the 12 and 2 shown above, and it will work every time, that is, the two numerical values will be correctly added together.

The mystery, as I see it, is why?



A LESSON IN MIDI

Part IV & V: Using a Downloaded Midi File

by Ron Collins

EDITOR'S NOTE: The following article is part four and five of five in a series of MIDI lessons by Ron Collins. The entire article was downloaded from the ADAM-X-CHANGE BBS and supplied by The ADAM News Network. Watch for follow-up MIDI articles by Ron covering such subject matter as the new SEQuel program by Bonafide Systems.

For now, however, I'm not looking for answered questions. I want a new song to play on my ADAM. The best place to look first is in the new uploads section: Data Library 1. I type DL1 and it flips me over into that area as soon as I press the RETURN key.

Now, I HAVE to know what type of song file to search for if I am to use it at all. Remember, each computer system can have a special file type. Some of the ones I've run into are MID, MFF, SNG, SMF, MF1, MF0, WRK and even some really goofy ones I won't bother to mention; we can't use them anyway! On this system, the types we will be able to use are MID, MFF, MF1 and MF0. These all designate the file as a standard MIDI file format. Usually, only the files that tell you up front that they are MF0 are the format used by MINI RECORDER. Since this is the program we'll use with our MIDI MITE Interface, it's a good idea to search for compatible file types.

To do this, I can use the BROWSE command to let me look for this type of file. I still use menus to help me navigate so I'll press the number 1 key and press return (this one is labeled for a BROWSE of the library). CompuServe prompts for a search string. At this point, I type MF0 and press the RETURN. The system will then ask me how many days I want to look back. I can tell it one day or 90... or just press RETURN again for "ALL". If there have been any new MF0 songs uploaded, they will now be listed one at a time. CompuServe even gives you a brief description of the song, who uploaded it, and maybe even what musical instruments it is to be played with. If there are no MF0 songs, try doing this again using the MFF or MID search strings.

Looking over the files, I finally find an interesting song of the MID file type. This one is called TZONE.ZIP. Hmmmm, that's not a MID type file! Let's take a look at the description. Here I learn that this is the theme music from The TWILITE ZONE, what it was composed on, and that there are two files included in this ZIP file: TZONE.MID and TZONE.TXT. For those of you who don't do this sort of thing on a regular basis, and don't even know what a ZIP file is, let's take a quick look at it.

When you have a group of files that all concern one specific subject, what would you rather do, keep them all together or just throw them in with a lot of other files that have nothing to do with your subject? Obviously, it's better to keep them all in an easy to access central location. Keeping them all by themselves is a great way to get at these files when you need them, but they will soon start to take up an awful lot of disk space if you have very many subjects you want to keep separate! How can we cut out all that wasted disk space but still keep our files separate? An easy solution was invented a couple of hundred years ago by Ben Franklin. You guessed it.... put them into a LIBRARY! How does a library keep things in order? They put similar files into code number designated areas.

All of the cooking books will be found in the same general area of the library. It still takes up a lot of room though, so we'll have to go one better. The computer age has required some better method and many solutions have been advanced. The first I found was simple file compression. A file was once SQUEEZED to make it as small as possible. Next, the file could be CRUNCHED to make it even smaller. Later still, a compression type called CRLZH was written that further reduced the disk space needed for file storage. Finally, programs were written that would let you take these compressed files and put them all into one new file called a LIBRARY. I could create a file called MIDI.LBR

for all my MIDI song files for instance. All the member files could be crunched or squeezed to make them take up as little space as I can manage. The original separate files could then be deleted or just stored on floppy disks for archival purposes.

The next advance was to actually archive these files in one step... compression and storage to one new file called an ARC or ARK file. These used various schemes to reduce file size, but an extremely small file could result, saving you a great deal of the very valuable disk space. The fastest, tightest compression I am now aware of is the ZIP file. This is a compression/library type of file manipulator that takes the earlier program types to their current limit. The result is that you can find 320K files reduced to a single 24K ZIP file!

Okay, now let's look at that TZONE.ZIP file. I don't have to download a large MIDI song file and then go back and download the text file that talks about it. By use of an IBM utility that creates these ZIP files, the uploader of TZONE.ZIP has put both files into a group, then reduced it's size by compressing all the data into it's smallest possible size. It saves space as well as download time for me (space and UPLOAD time for the musician!)

The ADAM has a good variety of modem programs that provide us with download capability. ADAMLink IV works with the internal 300 baud modem or an external modem of up to 19.2 kbaud. It also offers XMODEM file transfer. Files you might get with ADAMLink will already be in an ADAM E.O.S. format which can be good and bad. If the file is an uncompressed file.. such as simply TZONE.MID it can be accessed by your MIDI software as is. Since this file has been zipped however, it would have to be transferred to a CP/M or TDOS media. To me, it just makes sense to download the file with a TDOS compatible modem program.

Of the popular modem programs in this environment that offer file transfer capabilities, the more popular are IMP, MEX, QTERM, and my personal favorite, ZMP. Which program you use is your own choice. The important thing is to get that file 'eh? Using ZMP, I select the download option on CompuServe. I am given a listing of various types of download types, known as protocols. I'll use YMODEM protocol this time. CompuServe prompts me with "FILE NAME FOR YOUR SYSTEM". That's an easy one! I just type in TZONE.ZIP and press the return. I am now prompted to begin the transfer.

At this point, the benefit of ZMP really shines out. I just press the ESCAPE key and the R key. This tells my ADAM to receive a file. ZMP asks me what type of protocol to use. I just press the Y key and hit the RETURN. That's it! I don't have to tell ADAM what to call this file or anything. It transfers TZONE.ZIP to my computer where I can work with it. This is all I'm really after this call, so I log off, hang up and use ESCAPE Q to quit ZMP and get back to TDOS.

Typing DIR and hitting the RETURN key gives me the directory of the disk so I can see my new file. Now I need to extract the two files from that ZIP format. I'll use a program called UNZIP for this (makes sense doesn't it?) I type UNZIP TZONE E and press that useful RETURN key again. The "E" tells UNZIP to extract the files. If I don't type in that "E", I'll just get a list of the contents of the ZIP. It takes a few minutes to process, but work is soon ready to begin on the new song.

My first step is to view the TZONE.TXT to see what this song is supposed to sound like. I just punch in TYPE TZONE.TXT and am presented by ADAM with.....

Twilight Zone by Marius Constant. Midi file format. Done on a Yamaha TG33. Should be easy to adapt to any tone generator.

<i>Chan</i>	<i>Instrument</i>
1	Piano
2	French Horn
3	Bongos
4	Strings

This is my first upload. I'd welcome any comments, especially from TG33 owners.

Hope you enjoy. Mike Kindinger - 73607,464

Well, now we know that this song file can be played using only 4 musical instruments, the piano, french horn, some bongos and a string arrangement. We also know that it was created using a YAMAHA TG33 synthesizer. The uploader, Mike Kindinger, should be thanked for all this information. You wouldn't believe what a mess some files are to determine instrument arrangements! By the use of this little text file, the uploader has made our job MUCH easier. If you happen to download this file, please do as Mike has asked and leave him a note about what you think of the file.

With the song file extracted, it is time to get it ready for us to play on our own MIDI equipped ADAM. MINI-RECORDER, the first program any of us ever see (because you get it free when you buy a MIDI MITE) only works with MIDI format 0 song files. This song was provided in format 1, so we now have to convert it to what we can use. Chris Braymen knew we would run into this problem, so a neat conversion utility was created in his spare time. As soon as it was checked out and debugged Chris released MIDI1-0.COM to the public domain. The use of this program is very simple: it takes a format 1 file and converts it to a format 0 file.

Just type in the program's name: MIDI1-0 and press RETURN to bring up this slick little utility. When it comes up, you will be asked for a song name to convert. Type in TZONE.MID and again press RETURN. Now you will be asked for a name to give the final version of the song. I want to call it TZONE.MF0 so that I can keep it separate from the original version. By just typing this in, the conversion will take place leaving us with a nice new "0" format version of our TZONE song.

With TZONE now being a format "0" file, we are ready to take it from it's T-DOS environment to an EOS one. This can be done quite easily thanks to the programming skills of Tony Morehen and Guy Cousineau. The old ADAM CP/M standards of ADAM.COM and it's partner CPMADAM.COM could be used with CPM but they definitely do NOT work under T-DOS. Tony and Guy, the authors of T-DOS took an extensive look at this problem. With the advanced hardware T-DOS supports, a program was needed that could read a hard drive, look at any of the many sizes of disk drives, data drives, etc. and be able to move files between EOS and T-DOS media, no matter where they are now, and to any other media or format. The program has been named FC (File Convert) and does exactly what it's named.

By now we all know how to bring up a file in T-DOS by just typing it's name, so we'll skip that part. I load up FC11, the latest version of the program I have, and it let's me select TDOS and E.O.S. directories. I tell it the TDOS file is on D7: and TZONE is going to be sent to my 320K EOS disk in disk drive 1. Now the selection has to be made for the type of transfer. The two I can choose from are EOS to T-DOS and T-DOS to EOS. We have the file in T-DOS, and want to put it onto an EOS disk, so we want to pick that second option. I've already set up what drives will be used for this transfer, so all that's left is to pick the file we want to convert.

FC has a real useful feature called "mask select". This was added by the thoughtful programmers who knew it would be used for file manipulations on hard drives or other large capacity drives. These large drives can hold up to several hundred files on them! Without the "mask select", you would have to look at ALL of these hundreds of files to find the one you want! Instead, FC prompts us for "TDOS Filemask". Just type in *.MID to select all the MID files. You could further restrict the mask by selecting TZONE.* or TZONE.MID. Using these "**"

wildcards gives you a lot of room to fine-tune a file search. I only have the one MID file on this area, so selecting *.MID still only gives me the one name: TZONE!

FC asks me for a name to give the song once it get's over to that EOS disk to which I respond TzoneMF0 and press the RETURN. A second or two is all it usually takes for smaller files. Now the song I've been patiently working on has been downloaded, unzipped and converted to a workable format 0. We've then followed this to it's new home on an EOS disk where we can listen to it. What can possibly be left to do?

Let's boot up our copy of MINI-RECORDER and check this out a bit. After the program comes online, press the STORE/GET key and select the disk containing our new file. Move the cursor so that it points to TzoneMF0 and press RETURN. In about twenty seconds or so, the song will show up on our screen. Looking at the file tells us three important pieces of information. We can see that there are 4 channels containing MIDI data. These are the ones we see the little green "musical note" symbol in front of. In this case, the data is on tracks 1, 2, 3 and 16. The second piece of information the program shows us is that there are no instrument names listed! A good reason for us to have checked out that TZONE.TXT don't you agree?

The last thing we learn is the MIDI program number assigned to each of the 4 used tracks. This program number is what makes a certain track play with a particular instrument. Some songs do not stick with only one instrument for each track. There are some that I've encountered with as many as seven program changes which kept me really busy tracking them down! These too must be made to conform to our own equipments requirements! Before a program can be edited for our instrument allocations, we have to first look a file over closely and find each program change number. Let's look at these numbers and compare them to what we read in the TXT file found in that TZONE.ZIP.

Our list indicates that track 1 is a PIANO sound. There is a number in front of this, a "2". This tells us that the YAMAHA device used to compose the song used it's second instrument voice to play this track. Track 2 has the number 41 assigned to it. A 50 is in front of track 3 and there is a 63 in front of track 16. This is our first clue to what is needed to play the song! Let's list what we've found:

<u>TRACK USED</u>	<u>PROGRAM #</u>	<u>YAMAHA INSTRUMENT</u>
1	2	PIANO
2	41	FRENCH HORN
3	50	BONGOS
16	63	STRINGS

Looking at this information shows me how simple this patch will be to get up and running. I can do everything on my little CASIO MT-540 keyboard. The CASIO has 30 musical instruments that it can play with the help of the MIDI port. It has only four MIDI sound channels that it can access, however: 1, 2, 3 and 4, so I am going to have to make a quick change before I can use the song with my keyboard.

This channel number is made by moving the cursor up to where it says 16 and just press the RETURN. Now, MINI-RECORDER asks me what channel number I wish to give it. I just type in a 4 and to make the change take effect, I press RETURN once more. To help me keep track of what's going on, I like to move the cursor over to the original channel 4 and change it to a 16. This way I can keep things in order.

Now, let's look at those instruments and their associated program numbers. PIANO=2, FRENCH HORN=41, BONGOS=50, and STRINGS=63. At this point, I recommend looking at the owners manual you received with your keyboard or synthesizer to see what instrument can be used for each of these and what program number is needed to make it play that instrument. My CASIO's manual says that a 2 is what it uses to play as if it were a HARPSICORD. Well I sure don't need THAT instrument to play the Twilite Zone theme! No, I need a PIANO sound and the CASIO has a truly superb one which is called up with program

(CONTINUED ON PAGE 14, COLUMN 2)



USING TDOS - ADVANCED

Part V: Deleted Files, Overlays and More

by Guy Cousineau

EDITOR'S NOTE: This is the fifth, and final part, in a series of articles on TDOS that were made available to us by Guy Cousineau at ADAMCON 03.

DELETED FILES

A CP/M directory entry is 32 bytes long. The first byte contains the user area of the file; the next 11 bytes contain the file name; the remaining 24 bytes contain system information about the file. When a file is deleted, an E5 (hex) is placed in the user byte; this appears as an inverse 'e'. This deleted marker tells the operating system that a new file may be placed in this hole.

Un-deleting a file can be as simple as replacing the E5 with the original user area of the file. Unfortunately, CP/M has no way of knowing in which user the file originally resided. Although undeletion could be accomplished with a disk editor, I strongly recommend the use of a smart utility like UNDEL.COM written by yours truly. It will perform various checks to ensure the validity of the file prior to allowing its recovery.

OVERLAYS

Programs which make use of terminal characteristics such as clear screen, highlighting, cursor addressing, etc. require user installation. The installation varies according to the program: it may be an INSTALL.COM which guides the user through each step; it may be assembly source code which must be modified by the user, assembled, and overlaid to the original source program.

TDOS utilities and other generic CP/M programs written by the TDOS developers use a standard overlay which can be used on ALL TDOS programs. The TERMINAL.Z80 file included with TDOS contains the basic code. The TDOS distribution includes assembled overlays for the most common terminals used with ADAM:

HEATH.HEX	TV output or 80 column CVU
EVE.HEX	EVE 80 column terminal
ANSI.HEX	ANSI terminals such as VT, RAINBOW, etc.

We strongly recommend that other programmers writing programs for use with TDOS use the standard overlay in order to facilitate user installation.

To change the overlay for your terminal, modify the TERMINAL.Z80 file to describe your system, including valid drives; assemble the source code to a HEX file; use MLOAD to overlay the .COM file of your choice. When installing the overlay, rename the output file to preserve your unmodified source file as a back up. e.g.

MLOAD CD.COM=CD22.COM,TERMINAL.HEX

INPUT / OUTPUT BYTE

There is an error in the current TDOS documentation for the keyboard I/O byte. Note that the first 2 bits only represent the screen; the next 2 bits represent the keyboard. This departure from standard CP/M configuration allows greater flexibility in the use of external devices.

If you have an 80 column terminal, you can use both the TV screen and the 80 column terminal by toggling the screen I/O byte from 0 to 3.

This presents the potential for experienced programmers to display a

game screen on the TV while concurrently displaying prompts, instructions, etc. on the 80 column terminal. We would be very interested in seeing developments in this area. Interested programmers may contact me for help and suggestions.

Changing the I/O byte should be accomplished by reading the current I/O byte, changing the selected bits, and writing it back. You should also save the default I/O byte at the start of your program so you can reset it to the default when your program exits. Following is one way to change the screen I/O byte from 40 columns to 80 columns and back again.

40 to 80

```
LD    C,7
CALL  5
SET   0,A
SET   1,A
LD    C,8
LD    E,A
CALL  5
```

80 to 40

```
LD    C,7
CALL  5
RES   0,A
RES   1,A
LD    C,8
LD    E,A
CALL  5
```

SWITCHING TO E.O.S.

With a hard drive system, you can quickly switch from TDOS to E.O.S. and back again. Just type EOS<CR> and, provided EOS.COM is on the search path, you will be placed in the hard drive maintenance menu. You can then switch to SmartBASIC, ADAMCALC, SmartWRITER, etc. When you are finished, just press SHIFT-UNDO and follow with SmartKEY II to re-boot TDOS.

When you use this switching method, the contents of the expansion RAM will be maintained provided the E.O.S. software booted does not make use of the RAM disk. Some of these exceptions include printing a spreadsheet in ADAMCALC, loading a large file (about 40K) in SmartWRITER, using a RAM disk in SmartBASIC, etc.

For non-hard drive systems, you can access SmartBASIC in a similar fashion by using BOOT.COM if you have at least 2 logical drives. Place your SmartBASIC medium in disk drive #1 and BOOT.COM in the RAM disk or in drive #2 (tape drive #1 will also work). Type B:BOOT or C:BOOT, depending where the program is located; this simulates pulling the reset switch and will load the program in disk drive #1. Later, you can place your TDOS disk in drive #1 and type CALL 64605 to switch back without losing the contents of the RAM disk.

Note that pulling the reset switch quickly (without holding it) may work most of the time. You can experiment with this procedure to re-boot from ADAMCALC, SmartWRITER, etc.

SERIES CONCLUSION

The hints and explanations provided in this series of articles should help you get more enjoyment and productivity from your TDOS operating system. Should you run across additional tricks and tips, please pass them along. I plan to periodically update this document and give credit to those who have made contributions to it's compilation.



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BEYOND SmartWRITER, CONTINUED FROM PAGE 7

Unlike MultiWRITE, MicroWRITE uses a command line menu system at the bottom of the screen, and uses some SmartKEYs. Alone among the three programs it offers a choice between typeover and insert modes. Another unique feature is its form letter or merge documents feature. MicroWRITE will produce form letters using addresses stored in the MicroFILE database.

The command line system is used to enter the text editor from the opening screen, then to select functions within the text editor module. As in MicroWRITE, there's a wait between functions, a wait to print, to return to the text editor, etc. In addition, MicroWRITE displays only 32 characters across the screen (like SmartWRITER).

Unless you'd like the benefit of the other programs contained within MicroWORKS, it doesn't seem worthwhile to adopt MicroWRITE as your word processor.

NewsMAKER shares some of the features and problems of the other two Strategic programs, and adds a few new ones of its own. NewsMAKER calls itself "The Complete and Fully Integrated Electronic Publishing System for the ADAM Family Computer." The reality is a little more modest. I have used NewsMAKER extensively, and since it shares its brothers' slow loading, SmartBASIC glitches and tape drive origin, I have spent a lot of time with it. NewsMAKER uses a 'command line' system of controls; two menu lines display one word prompts - Edit, Contents, New, Output, etc. Selecting New in Edit mode lets you create columns in an on-screen outline. Another prompt, Contents, gets you into text creation. Why NewsMAKER doesn't use the quicker features of MultiWRITE, I don't know.

NewsMAKER uses the standard ADAM 32 column display, and its necessary to switch between its typing and View modes to see how full your column or page is. You can do only a single page at a time. The word processor mode uses two SmartKEYs, and the command lines. Commands can be selected by the spacebar, or more quickly, by typing the first letter of each. 'E' for Edit, for example. NewsMAKER uses the same printing system as the other two; Store, and call up the printing from the menu, and wait. Same to return to typing or layout after printing. Printing is slow, one way, and can only be done one page at a time.

NewsMAKER can be used to create pages with multiple widths of typing like indented quotations, in a single file. NewsMAKER files can be read and printed out by SmartWRITER, a real boon when you despair of ever finishing within NewsMAKER. However, NewsMAKER can print justified columns, has a picture editor, a selection of graphics and two sizes of headline type within the program. I have not had any success in using these, and in any case, the ADAM printer has serious limitations in printing out graphics. (I understand a dot matrix printer patch is available for NewsMAKER). While NewsMAKER is claimed to be able to import SignSHOP graphics, it can't import text; everything has to be typed within the program.

In conclusion, Strategic Software's programs have probably been overtaken by progress in the form of SpeedyWRITE, VDE266, and TDOS in its 40 column mode which allows decent display of CP/M word processors. In addition, there have been recent concerns about Strategic's commitment to producing programs and supporting them.

Disk drive users will find these programs faster than data pack owners, and every user will have to make allowances for their bugs and idiosyncracies. It's a shame that there haven't been newer versions, or changes to let the programs use memory expanders with SmartBASIC V2.0, or to make them all self-booting (only NewsMAKER is) but those decisions aren't ours to make.

The next two installments of this series, "Beyond SmartWRITER", will deal with SpeedyWRITE. Future installments will deal with CP/M and TDOS word processors.

EXPLORING SmartBASIC, CONTINUED FROM PAGE 9

Each byte in the shape data contains 2 plot instructions masked into the first 3 bits and second 3 bits. The last 2 bits could contain NOPLOT instructions but are not required for the default shape. More on shape tables another time.

Next time, a discussion of program control commands.

A LESSON IN MIDI, CONTINUED FROM PAGE 12

change number 1. All I do is to move the cursor up to the program number column for the PIANO so that it's highlighting the 2. I press RETURN, am prompted for a new number to which I respond with a 1, and then press the RETURN once more. This fixes the PIANO for channel 1 and also solves the channel 16 problem.

Our next instrument, the FRENCH HORN just doesn't exist in the CASIO's library of sounds. That means I have to substitute a different type of instrument for the french horn. My experience tells me that a generic BRASS section isn't quite right where any single brass horn is required. It won't be exactly the same (or even close for a knit-picker), but I think I'll use number 7, the FLUTE to replace that french horn section. The FLUTE has quite a respectable reproduction which I think will do nicely. I change the 41 to a 7 and move on to those BONGOS.

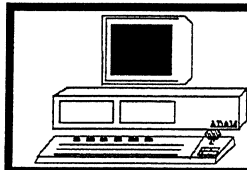
The CASIO doesn't limit you to just one type of drum sound. Instead, it groups a large variety of similar sounds into what it names the PERCUSSION track. This track is number 9, so I'm going to take a chance and change that 50 to a 9. It's now time to go on and finish up that STRINGS section. The STRINGS on my CASIO are section 16, so a quick change of that 63 to a 16 finishes the patching. With this all done, it's time to test our hard work and see how the song came out.

Playing the song is probably the hardest part of the whole procedure. You have to actually press a SmartKEY that is labeled PLAY. Really tough 'eh? How did it all sound? GREAT! It sounds so close to the TV show that I had to look at the television set! This is true DIGITAL AUDIO.... even better than CD (Compact Disk) in its reproduction. And it's all done on an ADAM! The last of it all is to press the STORE/GET key, name the file, and store it on to my next Public Domain release disk. Sure it took time, but none of it was hard to do or very complicated. SmartKEYs took us through all the hard stuff with ease. Why, I'll bet even Big John could have done it (grin)!

For those of you who have been wondering about the FB01, it DOES have a FRENCH HORN and an incredible STRING section. I could send the same song information to the YAMAHA even as it's busy playing the CASIO. This combo sounds the best, so I saved it on a special disk for FB01 owners.

For those who have gone on and purchased the new sequencer program, SEQuel, from Bonafide Systems, there are even more areas you can change. With SEQuel, you don't have to convert that TDOS file to a MIDI FORMAT 0 file before transferring it to EOS. SEQuel can load either song format. It can take a new bank of musical instruments stored in a file called a SYSEX (SYSTEM EX-clusive). A SmartKEY in the download options screen let's you SEND SYSEX. An FB01 (or other synthesizer) owner can download new banks of sound patches and use this ability to send them to their units. What a slick way to get new musical instrument capabilities!

Once you have the song loaded into SEQuel, you can edit it a bit to make certain areas faster, others louder, and about any of several different changes unavailable to MINI-RECORDER. Use of SEQuel is so flexible that it'll take another article to cover it all. For that reason, I'll leave you with this start. You know what it can take to get a song onto one of those Public Domain disks, and it is more than likely that you'll be trying some of this yourself so on. At least I hope you'll try it! For that reason, I'll give you just four words of advice: "YOU CAN DO IT!" Good luck, and I wish you luck and much enjoyment! It doesn't take a lot of money to use MIDI... just great software and hardware!



ADVENTURES IN CP/M & TDOS

Public Domain Reviews and Updates

by Doug Rosenvinge

We are continuing with our listing of current volumes in the N.I.A.D. CP/M 2.2 CNDV Library. Most of these programs will also run under TDOS, the CP/M replacement for the ADAM.

N.I.A.D. CP/M 2.2 CNDV VOL. #35

- ⇒ TYPEQZ17.LBR File Utility A Multifile listing program. Will type squeezed, crunched or plain text.
- ⇒ ALLFONTS.101 Bradford A sample printout of Bradford fonts. Must be printed with Bradford.
- ⇒ BRADFONT.LBR Bradford Add on program to Bradford 1.2 for disassembling fonts for modification. Need CP/M CNDV VOL. #33.
- ⇒ BRADLIST.001 Bradford List of programs and fonts in public domain for the Bradford print enhancement program.
- ⇒ PRN-V36.LBR Print Utility A graphics processor that allows full printer functions. Set up for Epson printers and files written in Word Star and ASCII.
- ⇒ BRFONTS.LBR Fonts New and revised fonts for the Bradford print enhancement program.
- ⇒ PRNXT13.LBR Screen Utility Message display design utility for menus, help files and the like.

N.I.A.D. CP/M 2.2 CNDV VOL. #36

- ⇒ DIRDUMP.COM Disk Utility Dumps information on Directory, files, extensions, and allocations to screen or printer.
- ⇒ DLZ.LBR File Utility Deletes all Crunched files - *.?Z? from disk.
- ⇒ NULU152A.LBR Library Utility Version 1.52 - fixes bugs of previous versions - puts files into and extracts files from libraries.
- ⇒ CRUNCH24.LBR File Utility CRUNCH 2.4 and UNCRUNCH. Reduces file size for archive or other purposes.
- ⇒ DLQ.LBR Disk Utility Deletes SQUEEZED *.?Q? files from disks.
- ⇒ FBAD60B.LBR Disk Utility Finds bad blocks on disks.
- ⇒ UNERA32.LBR Disk Utility Unerases erased/deleted files from a disk if they have not been overwritten.

N.I.A.D. CP/M 2.2 CNDV VOL. #37

- ⇒ VDE-PAT.LBR Editor Patches for Video Display Editor (VDE265.*)
- ⇒ VDE26-SP.LBR Editor Modifications for Video Display Editor for a specialized screenwriters format.
- ⇒ VDE265.* Editor A fast Word Star like editor. Includes Quick reference sheet, docs and more. 4/88 version.
- ⇒ VDEMACRO.LBR Editor Macro for VDE265 contained in 2 libraries.

N.I.A.D. CP/M 2.2 CNDV VOL. #38

- ⇒ FILE23.LBR Utility Finds a file on any disk or user area in a system.
- ⇒ GO105.LBR Disk Utility Replaces the USER command and automatically does a DIR when the disk and/or user number is changed.
- ⇒ SUPERZAP.LBR File Utility A Powerful file/disk editor.
- ⇒ COMP13.LBR File Utility Compares two COM files byte by byte.
- ⇒ FU-V13.LBR File Utility A file editing utility. Has screen installation program.
- ⇒ NOTE2.LBR Utility Creates files that can be assembled with ASM.COM to make programs to display messages.

- ⇒ TXT-COM2.LBR Utility Another program to create message files that are self-running as com files.

N.I.A.D. CP/M 2.2 CNDV VOL. #39

- ⇒ DIRFILES.LBR Disk Utility Makes a descriptive listing on screen of all active files on a disk.
- ⇒ EDIR.LBR Disk Utility Unerases erased files and has other functions for file recovery.
- ⇒ LT23.LBR File Utility Types library files even if squeezed or crunched. Can extract text files to disk. Ver. 2.3
- ⇒ SAP60.LBR Disk Utility Sort And Pack. Removes erased filenames, sorts and rewrites disk directory.
- ⇒ SEARCH.LBR File Utility Searches text (squeezed, crunched, library files) for multiple phrases.
- ⇒ SPLIT45.LBR File Utility Divides a large file into multiple smaller files. Has auto and manual modes.
- ⇒ UNLOAD22.LBR Assem. Utility Unloads a COM or other file into a HEX file in INTEL format. Opposite of LOAD.COM.

N.I.A.D. CP/M 2.2 CNDV VOL. #40

- ⇒ I2SP-2.ASM Telecomm. ASM file for IMP on the ADAM with Eve's SP-1 interface card.
- ⇒ I2VB-3.ASM Telecomm. Code segment to allow verbose modems to use IMP.
- ⇒ IMPV245.COM Telecomm. IMP modem program. Version 2.45.
- ⇒ IMPV245.HLP Telecomm. Help file for IMP Version 2.45.
- ⇒ IMPV245.LBR Telecomm. IMP 2.45 with programs for function keys and phone library and documentation.
- ⇒ IMPV245.UPD Telecomm. Update history of IMP.
- ⇒ PROTOCOL.LBR Telecomm. Information file on how modems work.

N.I.A.D. CP/M 2.2 CNDV VOL. #41

- ⇒ DBMUSIC.LBR dBASE2 Pro. A dBASE II program for tracking records tapes music.
- ⇒ DB-GEN.LBR dBASE2 Util. Program for automatic menu generation for dBASE II.
- ⇒ DB2SHELL.LBR dBASE2 Util. A shell for dBASE II that makes it easier to work with.
- ⇒ dBASE.LBR dBASE2 Pro. A manhour accounting program in dBASE II.
- ⇒ DBCMDGEN.LBR dBASE2 Util. A program for generating dBASE II command files.

N.I.A.D. CP/M 2.2 CNDV VOL. #42

- ⇒ UNARC.COM File Utility Unarcs files ending in ARC.
- ⇒ UNIQUE24.LBR dBASE2 Util. Purges duplicate records by writing a new database. Needs dBASE II to run.
- ⇒ HOMEINVT.LBR dBASE2 App. A dBASE II application program for home inventory. Needs version 2.3b or 2.40+.
- ⇒ DB-BAR12.LBR dBASE2 Util. No description available.
- ⇒ DB-TDAS.ARC dBASE2 App. Teacher/Doctor Accounting System for dBASE II. Billing, Ageing, reports, and more.

N.I.A.D. CP/M 2.2 CNDV VOL. #43

- ⇒ DISKSIZE.COM TDOS Utility Temporarily changes disksize designation for TDOS. Disk 43a.

- ⇒ BFUPDAT1.LBR Printer Smaller version of Brad 2.0 version 2.2. Disk 43b.
- ⇒ PATH.COM TDOS Utility TDOS path on/off command. Disk 43a.
- ⇒ BRAD2A.LBR Printer Ver 2 of multi-font printing program. Must use TDOS and files in disk B. Disk 43a.
- ⇒ BRAD2B.LBR Printer Large collection of fonts for the Bradford printing program. Disk 43b.
- ⇒ TDOS-V13.COM System CCP allows many expansion drives & boards & new commands. Disk 43a.
- ⇒ TDOS-V14.DZC System Doc files for TDOS installation and use. Disk 43b.
- ⇒ TDOSV14.COM System Same as TDOSV13.COM but allows up to 6 drives. Disk 43a.

N.I.A.D. CP/M 2.2 CNDV VOL. #44

- ⇒ DZLSTAR.LBR Dissassembler An interactive dissassembler with Wordstar like commands and menus.
- ⇒ Z80MR-A.* Z80 Language 2 versions of a Macro assembler. *.UPD is a description of the *.LBR files.

N.I.A.D. CP/M 2.2 CNDV VOL. #45

- ⇒ CHALK21.ARK Spreadsheet A Full-featured spreadsheet program.
- ⇒ FRONT50.LBR System A front end loader to aid in the learning of CP/M.
- ⇒ GRAPH1.LBR Graph A program for producing Bar, Line and Scatter graphs.
- ⇒ DBED*.TZT Database dBASE II editing tips and command editor limitations.
- ⇒ DBFULL.TZT Database dBASE II Disk is Full message.
- ⇒ DBJOIN.TZT Database Notes about a bug in the dBASE II JOIN command.

N.I.A.D. CP/M 2.2 CNDV VOL. #46

- ⇒ UNARC.COM File Utility Use to Unarc files that end in ARK or ARC. Version 1.6. Also called UNARC16.
- ⇒ BOX1.ARC Editor Utility Allows one to draw a box around any size block of text.
- ⇒ SCRIVNER.ARC Editor Data / Text editor

N.I.A.D. CP/M 2.2 CNDV VOL. #47

- ⇒ TPA32.LBR System Utility Program for calculating the size of the TPA in CP/M. Disk 47a.
- ⇒ ARK02.ARK File Utility Utility to generate ARK files. Needs 53 - 54K in the TPA to run. Disk 47b.
- ⇒ XLATE6.LBR Z80 Language Intel 8080 to Zilog Z-80 source code translator. Disk 47a.
- ⇒ XZIZ.LBR Z80 Language Bi-directional Z-80 to Intel 8080 translator. Disk 47b.
- ⇒ Z8E-V114.* Z80 Language Screen oriented quality Z-80 debugging tool. Include docs. On disks 47a & b.

N.I.A.D. CP/M 2.2 CNDV VOL. #48

- ⇒ QL25*.* File Utility Fast bi-directional file viewer for normal, crunched, squeezed, LBR, ARC or ARK.

N.I.A.D. PUBLIC DOMAIN SOFTWARE FOR CP/M 2.2 & TDOS

CP/M 2.2 CNDV VOL. #1 THRU #60

PRICE: \$4.00 @ ON DISK, \$6.00 @ ON DDP

- ⇒ LT27.LBR File Utility Lists normal, crunch, squeez files.

N.I.A.D. CP/M 2.2 CNDV VOL. #49

- ⇒ CFA10.LBR File Utility Change File Attributes utility and moves files to different user numbers
- ⇒ XCAT42.LBR File Utility Cross reference program for MCAT disk catalog program.
- ⇒ COMPARE3.LBR File Utility Compares 2 binary files and shows address of discrepancies.
- ⇒ SD132.LBR File Utility Super Directory also checks LBR, ARK or ARC files.
- ⇒ CUT10.LBR File Utility Cuts files into smaller ones.

N.I.A.D. CP/M 2.2 CNDV VOL. #50

- ⇒ ENTAB.LBR File Utility Replaces spaces with tabs in source code files.
- ⇒ WS-MAIL WS 3.3 Utility Mailmerge for WordStar 3.3 for labels and envelopes
- ⇒ WS4-DIAB.FIX WS4 info. Fix for using a Diablo printer with WordStar 4.0
- ⇒ WS4CPM.* WS4 info. List of new features in WS 4.0 and a PR announcement for WS 4.0. *.NEW & *.PR.
- ⇒ WS4PRNDV.LBR WS4 info. Use two printers with WordStar 4.0.
- ⇒ WSCTRL-Y.INF WS info. Changes the Control-Y delete command in Wordstar.
- ⇒ WSHEAD.TXT WS info. Information on using WordStars headers and footers.
- ⇒ WSMAGIC.TXT WS 3.3 info. Tips for speeding up WS 3.3 editing functions.
- ⇒ WSOVR12.ASM WS 3.3 info. Various patches for WordStar 3.3
- ⇒ WSREVIEW.TXT WS4 info. A review of WordStar 4.0 for CP/M.
- ⇒ WSSCRIPT.PAT WS 3.3 info. Describes how to patch WordStar 3.3 to allow super and subscripts.
- ⇒ WSWLDCRD.TXT WS info. Information on how to change WordStar's search wildcard.
- ⇒ SOFTEN.LBR Editor Utility Convert ASCII text files to WordStar files..
- ⇒ JUSTIFY.LBR Editor Utility Right Left or fully justify text files.

Z-SYSTEM NEWS

In my last article I talked about the Z-System, an advanced operating system for Z-80 computers available from Sage Microsystems East. Jay Sage contacted me to say that the price of the self-installing Z-System program NZ-COM has been reduced to \$49 (down from \$70). If you are interested in ordering contact:

Sage Microsystems East

1435 Centre Street

Newton Centre, MA 02159

Voice Phone days and evenings - (617) 965-3552

Modem 24 hours - (617) 965-7259, BBS Password = DDT

REPLY TO MAIL

It is nice to be missed. A couple of you have written wondering where my articles have been. The truth of the matter is that having moved in January and begun a new job has left me with less time than I anticipated. I hope that things will get better as I settle in a little more.

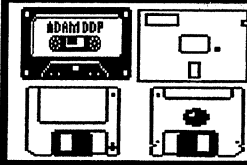
COMMERCIAL CP/M SOFTWARE

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(805) 528-5871



CAN'T BEAT THAT PRICE!!

Public Domain Reviews and Updates

by Chris Braymen of Bonafide Systems

ADAM <--> DOS 1.0

ADAM <--> DOS 1.0 is a collection of freeware DOS programs for transferring ADAM files to and from MSDOS or PCDOS - (C)1992 Bonafide Systems.

Bonafide Systems retains the copyright on this collection and all its components. This is not Public Domain software. Bonafide Systems authorizes you to freely make copies and distribute them as long as all the files in this distribution remain together, unaltered in any way, and no fee is charged other than what is reasonable to cover copying and media. If you use these programs in your commercial business and feel they have been financially beneficial to you, we would appreciate a \$10 registration fee. We will then keep you informed about updates and additions to these programs.

The user assumes all the risks of using this software. Bonafide Systems will not be liable for lost data, trashed disks, or any such computer mayhem.

Bonafide Systems
45280 S. Oakview Dr.
Oakhurst, CA 93644
(209) 658-8530



- DIRADAM EXE - Gives a directory of an ADAM disk.
- DELADAM EXE - Deletes an ADAM file.
- PC2ADAM EXE - Copies DOS files to an ADAM disk.
- HEXADAM EXE - Dumps an ADAM block in hex to the screen.
- ADAM2PC EXE - Copies ADAM files to DOS.
- INITADAM EXE - Initializes an ADAM disk.
- BLK2FILE EXE - Copies a group of ADAM blocks to a PC file.
- FILE2BLK EXE - Copies a PC file to a group of ADAM blocks.
- FORMADAM BAT - Formats an ADAM disk (does not Init).
- ADD_LF EXE - Adds a line feed to every carriage return in DOS file.
- DEL_LF EXE - Deletes all line feeds in a DOS file.
- SW2TEXT EXE - Converts a SmartWriter file to a DOS text file.
- ADAMDOS DOC - This is the ADAM <--> DOS 1.0 documentation.

These programs run on an IBM PC or compatible, they are not ADAM programs! They've been tested on DOS 3.3 and DOS 5.0. They all assume you have a 5 1/4 inch drive as floppy drive 1, Drive "A", where you will put your ADAM 160K or 320K disk. Most of the programs will give a help message if you run them without any arguments.

CAUTION: Adam 5 1/4 inch disks are formatted with 8 sectors per track. Most DOS disks are formatted with 9 sectors per track. These programs simply write sectors and are too dumb to know whether the disks are properly formatted or not. You must ensure that the ADAM disk you are trying to create has been formatted with 8 sectors per track (using FORMADAM.BAT). No error message will be given if the disk is not properly formatted. Amazingly, my ADAM disk drive will still read an ADAM disk formatted with 9 sectors per track but there are probably other problems with this and is certainly not good practice.

On to the details with full examples:

- DIRADAM.EXE will give you a directory of the ADAM disk in drive A.

DIRADAM - gives a SmartBASIC catalog type display.
DIRADAM -L - gives a "long" form directory.
DIRADAM -D - includes deleted files in the display.

- DELADAM.EXE will delete an ADAM file on the disk in drive A.

DELADAM BonafideA - deletes the ADAM file Bonafide with a file type of "A". Always include the filetype as the last character of the filename.

- PC2ADAM will copy files from DOS to the ADAM disk in drive A

PC2ADAM Bonafide.txt BonafideA - copies DOS file Bonafide.txt to ADAM file Bonafide with filetype "A".

*PC2ADAM *.** - Copies all DOS files in the current directory to the ADAM disk in drive A keeping their current names if possible. The filetype will be whatever the last character of the DOS filename is.

*PC2ADAM *.MID :t:H* - Copies all DOS files with the .MID extension to the ADAM disk in drive A keeping their current names if possible. Ensures that the ADAM filetype is "H".

- HEXADAM.EXE will give a "HexDump" of the selected block of the ADAM disk in drive A.

HEXDUMP 180 - dumps block 180 to the screen.

- ADAM2PC.EXE will copy ADAM files from the disk in drive A to DOS.

ADAM2PC BonafideA Bonafide.txt - copies the ADAM file Bonafide with filetype "A" to the DOS file Bonafide.txt.

*ADAM2PC ** - copies all files on the ADAM disk to DOS, keeping their current names if possible.

- INITADAM.EXE initializes the formatted disk in drive A.

INITADAM MyDisk 160 1 - inits an ADAM 160K disk called "MyDisk" with a 1 block directory.

INITADAM MyDisk 320 4 - inits a ADAM 320K disk called "MyDisk" with a 4 block directory.

- BLK2FILE.EXE will copy a group of ADAM blocks to a DOS file.

BLK2FILE 0 160 MyDisk.IMG - copies 160 blocks of data from the ADAM disk starting at block 0 to a DOS file called MyDisk.IMG.

- FILE2BLK.EXE will copy a DOS file to a series of ADAM blocks.

FILE2BLK MyDisk.IMG 0 - copies the data in the DOS file called myDisk.IMG to the ADAM disk starting at block 0.

- FORMADAM.BAT will format (but not initialize!) an ADAM disk in drive A. Note: As it is, FORMADAM will work with DOS 3.x but not 5.0. If you are running DOS 5.0 you will need to edit the FORMADAM.BAT file. Take out the letters "REM" from in front of the special DOS 5.0 line and insert them in from of the DOS 3.x line.

- ADD_LF.EXE will add a line feed for every carriage return found in the input file. Useful in converting EOS "A" type files to DOS text files.

ADD_LF myFile - adds line feeds to myFile.

- DEL_LF.EXE will delete all line feeds found in the input file. Useful in converting DOS text files to EOS "A" type files.

DEL_LF myFile - removes all linefeeds from myFile

- SW2TEXT.EXE will convert a Smartwriter "H" type file to a DOS text file taking margins and wordwrap into account.

SW2TEXT myFile - converts SW file to DOS text



PRODUCT REVIEWS

TYPE
MANUAL
RELEASED
JULY 1992

ADAM PROGRAMMING MANUAL By The Maine ADAM Library

PRICE
\$15.95
MEDIA
BOOK & DISK

Reviewed by Jim Notini

The ADAM Programming Manual by Bob Sebelist of the Maine ADAM Library is a new programming aid to SmartBASIC V1.0. Included within the pages are very useful functions for the ADAM programmer, or programmer to be. It has been divided up into six sections, rather than chapters, that contain excellent information in guiding the programmer in producing better quality programs. The subjects covered include: implementing graphics and text on the HGR or HGR2 screen; making and using sequential and random access files; lists of POKEs, PEEKs, and CALLs with explanations of their functions; the three part series of the Ez-Reference Guides by Soloman Swift of Digital Express which explain the functioning of the Z-80 machine language using decimal, hexa-decimal and mnemonic listing format as well as a listing of addresses with brief explanations that perform particular functions within the ADAM's command table; a table of ASCII values; a short glossary of terms and words used in conjunction with the ADAM; and finally an error code listing for SmartBASIC. Also included with this 135 page manual is a 5 1/4" 160K Flippy disk that contains an enhanced version of the SmartBASIC V1.0 interpreter as well as over 240K of public domain programs which can be studied and picked apart and implemented into one's own programs. All programs listed in the manual are included on the disk along with numerous other. The majority of the programs were written by Soloman Swift and have been available in the public domain for years, but combined together along with the manual these programs give the new and even not so new SmartBASIC V1.0 programmer a tremendous advantage and head start.

In section one are several program listings (SimplePAINTER V1.1, Clip-Art Manager, SpriteDEMO, HACKER and GraphFONT), which contain many very useful routines for screen display and presentation. Most programs today are written to operate in the HGR/HGR2 modes. Listed within these programs are the text routines and picture routines to help you accomplish the same excellent results, but in Basic programming.

Section two features an excellent tutorial on making and using sequential and random access files by Alan Neeley of ADAMLink of Utah. As with section one, a program has been included to provide the reader with a working example of what the articles are about. Examples which can be broken down and turned into whatever you may find a use for.

Section three is a listing of popular POKEs and PEEKs for SmartBASIC V1.0 only. It is set-up by address, with an explanation of what each address provides to you as the user. Many addresses must have several companion addresses POKEd in order to get the desired effects. Be sure and read this listing carefully as you explore ADAM's RAM. Exploration and adventurous experimentation are excellent teachers. You can't hurt your ADAM by using these POKEs, but you can

lock it up and therefore have to re-boot the system.

Section four contains the "Ez-Reference Guides" by Digital Express (Sol Swift). There are three of these guides for your examination and use. They explain the functioning of the Z80 machine language using the decimal / hexa-decimal / mnemonic listing format. Guide three contains those addresses which perform some function within ADAM's command table. It gives short explanations of each of these functions and how to set them up for execution.

Section five is a complete 'Table of ASCII Values' and a short description of the ADAM numbering system. This is set-up in a decimal / hexa-decimal / binary listing. Of little use to most, but included anyway. The table contains the key presses of ADAM and their respective display and numeric listing for use in your own programs. Section six is a short glossary of terms and words used in conjunction with the ADAM, an error code listing from the "Basic Manual for ADAM", and a short telephone directory for those numbers you like to keep handy by your ADAM.

Each function described will be stripped down to try and help the reader see which DATA statements go with which functioning CALL. You can remove these functions from the programs and insert them into your own programs since they are all public domain. Being able to do this will alleviate the necessity of becoming a machine language student. Making use of what is readily available will help you to become the programmer you always thought you could be. It will also help you in understanding what is happening with all those programs that you already own. Much can be learned from just being able to separate the different functions within a program.

While the author states that "this guide is meant more for the novice", it is also the perfect quick reference guide for those of us who have been programming in SmartBASIC V1.0 for many years. The guide is not meant to teach one how to program in SmartBASIC, rather it is intended to provide those who have that beginners knowledge with a mass of routines, etc., that will cut down drastically the amount of time it takes to write programs.

Overall, the ADAM Programmer's Manual is a fantastic bargain when you consider everything that you receive: a 135 page manual, an enhanced SmartBASIC V1.0, and over 50 of the best public domain programs ever written for the ADAM. I, myself, used to program quite a bit and after skimming through this manual I couldn't believe how much I had forgotten. It doesn't take long to become rusty and with this manual by your side, you will never be at a lose for what a certain routine, PEEK, POKE, CALL, ASCII value, etc., is. If you want to take that proverbial next step up the ladder in program quality, this is definitely the first place to start.

SYSTEM REQUIREMENTS

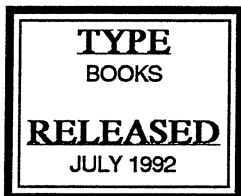
- MEMORY: BASE ADAM SYSTEM WITH R80 REVISION
- PRINTER: ADAM PRINTER AND OR DOT MATRIX PRINTER
- DRIVES: 1 OR MORE DISK DRIVES AND OR DIGITAL DATA DRIVES
- OTHERS: NO OTHER REQUIREMENTS
- OPTIONS: JOYSTICK, MEMORY EXPANDER OF ANY SIZE

MANUAL RATINGS

- PAGE LAYOUT..... B
- LEGIBILITY..... B+
- INSTRUCTIONS..... A
- EASE OF USE..... A
- VALUE FOR THE DOLLAR..... A+

OVERALL

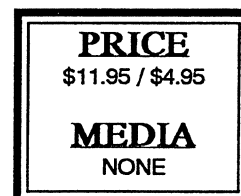
A



A.N.N. PUBLICATIONS

By The ADAM News Network

Reviewed by Ron Mitchell & Jim Notini



E.O.S. PROGRAMMER'S MANUAL

by Guy Cousineau

Reviewed by Ron Mitchell / A.U.F.G.

Much has been written by ADAMites, and by other computer hobbyists on the subject of operating systems. It's a topic that the average user will happily leave alone in the unshakeable belief that only experts have any right to explore the deepest corners of the computer. In doing so, the user voluntarily gives up much of what the personal computer is capable of doing.

This sad state of affairs is not always the user's fault. Unfortunately it is frequently true that those who can write don't know enough about operating systems to explain them properly, and those who know about operating systems cannot write. It's a problem throughout the computer world no matter which machine is up for discussion.

We in the ADAM world are exceedingly lucky, as Mel Ostler points out in his forward to Guy's work. In Guy Cousineau, we have a person who both knows about operating systems and who can explain their component routines so that any curious user can understand them. The E.O.S. Programmer's Manual is a testament to that ability.

The manual begins with a short discussion on the benefits of machine language programming, which Guy enumerates as speed, size, and control.

You'll learn about the nine general categories of E.O.S. routines and why E.O.S. uses a jump table. You'll see as a glance the way in which ADAM's E.O.S. memory, that is the memory where E.O.S. is located, is used. Each of the operating system routines is then laid out, one to a page for clarity, along with the various register values required to set the routine up, and the register values to be obtained on exit from the routine. You'll see each routine fully described under the headings: Jump Table Address, Entry, Exit, Description, and Examples.

The bulk of the manual is devoted to this type of routine by routine description.

Other ADAM publications have attempted to do this sort of thing. What distinguishes Guy's work is that the explanations are fully understandable, and there are examples where appropriate of how to use each routine. Another very positive feature of this book is that certain acronyms which are simply tossed at the reader in other publications of this sort are spelled out in full prior to being used. You will find out the difference between a FCB and a DCB. In other books it's not always evident. In this book, not only will you find out how to use them, but you'll also see a full description of how each is set up.

Finally, at the end of the book there are several pages of sample programs written in Z80 machine language just to get you started. Each of these programs is fully commented so you will know why each one is written as it is. Top all of this off with a complete index, and you have the ability to find most anything you want quickly and easily.

Now the big question. Should you buy this book?

In terms of value for the dollar, the answer is certainly yes. You won't find a more comprehensive and readable treatise on the ADAM E.O.S., and it was written by a man who knows the E.O.S. inside out.

In terms of whether or not it will serve your interest, the answer is

probably less clear. If you buy it, what are you going to do with it? That is the question. The E.O.S. Programmer's Manual assumes a certain level of knowledge of Z80 machine language programming. In that sense, it will not help you if you're struggling with SmartBASIC. But then the day may come when you've mastered SmartBASIC after completing your period of struggling. Then you'll look around for something else to do and all the E.O.S. Programmer's Manual will have been sold. Think about it. It should be noted that Guy also offers the source code for his sample programs on DISK. Send him \$5.00 and he'll send you a copy.

The E.O.S. Programmer's Manual breaks new ground, not necessarily in terms of the material it covers, because that has been known for some time to those who really wanted to find out. What Guy's book will do is to bring a few more machine language programmers onto the ADAM scene, a few of those perhaps who had been sticking a small toe into the waters just to see what it was like.

With a read of Guy's book, these people will soon discover that there's nothing in the E.O.S. to be afraid of, and a wealth of computer resources to be utilized.

THE OFFICIAL A.N.N. ADAM GLOSSARY

By The ADAM News Network

Reviewed by Jim Notini

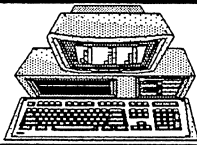
The A.N.N. ADAM Glossary is a 30 page glossary of computer terminology. It is the perfect addition to all ADAMites collections especially when words are run across in ADAM publications that one is not familiar with. From the letter A through Z there are nearly 400 computer terms listed with full descriptions and where appropriate, examples of their usage.

The A.N.N. ADAM Glossary is the brainstorm of ADAM News Network founder, Barry Wilson. At ADAMCON 03, he noted that several novices attending the convention expressed ignorance of basic ADAM terms. Some wanted to even know what "BOOT" meant! Over a year later and through the efforts of many including John Harris, Mel Ostler, Guy Cousineau, Pat Herrington, Bart Lynch and myself the glossary became a reality. It was officially released at ADAMCON 04 along with another A.N.N. project, The E.O.S. Programmer's Manual.

No longer will you have to be stumped when confronted with those weird computer terms. When you run across a word that you do not know the meaning of, just look it up. For instance, the word ASCII is used extensively in all publications, but what does it really mean? When you look it up in the glossary, here is what you will find...

● **ASCII** - (Pronounced ASS-KEY). American Standard Code for Information Interchange. A simple code system where letters, numbers and symbols that you understand; are represented by numbers that the computer can store. For example, when you type "a" on the keyboard of your ADAM, the binary number "0110001" is sent to the computer's memory. The Central Processing Unit (CPU) then causes the Video Display Processor (VDP) to display the letter "a" on the screen. Numbers, letters and symbols are all the same in all present computer systems. For example, the ASCII value "32" represents a space, "48" the number 0, and "49" the number 1, etc.

The A.N.N. ADAM Glossary is a product that is long overdue. It is a well designed book and uses large lettering to make it easy on the eyes. Pick one up today, it is well worth the small price of only \$4.95.



N.I.A.D. PRODUCT LIST

PRODUCTS & PRICING SUBJECT TO CHANGE
 PRODUCT LIST EFFECTIVE SEPTEMBER 28, 1992

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- PANASONIC KX-P145i RIBBON FOR KX-P1123, 1124, 1124i, ETC\$12.95

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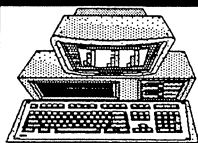
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- N.I.A.D. NEWSLETTER BACKISSUES\$1.00
- All backissues of the N.I.A.D. Newsletter are available at this price of \$1.00 except for the issues listed below. The following backissues of the N.I.A.D. Newsletter are out of original print and no longer available: Issues # 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 13, 14, 15, 19, 20, 23, 42, 55, 66/67, 73, 74, 75, 78/79 and 87.

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- 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 (for 320K or 720K disk only), 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 disk.



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VIDEOGAMERS

As we all know, the ADAM is also a ColecoVision Game System. This means that the over 100 cartridges made for the ColecoVision Game System will also work on the ADAM. For the last six or so years TeleGAMES USA has been distributing over 60 ColecoVision cartridges as well as cartridge games that have been converted to disk or digital data pack formats. They have also developed a number of new games through their In-House programmers under the label Bit-Corp. N.I.A.D. highly recommends Boulder Dash, Rock'N Bolt and Alcazar. For their latest catalog of products available for the ADAM and ColecoVision Game System call or write to:

TeleGames USA
Box 901
Lancaster, TX 75146
(214) 227-7694

\$4.00
DISK

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

\$6.00
DDP

MISCELLANEOUS VOLUMES

DADAMCALC ANDY #1-34: 34 different volumes containing ADAMCALC spreadsheet formulas, tutorials and demonstrations. All volumes require the user to boot ADAMCALC first and contain SmartWRTTR or ADAMCALC documentation file(s).

DADAMCALC ONDV 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.

DCLASSIC UNRELEASED CARTR. VOL. #1-2 : 2 different collections of cartridges: VOL. #1 - Fall Guy, Video Hustler, M.A.S.H., Super Cobra, Memory Manor, Wood Ford, Artillery Due and Torment the Barbarian; VOL. #2 - Cabbage Patch Kids, Adventures in the Park Enhanced, Yokes on You and Wizardhat. Some were never released and others wouldn't work on the ADAM in their cartridge form. Each volume contains SmartWRTTR documentation for each game.

DCPM 2.2 CNDV #1-80: 80 different volumes containing CPM 2.2 utilities, games, interpreters, patches, compilers, word processors and other misc. programs. Volumes require the user boot CPM 2.2 first, most programs contain documentation.

DMIDI SONGS MNDV #1-16: 16 different volumes containing many assorted song files each for use with Mini-Recorder by Bonafide Systems for the MIDI-MITE.

DM1.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 and Vol. V - Utilities. Each volume contains documentation.

DPINBALL GAMES PNDV #1-7: 7 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 SmartWRTTR documentation.

DSOLO-ADVENTURE PACK VOL. #2-3: 2 different volumes of Solo Adventures for use with Mega Quest by Ready Software. Each volume requires the user to boot Mega Quest first and contain SmartWRTTR documentation.

DSUPERIOR SOFTWARE ENOV VOL. #1-4: 4 different volumes of commercially copyrighted programs that were released to the Public Domain. Vol. 1 - Pro Golf Champ, Vol. II - LinkBuilder, Vol. III - AFL Football and Vol. IV - SuperHeroBasic V3.0. Each volume contains documentation in SmartWRTTR form or in the program.

DUKAS MINI-REVIEWS VOL. #1-2: 2 different SmartFILER databases with multi-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 #1-3: 3 different volumes containing many assorted song files each that are for use with VideoTunes by FutureVision.

GRAPHICS VOLUMES

DCG.P.P. PIX VOL. #1-3: 3 different volumes of picture files for use with the Coleco Graphics Processor. All pictures are taken from Coleco / ADAM programs, and cars through the use of the cartridge version of The Coleco Graphics Processor.

CIN & B PIX VOL. #1-30: 30 different volumes of 13 SmartPAINT format picture files to be viewed / edited in PowerPAINT. ShowOFF, etc.

CPAINT 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 SmartWRTTR documentation.

CPAINTFORMS VOL. #1-4: 4 different volumes of assorted letterheads, labels font files and miscellaneous graphic files for use with PowerPAINT by Digital Express.

CPAINTMATES VOL. #1-15: 15 different volumes of clip-art, style and font files for use with PowerPAINT, SpritesPOWER and CLIPPER by Digital Express. The Print Works or The Label Works by Waters Software Co., and other assorted programs.

CPD SIGNS SNDV #1-3: 3 different volumes containing SignSHO/NewsMAKER graphic files for use with these programs by Strategic Software. Volumes require the user boot SignSHO/NewsMAKER first and contain SmartWRTTR documentation.

CHREBY 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.

CRLE PICS VOL. #1-4: 4 different volumes of FILE picture files which can be viewed in SmartBASIC V1.0 with the included CbicleFAST program or in PowerPAINT, also contains SmartWRTTR documentation.

ENTERTAINMENT VOLUMES

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

and modified by Chris Baymen. 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 friendly ADAM retailers. Great graphics and sound effects. Contains SmartWRTTR documentation.

DCHESS SOLITAIRE: 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.

DEOPARDY: Coleco 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.

DMOAGU PHRASE PAK: An additional 300 phrases for use with Phrase Craze by Ready Software. Compiled by George Deak. Contains SmartWRTTR documentation.

DSUPER 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.

DSUPER 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?

DSUPER DONKEY KONG JR - 5 SCREEN: 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.

DSUPER SUB-ROC: Coleco supergame pack version of the Sub-Roc 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.

DTemple OF APSHA! Revision 2: Ezyx 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.

DTHE ABOMINABLE SNOWMAN: Search the Great White North for the illusive Abominable Snowman. Be careful in your quest, there are many pitfalls that you will face. Contains SmartWRTTR documentation.

DTHE BEST OF B.C.: A two supgame pack with B.C.'S QUEST FOR TREES and B.C. II: GREG'S REVENGE developed by Coleco of Canada. Help Thor past obstacles to find Cule Chick and to find the Meaning of Life.

DTHE BEST OF ELECTRONIC ARTS (Pinball Con. Set / Hard Hat Mack): Coleco supergame pack containing two great games in one package. No bug free version w/ 2 demo pinball games and an instruction sheet. Add \$4.00 for 40 page manual.

DTROLL'S TALE: Coleco supergame pack originally developed by Silus 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.

DCOLECO GAME COPY: Coleco In-House cartridge copy utility as well as a media backup utility coded into one program. Will copy most of the available cartridges.

DCOLECO IN-HOUSE PROGRAMS: Six separate programs: three diagnostic programs along with the Tunnel N' Tools, ADAM and Music demos.

DE.O.S. DISK MANAGER: Coleco utility program which was supplied with the 5 1/4" 160K Disk Drive. Also, contains the most current Coleco EOS Revision Rev. 7.

DMACADAM 280 / EOS: Assembly written in machine code for the intermediate to advanced machine code programmer. Contains manual in SmartWRTTR format.

DMEDIA MATE: Three tremendous utility programs for editing data packs and disks in SmartBASIC V1.0. Contains Informative SmartWRTTR documentation.

DMIDI DRIVERS & DEMOS: A collection of MIDI SmartBASIC V1.0 utilities programs along with technical information of the MIDI file setup. Contains SmartWRTTR documentation.

DMIDI UTILITIES: A collection of 8 mapper utilities, midi format 1 song files, SmartWRTTR documentation files and 1 CPM / TDOS compatible midi utility. All mapper utilities are SmartKey driven and machine language programs.

DUICKCOPY 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 SmartWRTTR format.

DR.I.D. TEST: Coleco's own in-house utility designed specifically for testing the operation of the 5 1/4" 160K Coleco made disk drive. No technical knowledge required. Just boot-up and wait for the results. Contains SmartWRTTR documentation.

DSHAPEMAKER: 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 SmartWRTTR documentation.

DSOFTWARE 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 SmartWRTTR documentation.

DSPEED CHECK V2.0: Enhanced Coleco digital data 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.

DSRATEGIC SOFTWARE PATCHES: SmartBASIC V1.0 programs for patching Strategic Software's SignSHO/ NewsMAKER, MultiWRITE, MicroCHECKS, etc. programs for use with dot matrix printers as well as major enhancements made to the MultiWrite Word Processor. Contains SmartWRTTR 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.

DADAM INFORMATION MANAGER: Fabulous auto-running demo program that was used to great delegates at ADAMCON 04. Cycles through over 50 advertising screens with an array of background songs playing at all times. Includes some truly outstanding special effects. Available on 3 1/2" 720K 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.

DAUSTRALIAN SMARTBASIC: Enhanced SmartBASIC V1.0 with SmartKEY display of some of the most often used SmartBASIC commands (ie: RUN, LIST, SAVE, etc.).

DBASBALL 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 mark by Wizard's Lair. Comprehensive instructions in SmartWRTTR.

DCOLECO 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.

DCOLECO PRESENTS: SOFTWARE: Coleco self-booting database program containing lists of planned COLECO software and cartridges for the ADAM and CDaveInk. DDP ONLY.

CDAVEINK: Great graphic design utility from France using a point-and-click method of operation along with a SmartBASIC V1.0 utility to convert DAVEINK files into Graphics Processor files. Contains SmartWRTTR documentation. DISK ONLY.

CDAWGONE 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 SmartWRTTR documentation.

CFLASH FACTS: MUSIC STUDIES: Eight flashcard files for use with the Electronic Flashcard Maker by Coleco dealing exclusively with music theory. Requires the user boot E.F.M. by Coleco first and contains SmartWRTTR documentation.

CFRENCH 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.

CMARKET MONITOR: Coleco of Canada management system program for the personal investor. Not totally bug free. Contains SmartWRTTR documentation.

CSIMPLEPAINTER WITH SIMPLE FAX: A tremendous collection of graphics utilities which extend the capability of PowerPAINT along with a number of conversion programs. Contains SmartWRTTR documentation.

CSMARTBASIC 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. (49K versus 28K) with memory expander access, but is not fully compatible with V1.0. Contains SmartWRTTR documentation.

CSMARTBASIC V2.0 40 COLUMN: 40 column text version of SmartBASIC V2.0 which works in STDMEM or EXTMEM modes. No longer do you have to bother with a non-standard 31 column screen. Contains SmartWRTTR documentation.

CSMARTBASIC V2.1: Nice modification of SmartBASIC V2.0 that adds macros for string inputs, formatter and backup programs. Contains SmartWRTTR documentation.

CSMARTBASIC 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 SmartWRTTR documentation.

DSP-1 CUSTOM PRINTER SOFTWARE: Specialized software patches for use in SmartWRTTR. Used to imbed software commands. Available for the following printers: Parasotek 1080 / 91 / 92 / 89, Star G10 / G20, Epson FX / RX, Blue Chip, Olympia R80, Brother 2024L, Smith Corona Faxmate 80 / DPM200, Oki 182 / 192.

DT-DOS V4.58: Super enhanced version of CP/M 2.2 which operates much like MS-DOS. Many new features. Available on 2 - 5 1/4" 160K floppy disks, 2 - 5 1/4" 320K disks or 1 - 3 1/2" 720K disk - please specify when ordering. Manual in Doc file.

DTXK PLANNER: Coleco of Canada business software which includes a clearer and more complete picture of your tax situation. Contains SmartWRTTR docs.

CTRACKER: 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 SmartWRTTR documentation file.

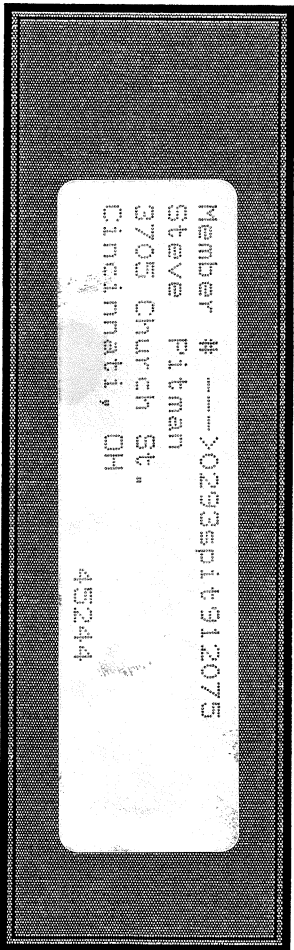


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