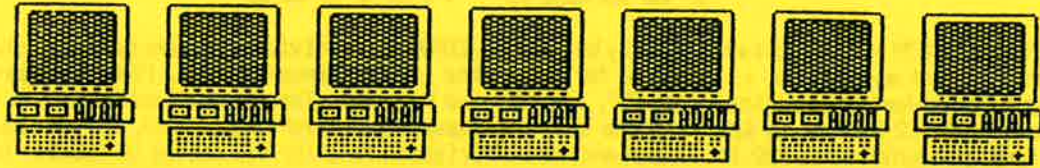


NIBBLES & BITS



THE COMPREHENSIVE MONTHLY NEWSLETTER FOR THE ADAM COMPUTER

March, 1988

issue #18

single issue: \$4.00

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DESIGNED and PRINTED entirely with the amazing ADAM™ computer (using an PowerPAINT, ShowOFF II, and NewsMAKER)

PUBLIC NOTICE

"Nibbles & Bits" is published monthly by DIGITAL EXPRESS. Individual issues may be purchased for the current month or for a back issue for \$4.00; the premier issue was July, 1986. Issues were not published for three months: Dec '87, Jan '88, and Feb '88. The standard subscription rate for one year (12 issues) is \$22.00 in the USA, its possessions, and Canada; and, the annual rate in foreign countries is \$30.00. The standard subscription rate for six months (6 issues) is \$12.00 in the USA, its possessions, and Canada; and, the semi-annual rate in foreign countries is \$16.00. All subscription issues are sent by U.S. mail, FIRST CLASS. Issues are typically mailed during the week before the first of the issue month.

We welcome contributions of original reviews, programs, articles, questions, and comments. Please include your subscription ID number from your mailing label on all written correspondence to us. Thank you.



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To insure that you don't miss any issues, please renew early and let us know promptly of any address change. Please include your subscription ID number on the address change notification (you can get an address change kit free from your local US post office).

GENERAL INFORMATION

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

If you have products or services of interest to ADAM owners, please let us know. We try to keep our readers apprised of all the latest news concerning the ADAM. Also, we offer free announcements in the BULLETIN BOARD section of the newsletter; please submit these at least 15 days prior to the first day of the issue month. We also offer half page (7" across by 4.5" down) commercial advertising slots for \$50.00 per issue (effective April 1, 1988). "Camera ready" artwork must be received at least 30 days prior to the first day of the issue month. Circulation: 2300+.

Product orders are processed within 24 hours of receipt. Where possible, orders are shipped via UPS. Backordered items are shipped at our expense. Shipping may be delayed by legal and traditional holidays.

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EDITOR'S NOTE**N&B NEWS**

On most days, our business size postal box is just about full -- questions, comments, and orders. After my open letter to subscribers on January 18th, I feared that correspondence and orders might drop off sharply. Sure enough, from the 15th through the 21st we only got a handful of mail -- TOTAL. It was so bad for those few days that I began wondering if going with ADAM full time was the right decision. I was notably depressed, but still optimistic that things would pick up again -- at least a little bit.

By the way, I usually go get the mail myself now. Friday, the 22nd, just before opening the postal box I paused and crossed my fingers for good luck. I then pushed the key in and opened the door hastily. There it was -- a box FULL of mail. Relieved? Pleased? Ecstatic? Yes, indeed. Since then, on many days I have to go to the window to pick up the excess -- we're getting more than the box will hold.

I've gotten quite a few votes of confidence and numerous compliments on the newsletter and programs LISTed each month. Positive remarks about PowerPAINT come in every day. And, orders are up. At first, I tried to reply to each letter, even though many of them didn't have an SASE. Within just a few days though, there were too many to write back to everyone. So, to everyone who has written to me lately with compliments and everyone who has placed an order, **THANK YOU**. Thank you. I truly appreciate the support that we're getting.

Next month, we'll include a two page survey for our readers. Nearly every day, I get suggestions for possible articles; this will be your opportunity to cast a vote. Please take the time to fill this out.

GO-DOS is another topic that I've been getting a lot of comments on. I expect to have it finished at the end of next month. We'll publish our business phone number just after the completion of that title. In the meantime, consider the day and time that you'd like to have us set aside for technical call-ins.

Also, we have two contests coming up; I'll have more details next month. But, one of them will involve me writing a game (probably in z80) from a reader's suggestion. If you've got an idea for an original game, but don't have the time or programming experience to write it, this could be a welcome opportunity.

Till next month ...


Solomon Swift

□□□ Be sure to check your mailing label to see that it has the correct number of issues remaining in your subscription.

□□□ "N&Bset06" is now complete. It contains all the programs in the Oct '87, Nov '87, and March '88 issues. It's available to subscribers for just \$3.95 on disk or data pack. Also, we're offering it as a FREE gift with any order with a subtotal over \$39.95. This offer expires April first.

□□□ Many thanks to E&T SOFTWARE, gHAAUG NEWS, MOAUG news, and NIAD for the very positive comments they've published regarding **Power-PAINT**.

□□□ Also a special **THANK YOU** to Anthony Yulo and Bryan Payton for the numerous original drawings they've contributed to our SmartPAINT library. And, thanks to David Carmichael and Dave McIntosh for their numerous contributions of graphics downloaded from bulletin boards. These four subscribers have provided a little more than half of our SmartPAINT library of over 200 hi-res pictures.

□□□ We've recently added four more SmartPAINT volumes. These are N&Bpix013, pix014, pix015, and pix016.

□□□ We've also completed the second volume of PaintMATES. These are files of small graphics for use with PowerPAINT. These include paintbrushes, sprites, clip art, and font sets.

□□□ We have just started another set of PD graphics entitled "PaintFORMS". Each volume (the first two are completed) includes one FULL PAGE design (ready for you to make insertions, modify, etc.), three sample letterheads which can be easily customized, and one graphic label.

□□□ Despite the huge number of PowerPAINT graphics available, there is very little duplication. You have over a thousand ready-to-print graphics to choose from ... already. Of course, our upcoming graphic desktop publisher will be fully compatible with PowerPAINT and all its graphics files. Our DTP will be released later this year and it will require GO-DOS to function.

□□□ When we first started N&B, we offered a subscription extension for getting a friend to subscribe. Until the first of June, we'll repeat that offer. For each friend that you get to subscribe for a year (limit six), we'll extend your subscription term by one issue.

□□□ Michael Hilker of IEAUG has donated his excellent PIXMAN volume. It allows you to load SmartPAINT, PaintMASTER, RLE, and HGR picture files. And, it lets you store a screen in any of these formats; it stores pictures in the correct RLE format so that you can easily exchange them using ADAMlink II. It will print PaintMASTER pictures on the ADAM printer (takes a few pages). Thus you could load a SmartPAINT picture, convert it to PaintMASTER, and print it without a dot matrix printer. The volume comes with SW instructions, but it is recommended to those who have some programming knowledge.

□□□ Beyond Træk is finished and we're caught up on all the backorders on it. It's just \$14.95 to N&B subscribers. Can you defend four starbases and destroy the attacking Klingons? You're the captain.

□□□ We've just completed another commercial title for ADAM entitled CHESS CHAMP. This is the first graphic chess game for ADAM. You move the pieces with an onscreen hand. It's not real fast, but it does offer many nice features.

□□□ We've added Centipede and Defender to our product list. See our review in this issue of Defender. The subscriber cost is just \$11.95 each.

□□□ We've also added E&T SOFTWARE's two excellent home/business packages. The cost to subscribers is just \$18.45 each.

□□□ We need product reviews from our readers. Until the first of June, we'll give you a coupon for a free PD volume of your choice for two submitted reviews. The reviews may be on paper, disk or data pack (in CP/M, SmartWriter, NewsMAKER, SmartTYPE 2.0 or MultiWrite format).

□□□ Due to the skipping three issues (we extended everyone's term by three issues to compensate), we postponed the drawing for three winners of fifty dollar spending sprees with Digital Express. The drawing will be held on the last day of February. Winners will be notified by mail; the purchase credits may be used any time during the 1988 calendar year.

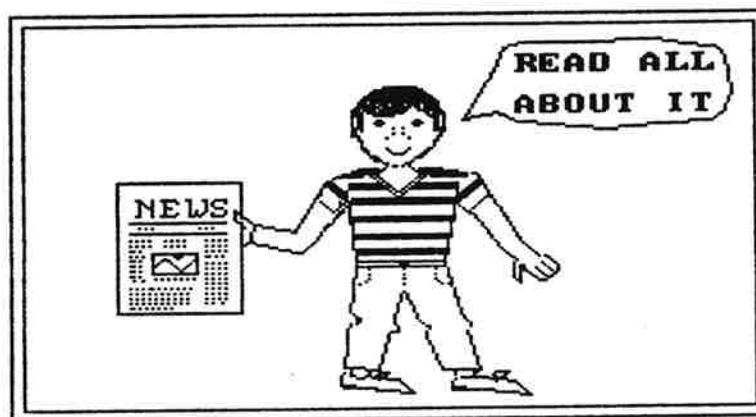
□□□ We are offering a special to disk drive owners on PD software until the 2nd of May. Buy nine volumes on disk and get the tenth FREE!! DISK ONLY -- no data packs. Disks are less expensive and much faster to duplicate.

□□□ With postage and printing costs increasing, we're going to have to increase the subscription rates. Effective the first of May, the rate for 12 issues will be \$24 and the rate for 6 issues will be \$15. We'll try to keep the foreign rates the same as they are now for as long as possible.

Remember all issues are sent by U.S. mail, FIRST CLASS. And, each issue is 33 pages now. You may renew at the existing rates prior to May 1.

□□□ Have you ever noticed that it seems like we get a lot of text on each page of N&B? We use three tricks to pack in the info. We use 15 character per inch type; we use auto justification with proportional spacing between words. And, most pages have smaller than average vertical line spacing. As a result, a full page is roughly equivalent to more than two pages typed in the Pica pitch with margins of 10 and 70.

□□□ Until the first of April we have a very special offer of back issues. Get four or more (prior to 9/87) for just \$2.50 each. This offer might not ever be repeated.



ADAM NEWS

□□□ Terry Fowler, the editor of the ADAM publication gHAAUG NEWS, has recently started his own mail order business to support our computer. "ADAM'S HOUSE" already carries a sizable selection of products. See this month's BULLETIN BOARD for the address.

□□□ Strategic Software has recently completed NewsMAKER, a page layout program for the ADAM. See our review in this issue.

□□□ Wizard's Lair Software has just released a volume of 35 pictures stored both in NewsMAKER and SignSHOP format (70 files per medium). The company also has plans to develop more volumes. "SnapSHOTS" (volume I) is available through E&T SOFTWARE, ADAM'S HOUSE, and NIAD for \$10.95 on disk or data pack.

□□□ E&T SOFTWARE now carries a disk version of Strategic Software's ProofREADER. If you already have the program on data pack, send them your "original" tape and \$4.00 for the conversion.

□□□ Walter's Software has just released SmartDSK. This program provides the ramdisk capability for SmartWriter -- super fast file storage and retrieval. It also has options to select either the ADAM or a Centronics interfaced dot matrix printer. It will print superscript, subscript and underlining on your Epson compatible dot matrix printer using the standard SmartWriter functions.

□□□ OrphanWare now offers a "OK" memory expansion board expandable to 64K or 256K. The board comes with everything except the eight dynamic RAM chips and the addresser. The "OK" board sells for \$79.95 and the addresser for \$17.50. The 8 RAM chips usually sell for about five bucks each at electronics surplus dealers.

□□□ Due to installation difficulties, OrphanWare has discontinued the MX-512 memory expander as a production item. They may, however, still manufacture this card as a special request item.

□□□ With rising costs on parts, both Spectrum Electronics and OrphanWare have plans to not produce any more 64K expanders once current stock is depleted.

□□□ Vinh Le has upgraded his fine graphics printing program for ADAM. IMAGE 2.0 includes mirror image and sideways printing. It loads RLE, PaintMASTER, and PIC hi-res screens. The program has pull down menus. And, it includes a customized printer setup. See this month's BULLETIN BOARD for his address.

□□□ By the time you receive this issue, In House Service (run by Don Perlman) should be shipping their 256K memory expanders. Originally the card was to consist of one 256K chip plugged into the third slot inside the console. Now it is expected to consist of latched 64K chips like the OrphanWare expander. However, this IHS card will plug into the BUS extender on the right side of ADAM. It is not known yet if it will be compatible with all the software completed and inchoate for OrphanWare's innovative cards.

□□□ Elliam Associates has the very popular PrintMASTER and Write Hand Man for \$49.95 each for use with ADAM's CP/M 2.2. See the BULLETIN BOARD for their address.

□□□ NIAD now offers a conversion service for virtually any CP/M 2.2 file to ADAM CP/M 2.2 format to its members. And, NIAD expects to start stocking WordSTAR 4.0 (\$199.95) and SuperCALC (\$49.95) for ADAM's CP/M 2.2 in the near future.

□□□ Glen Crane won E&T SOFTWARE's free disk drive offered as a Christmas giveaway for new subscribers to their newsletter, ADAM'S ALIVE. They will also be giving away a \$70 spending spree one March first.

□□□ NIAD will give a \$30 credit for used 64K expanders toward the purchase of an OrphanWare MX-256 (for their members).

□□□ AUG 1986 has has dissolved their ADAM users' group. They do plan to continue publishing their bi-monthly "HIGHLIGHTS" newsletter.

□□□ Prices on dot matrix printers, computer chips, and other items manufactured in Japan continue to fluctuate with an upward trend. This is due primarily to value of the U.S. dollar.

□□□ "BPdeluxe" (LISTED in the Oct '87 issue of N&B) is incompatible with backups of SmartBASIC done with MMSG's BACKUP+ 3.0. The automatic setting of the default drive (for a HELLO turnkey file) won't work. Thanks to Gregg Noblett and Pat Herrington for discovering this.

□□□ Reedy Software is finalizing another graphic game for ADAM. **PHRASE CRAZE** will be a "Wheel of Fortune" type game done in "gorgeous high resolution graphics with sprites."

□□□ If you've played **Stage Fright**, you're aware of how complex and challenging the game is. The author, Mike McCauley, has recently prepared "The Stage Fright Directory" to help solve the enormous adventure. The "clue book" includes an alphabetical list of all the major objects, their purposes, interrelations, and pitfalls. It also has a complete map of the theater that the adventure takes place in. Stage Fright users may obtain a copy by sending their name, address, Stage Fright ID number (from the medium's label), and \$1.50 for printing and postage to Reedy Software.

□□□ Mike McCauley is also working on another adventure, **GARBAGEMAN**.

□□□ E&T SOFTWARE has recently upgraded both their "Softpack I" and "Business Pack I". Among the improvements is a larger file size for the user's data. The Softcheck program (from Softpack I) maximum file size was 150 records; now it is 650 records — without requiring a memory expander. They will update the two titles for those who have the earlier versions for \$7.50 each with the return of the original. Also, the new versions will NOT work with the old data files. Send them a COPY of your files with \$3.00 for each tape or disk for a conversion on these. We now carry this latest version of each software title in our product list.

□□□ Telegames USA continues to release and re-release games disks, tapes, and carts for the ADAM. E&T SOFTWARE and NIAD carry their product line of graphic machine language games.

□□□ The "II" suffix on the latest Panasonic 1080i and 1091i printers reflects the nearly 20% increase in print speed. The specs are: 1080i-II at 144 cps in draft mode and at 28 cps in NLQ; 1091i-II at 192 cps in draft mode and 38 cps in NLQ. The 1091i-II generally sells for about fifty bucks more than the other; but, the 1080i-II has built-in line justification commands which can be used by "ShowOFF II".

□□□ If you experience a form feed problem with CalcPatch (for a dot matrix printer), the solution is easy. The problem ONLY occurs when the row, column, and page number print options are turned off. Just make sure that you have them "ON" to avoid the unexpected form feed.

□□□ Alan Neeley is completing further (significant) revisions to the EOS BBS for ADAM called C-NET.

□□□ Eric Danz, of ADAMzap, is currently working on an ADAM adventure that will use text, graphics, and the EVE SS/CC for speech. The game will involve a computer called "ZORAN III".

□□□ By the time you get this issue, Tom Clary's ADAMlink III upgrade should be out of the beta testing phase and ready to market (probably \$19.95). This version features XMODEM protocol -- allows transfer of non-ASCII files (the only EOS XMODEM program available). It does not include a dot matrix printer patch; but, it can be booted from FastPATCH to permit that feature (unlike ADAMlink I and II).

□□□ Effective the first of April the N&B subscriber discount price on OrphanWare's MX-64 memory expander will be \$35.95.

□□□ DIGITAL EXPRESS has just made a minor revision to **MegaDISK 1.0**. It is now self-booting (for those who prefer that convenience) with SmartBASIC V1.0. To get the update send \$1.00 plus shipping, the original medium, and the purchase receipt (or a photocopy). If you purchased the program in the last 60 days, the update fee will be waived.

□□□ By the end of February, DIGITAL EXPRESS will have completed four new titles for ADAM this year. These are PowerPAINT (already a top-seller), Beyond Trek, Chess Champ, and Mega-SYSTEM-XR. See the ADAM ACCESS advertisements for these latest three innovations.



ADAM USERS FORUM

The following questions and comments have been culled from recently received mail. The reader's input is a reasonable facsimile of the actual correspondence. For the benefit of all readers my reply, where applicable, is generally more detailed than any written reply. Unless the reader requests differently, street addresses are omitted.

COMMENTS ON OTHER ARTICLES

After owning an ADAM for two years, I experienced a problem similar to that described by William Stewart in your Feb '87 "ADAM Users Forum"; having ADAM on for 45 minutes or more (without doing any printing) would cause my system to hang up just to print a couple of lines. The print head would sit in one spot printing one letter on top of another. My cure was the installation of a Radio Shack muffin fan, #273-242, on the back of the printer directly above the power switch, to provide cooling.

In the April '87 Forum, Alfred Armstrong asked about formatting cassettes. I purchase Sony HF60 cassettes for about \$1.25 at Zayre, when they're on sale. I drill two holes in the back directly in line with the write protect tabs and copy an existing ADAM data pack by using two stereo cassette recorders, copying both sides of the cassette. I use a very high setting on the recorder, +6 db when the signal swings to its highest level. The data pack can either be blank or have data on it, since after the copy the tape can be INITed to clear the directory. Smart-BASIC can't be INITed.

Lawrence P. Zoia
East Bridgewater, MA

TIP FOR BOOTPIC DELUXE

Once SmartBASIC is loaded into memory, it does the equivalent of the TEXT command (clearing the screen) while it then reads the directory searching for a HELLO program. You can stop this screen clearing at this point (leaving your BootPic graphic displayed on the screen, Oct '87 N&B) if you change the value of address 11065 on your SmartBASIC medium to 201 (use EZpatch, March '87 N&B, or a similar SmartBASIC modifier program to do this).

When BASIC clears the screen at bootup, it actually CALLS the TEXT routine which starts at address 11065. If you POKE a 201 (RET) into this address, it will not continue with the routine. You must, however, "POKE 33" back into 11065 after BASIC is all booted if you want to use the TEXT command. Hope someone finds this useful!

Jack Reedy
Alto, MI

EXPLORING CP/M 2.2

by Guy Cousineau

This article covers the sequencing of commands when reading from or writing to files.

Before opening a file for the first time, it's always a good idea to set the extent and the record count to zero. This can be accomplished with the following code:

```
XOR A
LD (FCB+12), A ; zero extent
LD (FCB+32), A ; zero record count
```

Once the file name is loaded into the FCB, your next task is to find the file. This is done by:

```
LD DE, FCB ; set FCB address
LD C, 15 ; open file
CALL 5
OR A
JR NZ, ERROR ; show error and exit
```

The next step is to read the file. If you are moving a file up into RAM, the DMA must be adjusted accordingly after every read. Don't worry about the record count, the BDOS handles that for you. The following routine will read a file until the end of the file is reached:

```
LD DE, FCB
LD C, 20 ; read sequential file
CALL 5
OR A ; if good read, A = 0
JR NZ, EOF ; end of file or error
CALL INCBUF ; incr. DMA if required
JR READF ; repeat this routine
```

It is not necessary to close a file that has been opened for read since no changes have been made. If a file is opened for read / write, then have the BDOS close it. The BDOS will know if it has been written to and will update the directory entry only if required.

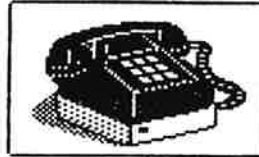
Creating a new file requires a bit more work. It is a good idea to delete the file first. You may wish to check if it exists beforehand to handle any potential errors caused by typing the wrong name. We don't have such problems so we'll just go ahead. Note that the delete function will do nothing if the file does not exist.

```
LD DE, FCB
LD C, 19 ; DELETE
CALL 5
```

- continued next month -

OVER THE PHONE LINES

By David E. Carmichael



First off, the hearings and startup date of the "PACKET" telephone accessing fees has been postponed till late in February. Let's hope that this \$5.00 per/Hour - per/connect fee does not get approved! From the way I understand how this will be billed to the users (at this time), you would be charged by your local phone company the access fee every time you would call one of these services. Then, you would be billed separately for every online hour used thereafter. And, these fees would NOT be prorated to partial hours! You, the user, would be billed the maximum for each part of an hour used. Also, each local phone system could set its own rates for the connect fees with the maximum being set by the federal government. That would mean that while one local system may choose to charge its customers only \$.05, another system might charge the maximum set by law.

Well how about some GOOD NEWS! If you are one of the users of TELENET's service called "PC PURSUIT", you may now connect to PLink for a low \$3.00 per-hour.

You ask "WHAT IS 'PC PURSUIT'?" Well "PC-PURSUIT" is a special service offered by the packet switching system known as TELENET. What this service does is allow you to call almost any city that has a local TELENET SERVICE NUMBER. Then, that center will call out to LOCAL BBS's in its area. How this works is you would call YOUR LOCAL TELENET number; once your computer has connected with TELENET you would then enter the phone number of the BBS that you are calling, your personal ID#, and PASSWORD. Then TELENET takes over. It will even tell you if the number you have called is in service or not.

At this time the fee for using "PC-PURSUIT" is a low \$25.00 per MONTH. The service is limited to NON-PRIME TIME use, ie, from 6 pm till 5:59 am (your local time). This is the ONLY limit that you have! You may call as many BBS's as you like during the month and spend as much time as that system will allow you to! This service is only for computer telecommunications and will not send voice information. If you wish to find out more about this service you may call TELENET via your modem at 1-800-835-3001, or by voice Monday thru Friday (9:30 to 4:30 EST) at 1-800-835-3638.

Remember, NOT leaving a message each time you call a BBS is like putting up a dam in a river. The river down stream soon dries up -- like computer information not shared with fellow users.

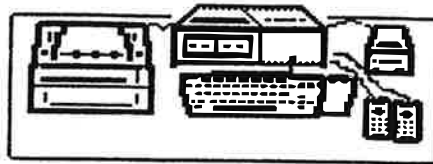
Well, till next time, HAPPY COMPUTING ...

David E. Carmichael



WHY ADAM?

By: Rick Lefko



EDITOR'S NOTE: "The following article originally appeared in the MOAUG NEWS. It is reprinted here with the permission of both the author and the editor of that monthly periodical."

About two months ago one of my friends at work asked me about computers. "Rich," he inquired, "My wife and I are considering getting another computer for the kids. But, I don't know a lot about them. Can you help?"

"Another?" I replied.

He explained that about a year ago he bought a used Commodore 64. Since that time, it has remained in the hall closet. I asked him why he wasn't using it. He admitted that no one could understand how to use it. I asked him if he hooked it up correctly and read all the manuals. He responded that he had. Well then, why wasn't he using it? Then he made the key statement, "We don't know what to do with it!"

So what do we have here? Illiterates, stupid people, intellectual mutants? No, of course not. What we have here is the typical reaction to a computer like the C-64, that requires more than a keyboard to be useful, from people who don't really know what to do with a computer.

"Well, if you don't know what to do with the Commodore," I probed, "what makes you think another computer is the answer? What do you think you want to use it for?"

He said his kids would like to write reports on it for school and even his wife would find one useful for many reasons. "It sounds like you need a word processor that's easy to learn and to use, yet comprehensive," I continued. "Also, you'll need a printer and some kind of data storage."

"Yeah," he agreed, "That's what I need." (Here it comes!)

"You need an ADAM," I said.

"Why ADAM?"

So, I began to explain the ADAM PC to him. Now imagine, for a moment, trying to explain a computer to someone who has NO idea what you are talking about. Think back to that time long ago, and maybe not too long ago, when you were this very same person and someone was trying to get you to understand. Remember? I do.

I think that if someone had been listening the first time that "computer expert" tried to explain an ADAM to me, it probably would have seemed a lot like Mr. Spock talking to an arceba. "Come on home with me after work", I said, "and I'll answer your question."

You know, I've always thought that it was amazing how people react when they first see an ADAM. They want one!! Of course, though, one has to be careful to explain that ADAM "doesn't come with those disk drives and no, ADAM doesn't come with that color monitor, or those covers, or that high speed printer", but folks are usually truly amazed with what the ADAM does come with. So, I brought my friend home and demonstrated my ADAM. "Yeah", he said, "That's what I need!" I told him I'd try to find him one, but that it probably wouldn't be new. "Do your best," he said.

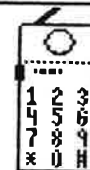
Well, after looking in the papers for a few weeks and leaving messages all over CompuServe, I actually managed to locate one locally. The price was right and it even came with some software. That night, I went to the house of the fellow who was selling the ADAM, and met him, his wife, and his kids. He revealed that he was getting a KAYPRO because it was what he used at work. As we packed ADAM up in that huge box, he remarked several times that he wished he could keep his ADAM, and if the house he was renting was bigger he would definitely keep it. As I carried ADAM out, his kids cried and I felt like some kind of Scrooge running down the walk with that huge box.

Well, my friend has had his ADAM for a couple of months now and his wife and kids love it! He just remarked to me the other day that everyone is fighting to get on it. Sounds like heaven to me!

Why ADAM? Because nothing else even comes CLOSE, that's why!!

INSIDE ADAM'S GAME CONTROLLERS

By: Leonard F. Adolph



EDITOR'S NOTE: "The following is the first part of an article that explains how to convert a standard ADAM hand controller to the four trigger capability used by games that require the *Super Action Controller*. We'll print the conclusion to Mr. Adolph's article next month. Also next month, we'll LIST and explain his program MultiPIX which allows you to design graphics in ADAM's heretofore unexplored multicolor mode; the program even includes save and load options."

I recently got a game cartridge that makes use of the *Super Action Controller*. I don't have this controller but the extra triggers can be simulated by pressing "3" and either "0" or "*" at the same time. Since I am both a software and a hardware hacker, it didn't take long before I took apart one of my extra game controllers, learned how it worked, and modified it by adding two buttons. I'll explain these modifications later, but first I'll tell you what I've learned about how ADAM's controllers work.

The GC's can be read with the EDS function #91. This function has been described in N&B, so I'll move on to describe how to use the GC's on the machine language level.

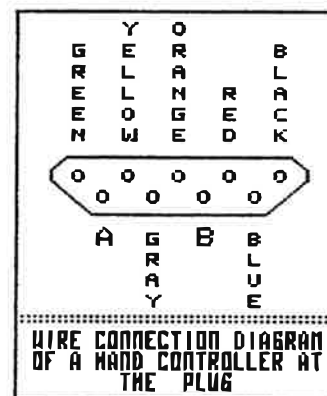
The GC's are read IN using I/O ports 252 and 254. Port 252 is for the front controller and 254 is for the rear. A strobe is needed to be able to read all the functions on the GC. The strobe can be SET with an OUT of any whole integer to port 128 (decimal) and RESET with an OUT to port 192. With the strobe SET, the keypad and right trigger are read IN. When the strobe is RESET, the joystick and left trigger can be read.

The values read are compliments of (subtracted from) 127 or 255. Normally 127 is used; I'll discuss how 255 can be used later. The joystick values are: UP = -1, RIGHT = -2, DOWN = -4, and LEFT = -8. Angle values are the sum of the two adjacent values. Either trigger has a value of -64. The keypad values have no logical order. If you are curious about the keypad, you can use the following ML routine in a little BASIC program of your own to discover the correspondences.

```
LD  A, n          62, 1
OUT (n), A       211, 128 ; strobe SET (192 = RESET)
IN  A, (n)       219, 252 ; read front (254 = rear)
LD  (nn), A      50, lo, hi ; store the value at an address
RET              201 ; PEEK the address to read it
```

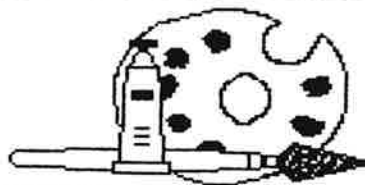
To the right is the wire connection diagram at the plug from the GC. Reverse this diagram from left to right in order to get the connections of the socket on the memory console. Connections "A" and "B" are not used in the standard hand controller.

The gray and green wires are commons. Green is the common when the strobe is SET and GRAY is the common when RESET. With no connections made the input value is 127. If "A" is connected to a common the input value is 255. The other connections cause a subtraction from either of these two values. The other connections have values of: black = -1, yellow = -2, red = -4, orange = -8, "B" = -32, and blue = -64. Multiple connections are the sums of all the connections.



POWERPAINT WORKSHOP

By Solomon Swift



introduction

SINCE SO MANY ADAM OWNERS NOW HAVE POWERPAINT, I THOUGHT IT MIGHT BE A GOOD IDEA TO START A REGULAR COLUMN TO DISCUSS THE VARIOUS FEATURES AND CAPABILITIES. THIS ARTICLE, IN FACT, WAS DESIGNED WITH THE SOFTWARE. POWERPAINT DOES NOT HAVE ANY STANDARD WORD/TEXT PROCESSING FEATURES, BUT IT CAN BE USED AS A PRIMITIVE PAGE DESIGN UTILITY. ALL THE GRAPHICS AND TEXT ARE "WYSIWYG" (WHAT YOU SEE IS WHAT YOU GET) IN NATURE; THE HARDCOPY LOOKS EXACTLY LIKE THE SCREEN VERSION. POWERPAINT ALLOWS YOU TO CREATE PICTURES THAT ARE LARGER THAN ONE RESOLUTION SCREEN. THE PICTURE IS TWO SCREENS WIDE. IT IS COMMON ON A 64K CARD; WITH AN APPROPRIATE COMPATIBLE 256K OR 512K CARD THE PICTURE IS FOUR SCREENS LONG - A FULL PRINTED PAGE OF GRAPHICS.

OVER THE PAST FEW WEEKS I'VE USED THE PROGRAM QUITE A BIT. IN THIS SERIES I'LL INCLUDE TIPS AND PITFALLS FOR USING IT. MOST OF THE INFORMATION WILL GO BEYOND WHAT'S PRESENTED IN THE 49 PAGE MANUAL.

tips and things

→ SOME OF THE FIRST POWERPAINT MANUALS HAD A PARAGRAPH IN THE PRINT SECTION STATING THAT IF YOUR DOT MATRIX PRINTER WAS NOT TURNED ON, YOU GET AN ERROR MESSAGE. YOU HAD TO REMOVE THIS FEATURE BECAUSE SOME SYSTEMS WITHOUT AN ADAM PRINTER WOULD SHOW THE ERROR MESSAGE EVEN WITH THE PRINTER TURNED ON.

→ THERE IS A BUG IN THE POLYGON DRAWING ROUTINE. IF YOU POINT TO THE SAME LOCATION FOR THE FIRST AND LAST COORDINATES, THE

SYSTEM WILL LOCKUP. I'LL TRY TO CORRECT THIS BUG; IN THE MEANTIME, BE SURE THAT YOU POINT TO TWO DIFFERENT POINTS IN DRAWING POLYGONS.

→ WHEN PRINTING YOUR CREATIONS, IT'S A GOOD IDEA TO DO YOUR FIRST DRAFT WITH THE LIGHT OPTION, THEN WHEN YOU'RE READY FOR A FINAL HARDCOPY USE THE DARK OPTION.

importing graphics

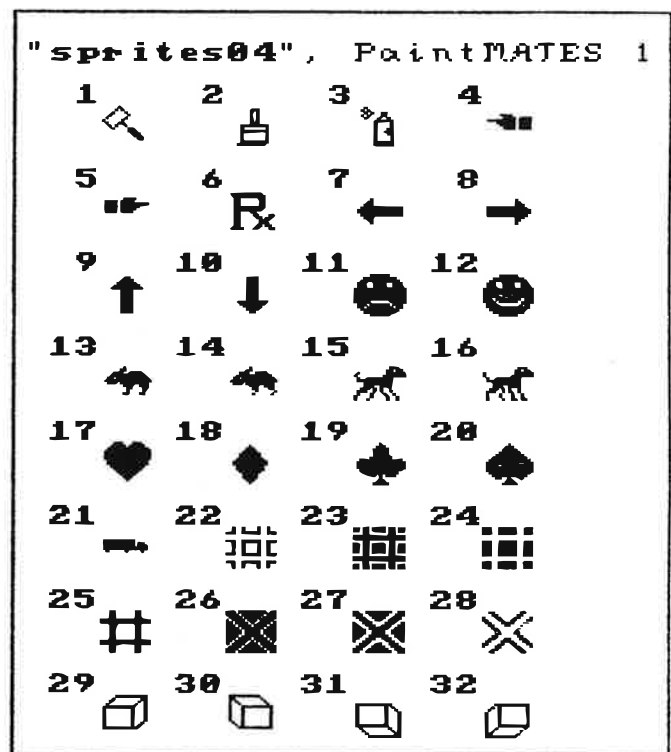
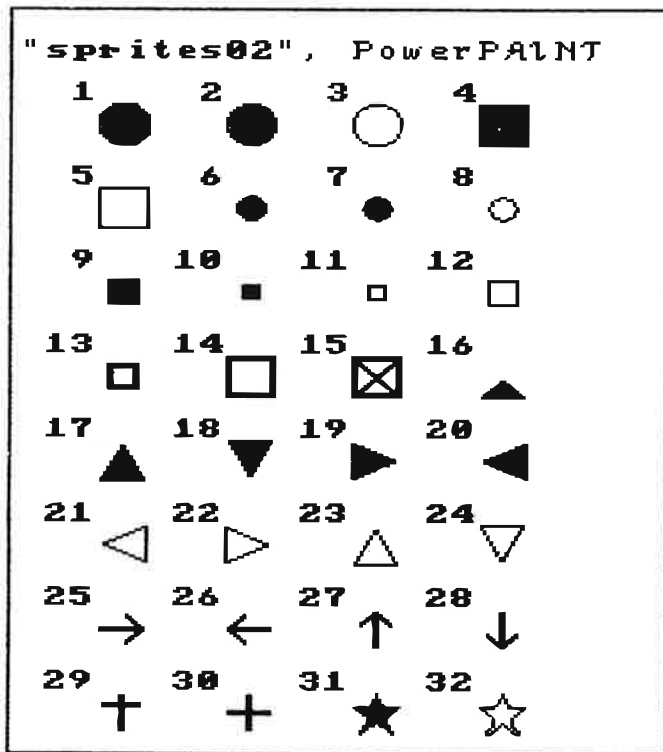
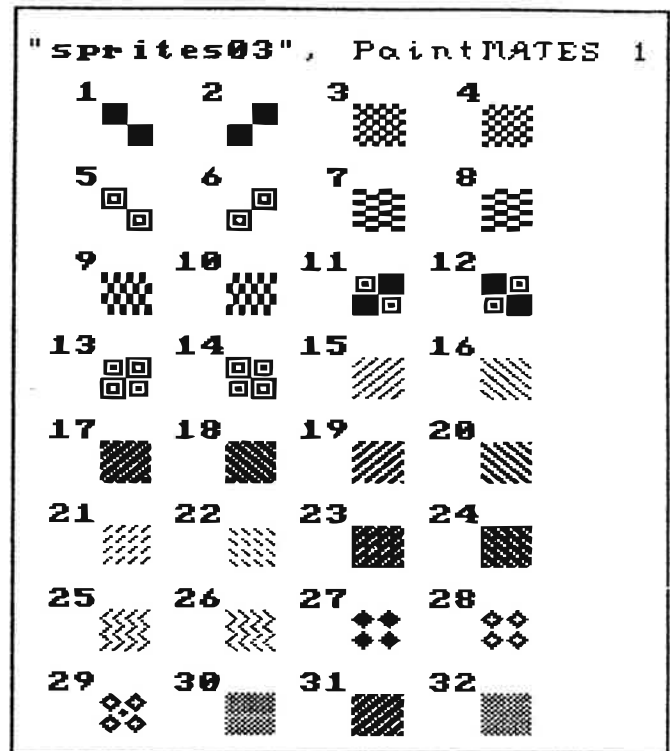
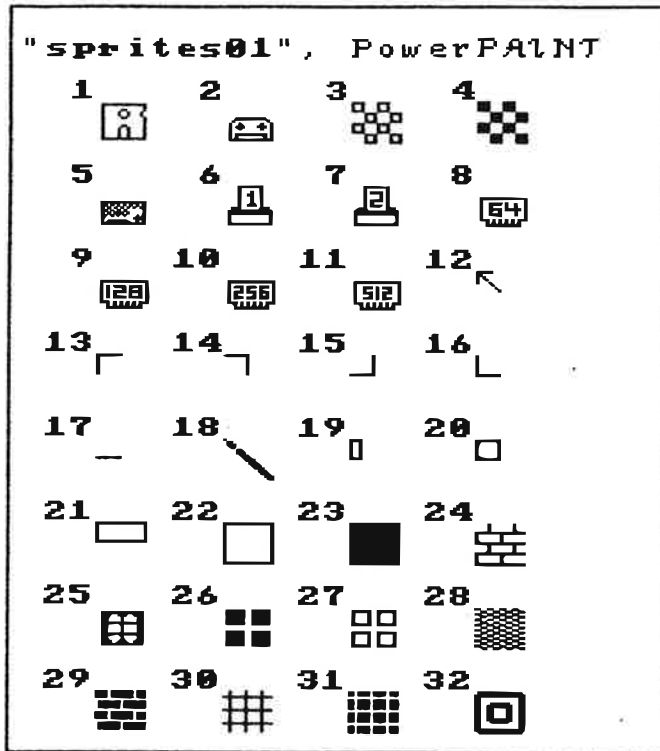
ONE OF THE STRONG POINTS OF THE PROGRAM IS ITS ABILITY TO IMPORT SO MANY DIFFERENT TYPES OF GRAPHICS FILES. ALREADY THERE ARE WELL OVER A THOUSAND GRAPHICS THAT YOU CAN RETRIEVE WITH THE PROGRAM. THESE RANGE FROM FULL HIRRES SCREENS, TO CLIP ART, PAINT BRUSHES, SPRITES, AND TYPEFACES. AND, MANY OF THESE FILES ARE IN THE PUBLIC DOMAIN, SUCH AS OUR PAINTMATES, PAINTFORMS AND PIX VOLUMES.

THE PAINTMATES VOLUMES INCLUDE SMALL ART LIKE BRUSHES, SPRITES, AND CLIP ART. THE PIX VOLUMES CONTAIN FULL SCREEN GRAPHICS. AND, THE PAINTFORMS VOLUMES EACH HAVE ONE FULL PAGE DESIGN AND THREE LETTERHEADS.

THE NEXT PAGE ILLUSTRATES SOME OF THE AVAILABLE SPRITE GRAPHICS. YOU CAN JUST STAMP THEM ON YOUR PICTURE, AS MANY TIMES AS YOU LIKE. CHAINING THEM TOGETHER CAN CREATE SOME VERY INTERESTING DESIGNS THAT APPEAR TO BE QUITE COMPLEX.

further support

AS THOSE WHO HAVE THE PROGRAM ARE AWARE, IT IS AN 80K MACHINE LANGUAGE GRAPHICS PROCESSOR. BUT I STILL HAD TO LEAVE OUT SOME OF THE FEATURES JUST TO GET IT TO WORK WITH AS LITTLE AS A 64K EXPANDER. I'M ALREADY WORKING ON AN APPENDAGE PROGRAM THAT WILL ADD MANY FEATURES.



One Minute Formatter

by Solomon Swift

Unlike the operating system for most personal computers, ADAM's DOS doesn't include a function to automatically format disks. But the fundamental procedure of formatting is rather simple.

Each of the disk drives has its own 6801 microprocessor to handle the task. You just need to toggle the function; it even stops itself automatically when its done. In my earlier programming days with ADAM, I used to format disks with three POKES and then continue with whatever I was doing in BASIC while the disk was being formatted. Before I get into the Discussion on the "One Minute Formatter" (LIST contained on the next four pages), let's take a look at how I did this.

The 6801's are controlled with buffers in the Operating System called Device Communication Blocks (DCB's). You first need to know the start address of the particular DCB. I wasn't proficient enough in Z80 programming back then to use a routine to find the DCB; the Hacker's Guide to ADAM (vol I) helped me locate them.

The DCB's start at address 65220 with 21 consecutive bytes for each one. The second one is usually for the ADAM printer; but, if you have a power supply instead there won't be a DCB for the printer. In this case the second one is for the first disk drive. The one after that is for the second disk drive (if you have one connected).

Now let's set a variable to equal the start address of the DCB — in SmartBASIC immediate mode. For a system with an ADAM printer, type "dv = 65262" and press <RETURN>. If you have just a power supply instead, enter "dv = 65241". Now insert a blank UNFORMATTED disk into the first drive and enter these three lines.

```
POKE dv + 5, 206   <RETURN>
POKE dv + 6, 250   <RETURN>
POKE dv, 3         <RETURN>
```

The drive light comes on, and ADAM is formatting the disk. You can continue BASIC programming if you like — just don't try to access that drive until the light goes off. When it does, INIT the disk. This doesn't provide for verifying each sector, but it can certainly come in handy at times.

It doesn't matter if you have single or double sided disks. It doesn't matter if you have one or two drives (increase "dv" by 21 for the second disk drive): It doesn't matter if you 160K, 320K, or 720K drives (any combination). Each 6801 will format until it either gets to the end of the disk or reaches the drive's access limit. You can actually format TWO single sided disks in each standard 160K drive in almost 60 seconds — the benefit of true multi-tasking. Now go try that on one of the other 64K computers!

Considering that so much is automated, my IMF program isn't that spectacular. The value of the program, though, is its easy user interface, independent verifications and INITIALizations after the formatting, and that it checks for the presence of a disk in each drive (if one is found, it will attempt to format it). Actually IMF uses a more refined format by changing several bytes of the DCB.

The program has four primary modules. Line numbers "1" thru "410" setup z80 routines and init the program variables (line #'s 200- 260 create the DriveCHEK routine discussed in the 10/87 issue of N&B). Line numbers "500" thru "710" regulate the other three modules. Line number "1000" logs on the disk drives by CALLing the DOS routine to reset ADAMnet. This is useful if you had a drive turned off when you booted the system.

Line numbers "2000" thru "2930" allow the user to set the four parameters for each drive. These are single or double sided disk (for INIT, not format); the volume name; the directory size, and whether or not to verify after the format.

Line numbers "3000" thru "7000" execute the format, verify, and INIT functions. The format portion just keeps looping within itself until the disk is formatted (the first byte of the DCB is restored to 128). You can press <ESCAPE> at any time during format and verify to abort the particular procedure.

The program could be easily modified for INITing and verifying Orphanware's new 720K upgrades. Note, again, that the 6801 WILL continue the format until a logical end is reached (received a DCB return code). Also note that it takes twice as long to verify as it does to format. Hope you find it useful.

```

1 REM The One Minute Formatter
2 REM a public domain contribution (not freeware or copyrighted) by
3 REM by DIGITAL EXPRESS
4 REM presented in Nibbles & Bits
5 REM March, 1988
60 REM formats one or two disks (simultaneously)
61 REM formats single & double sided
62 REM formats single-sided in 63 seconds!!!
100 LOMEM :29696: POKE 16149, 255: POKE 16150, 255
110 ON PEEK(259) <> 195 GOTO 700: POKE 16134, 255: POKE 16953, 32
120 n1$ = "DEI FORMAT": n2$ = "DEI FORMAT"
130 d1 = 1: d2 = 1: v1 = 160: v2 = 160: f1$ = "yes": f2$ = "yes"
200 DATA 58,251,255,205,126,252,254,1,200,254,155,32,3,62,4,201
210 DATA 58,251,255,205,228,252,245,58,251,255,254,24,32,11
220 DATA 241,203,63,203,63,203,63,203,63,24,3,241,230,15
230 DATA 254,2,200,254,3,200,254,0,200,62,1,201
240 FOR x = 27648 TO 27703: READ mc: POKE x, mc: NEXT
250 DATA 205,0,108,50,255,255,201
260 FOR x = 27704 TO 27710: READ mc: POKE x, mc: NEXT
270 DATA 62,4,205,87,252,253,34,0,212,50,255,255,201
280 FOR x = 27711 TO 27723: READ mc: POKE x, mc: NEXT
290 DATA 6,24,17,0,9,27,122,179,32,251,62,160,144,211,240
295 DATA 62,192,144,211,240,62,224,144,211,240,16,231,201
300 FOR x = 27724 TO 27751: READ mc: POKE x, mc: NEXT
305 DATA 62,226,211,240,62,240,211,240,17,0,100,27,122,179
310 DATA 32,251,62,255,211,240,201
315 FOR x = 27752 TO 27772: READ mc: POKE x, mc: NEXT
320 DATA 62,4,1,1,0,17,160,0,33,208,107,205,189,252,50,255,255,201
325 FOR x = 27773 TO 27790: READ mc: POKE x, mc: NEXT
330 DATA 62,4,1,0,0,17,1,0,33,0,220,205,243,252,50,255,255,201
335 FOR x = 27791 TO 27808: READ mc: POKE x, mc: NEXT
400 DATA log on drives,set/check parameters,format disk(s),exit program
410 FOR x = 1 TO 4: READ m1$(x): NEXT
500 POKE 17059, 23: POKE 17115, 23: POKE 17126, 246: TEXT
510 HOME: VTAB 2: HTAB 5: INVERSE: PRINT " One Minute Formatter "
520 VTAB 5: HTAB 2: PRINT "disk drive 1:": : NORMAL
530 dv = 4: GOSUB 30000
540 VTAB 7: HTAB 2: INVERSE: PRINT "disk drive 2:": : NORMAL
550 dv = 5: GOSUB 30000
600 VTAB 10: FOR x = 1 TO 4: HTAB 2: PRINT x; " = ": m1$(x): NEXT
610 GET k$: k% = VAL(k$): IF k% < 1 OR k% > 4 THEN CALL 27752: GOTO 610
620 CALL 27724: ON k% GOTO 1000, 2000, 3000, 700
700 TEXT: PRINT " end of program."
710 POKE 16134, 27: POKE 16953, 95: END
1000 CALL 64605: GOTO 510
2000 POKE 17059, 27: POKE 17115, 27: TEXT
2010 HOME: HTAB 2: PRINT "select or change option by #:"
2020 VTAB 3: HTAB 2: INVERSE: PRINT " disk 1 ": NORMAL
2030 PRINT " 1= vol name: "; n1$
2040 PRINT " 2= dir size: "; d1
2050 PRINT " 3= vol size: "; v1
2060 PRINT " 4= verify: "; f1$: PRINT
2070 HTAB 2: INVERSE: PRINT " disk 2 ": NORMAL
2080 PRINT " 5= vol name: "; n2$
2090 PRINT " 6= dir size: "; d2

```



'One Minute Formatter' LIST continued ...

```

2100 PRINT " 7= vol size: "; v2
2110 PRINT " 8= verify: "; f2$: PRINT
2120 VTAB 15: PRINT " 9= done / primary menu"
2130 GET k$: k% = VAL(k$): IF k% < 1 OR k% > 9 THEN CALL 27752: GOTO 2130
2140 CALL 27724: VTAB 15: PRINT
2150 ON k% GOTO 2200, 2300, 2400, 2500, 2600, 2700, 2800, 2900, 500
2200 VTAB 20: HTAB 2: POKE 16953, 95: INPUT "enter disk#1 name: "; n1$
2210 IF LEN(n1$) = 0 THEN CALL 27752: GOTO 2200
2220 IF LEN(n1$) > 11 THEN n1$ = LEFT$(n1$, 11)
2230 CALL 27724: POKE 16953, 32: GOTO 2010
2300 VTAB 20: HTAB 2: PRINT "disk#1 dir size (1-3): "; : GET d1$
2310 d1 = INT(VAL(d1$))
2320 IF d1 < 1 OR d1 > 3 THEN CALL 27752: GOTO 2300
2330 CALL 27724: GOTO 2010
2400 VTAB 20: HTAB 2: PRINT "disk#1 size ('s' or 'd'): "; : GET sz$
2410 IF sz$ = "s" OR sz$ = "S" THEN v1 = 160: CALL 27724: GOTO 2010
2420 IF sz$ = "d" OR sz$ = "D" THEN v1 = 320: CALL 27724: GOTO 2010
2430 CALL 27752: GOTO 2400
2500 VTAB 20: HTAB 2: PRINT "disk#1 verify ('y' or 'n'): "; : GET vf$
2510 IF vf$ = "y" OR vf$ = "Y" THEN f1$ = "yes": CALL 27724: GOTO 2010
2520 IF vf$ = "n" OR vf$ = "N" THEN f1$ = "no": CALL 27724: GOTO 2010
2530 CALL 27752: GOTO 2500
2600 VTAB 20: HTAB 2: POKE 16953, 95: INPUT "enter disk#2 name: "; n2$
2610 IF LEN(n2$) = 0 THEN CALL 27752: GOTO 2600
2620 IF LEN(n2$) > 11 THEN n2$ = LEFT$(n2$, 11)
2630 CALL 27724: POKE 16953, 32: GOTO 2010
2700 VTAB 20: HTAB 2: PRINT "disk#2 dir size (1-3): "; : GET d2$
2710 d2 = INT(VAL(d2$))
2720 IF d2 < 1 OR d2 > 3 THEN CALL 27752: GOTO 2700
2730 CALL 27724: GOTO 2010
2800 VTAB 20: HTAB 2: PRINT "disk#2 size ('s' or 'd'): "; : GET sz$
2810 IF sz$ = "s" OR sz$ = "S" THEN v2 = 160: CALL 27724: GOTO 2010
2820 IF sz$ = "d" OR sz$ = "D" THEN v2 = 320: CALL 27724: GOTO 2010
2830 CALL 27752: GOTO 2800
2900 VTAB 20: HTAB 2: PRINT "disk#2 verify ('y' or 'n'): "; : GET vf$
2910 IF vf$ = "y" OR vf$ = "Y" THEN f2$ = "yes": CALL 27724: GOTO 2010
2920 IF vf$ = "n" OR vf$ = "N" THEN f2$ = "no": CALL 27724: GOTO 2010
2930 CALL 27752: GOTO 2900
3000 POKE 17059, 19: POKE 17115, 19: TEXT
3010 HOME: PRINT " format countdown ..."
3020 VTAB 3: PRINT " (press <escape> to abort)": VTAB 10
3030 FOR x = 10 TO 0 STEP -1
3040 FOR y = 1 TO 225: NEXT y
3050 PRINT " "; x;
3060 IF PEEK(64885) = 27 THEN CALL 27724: GOTO 500
3070 NEXT x
3100 HOME: INVERSE: HTAB 3: PRINT " press <escape> to abort "
3110 VTAB 5: HTAB 2: PRINT " disk #1:"
3120 VTAB 7: HTAB 2: PRINT " disk #2:": NORMAL
3130 POKE 65531, 4: CALL 27704: e1 = PEEK(65535)
3140 VTAB 5: HTAB 12: IF e1 = 0 THEN PRINT "formatting": GOTO 3200
3150 PRINT "not used"

```



'One Minute Formatter' LIST continued ...

```

3200 POKE 65531, 5: CALL 27704: e2 = PEEK(65535)
3210 VTAB 7: HTAB 12: IF e2 = 0 THEN PRINT "formatting": GOTO 3300
3220 PRINT "not used"
3230 IF e1 = 0 OR e2 = 0 GOTO 3300
3240 VTAB 20: HTAB 2: PRINT " drives empty!!!": CALL 27752
3250 VTAB 22: HTAB 3: PRINT "press any key for menu ..."
3260 GET k$: CALL 27724: GOTO 500
3300 ON e1 > 0 GOTO 3400: POKE 27712, 4: CALL 27711
3310 dcb(1) = PEEK(54272)+256*PEEK(54273)
3320 ds = dcb(1): GOSUB 31000
3400 ON e2 > 0 GOTO 3500: POKE 27712, 5: CALL 27711
3410 dcb(2) = PEEK(54272)+256*PEEK(54273)
3420 ds = dcb(2): GOSUB 31000
3500 FOR x = 1 TO 2250: NEXT
3510 ON e1 > 0 GOTO 3530
3520 POKE dcb(1), 1: POKE dcb(1)+14, 1
3530 ON e2 > 0 GOTO 3550
3540 POKE dcb(2), 1: POKE dcb(2)+14, 1
3550 s1 = PEEK(dcb(1)): s2 = PEEK(dcb(2))
3552 ON PEEK(64885) <> 27 GOTO 3560: CALL 64605: CALL 27724
3554 HOME: VTAB 2: HTAB 11: FLASH: PRINT " WARNING!! ": NORMAL
3556 VTAB 5: HTAB 9: PRINT "format aborted!": GOTO 3250
3560 IF s1 = 128 THEN VTAB 5: HTAB 12: PRINT "format done"
3570 IF s2 = 128 THEN VTAB 7: HTAB 12: PRINT "format done"
3580 IF (e1 = 0 AND e2 = 0) AND (s1 = 128 AND s2 = 128) GOTO 3600
3590 IF e1 = 0 AND s1 <> 128 GOTO 3510
3592 IF e2 = 0 AND s2 <> 128 GOTO 3510
3600 FOR x = 1 TO 375: NEXT: IF f1$ = "no" AND f2$ = "no" GOTO 3800
3610 IF e1 = 0 AND f1$ = "yes" THEN VTAB 5: HTAB 12: PRINT "verifying:"
3620 IF e2 = 0 AND f2$ = "yes" THEN VTAB 7: HTAB 12: PRINT "verifying:"
3630 mx = 159: IF e1 = 0 AND v1 = 320 THEN mx = 319
3640 IF e2 = 0 AND v2 = 320 THEN mx = 319
3650 FOR x = 0 TO mx: POKE 27798, x/256
3660 POKE 27797, x-256*PEEK(27798)
3670 ON e1 > 0 GOTO 3700: ON f1$ = "no" GOTO 3700
3675 IF x > v1 THEN VTAB 5: HTAB 12: PRINT "verify pass": GOTO 3700
3680 VTAB 5: HTAB 24: PRINT x: POKE 27792, 4: CALL 27791
3685 IF PEEK(65535) = 128 GOTO 3700
3690 VTAB 20: HTAB 2: PRINT "read error disk#1, block "; x: CALL 27752
3692 VTAB 22: PRINT " (Retry, Skip, Quit): "; : GET k$
3693 IF k$ = "R" OR k$ = "r" THEN CALL 27724: GOSUB 33000: GOTO 3680
3694 IF k$ = "Q" OR k$ = "q" THEN CALL 27724: GOSUB 33000: GOTO 3800
3695 IF k$ = "S" OR k$ = "s" THEN CALL 27724: GOSUB 33000: GOTO 3700
3696 CALL 27752: GOTO 3692
3700 ON e2 > 0 GOTO 3790: ON f2$ = "no" GOTO 3790
3710 VTAB 7: HTAB 24: PRINT x: POKE 27792, 5: CALL 27791
3715 IF x > v1 THEN VTAB 7: HTAB 12: PRINT "verify pass": GOTO 3790
3720 IF PEEK(65535) = 128 GOTO 3790
3730 VTAB 20: HTAB 2: PRINT "read error disk#2, block "; x: CALL 27752
3735 VTAB 22: PRINT " (Retry, Skip, Quit): "; : GET k$
3740 IF k$ = "R" OR k$ = "r" THEN CALL 27724: GOSUB 33000: GOTO 3680
3745 IF k$ = "Q" OR k$ = "q" THEN CALL 27724: GOSUB 33000: GOTO 3800
3750 IF k$ = "S" OR k$ = "s" THEN CALL 27724: GOSUB 33000: GOTO 3790
3755 CALL 27752: GOTO 3635
3790 IF PEEK(64885) = 27 GOTO 3800
3795 NEXT x

```



'One Minute Formatter' LIST continued ...

```

3800 GOSUB 32000: IF e1 > 0 GOTO 3850
3805 FOR x = 1 TO LEN(n1$): POKE 27599+x, ASC(MID$(n1$, x, 1)): NEXT
3806 POKE 27599+x, 3
3810 VTAB 5: HTAB 12: PRINT "initializing"
3820 POKE 27774, 4: POKE 27776, d1: POKE 27780, v1/256
3830 POKE 27779, v1-256*PEEK(27780): CALL 27773: IF PEEK(65535) = 0 GOTO 3850
3840 VTAB 5: HTAB 12: PRINT "init fail"
3850 IF e2 > 0 GOTO 3900
3855 FOR x = 1 TO LEN(n2$): POKE 27599+x, ASC(MID$(n2$, x, 1)): NEXT
3856 POKE 27599+x, 3
3860 VTAB 7: HTAB 12: PRINT "initializing"
3870 POKE 27774, 5: POKE 27776, d2: POKE 27780, v2/256
3880 POKE 27779, v2-256*PEEK(27780): CALL 27773: IF PEEK(65535) = 0 GOTO 3900
3890 VTAB 7: HTAB 12: PRINT "init fail"
3900 IF e1 > 0 GOTO 3920
3910 VTAB 5: HTAB 12: PRINT "init done"
3920 IF e2 > 0 GOTO 3940
3930 VTAB 7: HTAB 12: PRINT "init done"
3940 FOR x = 0 TO 2: POKE 62245+x, ad(x): NEXT: GOTO 3250
7000 GET go$: CALL 27724: GOTO 700
30000 POKE 65531, dv: CALL 27704: er = PEEK(65535)
30010 IF er = 0 THEN PRINT " occupied": RETURN
30020 IF er = 1 THEN PRINT " not recognized": RETURN
30030 IF er = 2 THEN PRINT " bad block error": RETURN
30040 IF er = 3 THEN PRINT " empty": RETURN
30050 PRINT " inaccessible": RETURN
31000 POKE ds+3, PEEK(ds+17): POKE ds+4, PEEK(ds+18)
31010 POKE ds+5, 206: POKE ds+6, 250
31020 POKE ds+7, 0: POKE ds+8, 0: POKE ds+14, 7: POKE ds+20, 0
31030 POKE ds, 3: RETURN
32000 VTAB 1: PRINT: PRINT: FOR x = 0 TO 2: ad(x) = PEEK(62245+x): NEXT
32010 POKE 62245, 197: POKE 62246, 213: POKE 62247, 229: RETURN
33000 VTAB 19: PRINT: PRINT: PRINT: PRINT: RETURN

```



```

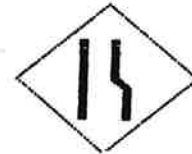
90 rem One Minute Formatter patch for SmartBASIC 2.0
91 rem by Thomas S. Warren
92 rem Springfield, OH
100 LOMEM: 29696: POKE 1648, 255: POKE 1649, 255
110 ON PEEK(259) <> 210 GOTO 700: POKE 1633, 255
500 POKE 17240, 23: POKE 17184, 27: TEXT
710 POKE 1633, 27
2200 (delete POKE 16953, 95)
2600 (delete POKE 16953, 95)
3000 POKE 17240, 19: POKE 17184, 19: TEXT

```

```

1 REM a public domain contribution
2 REM for use with SmartTUNES routine by DIGITAL EXPRESS
100 LOMEM :32000: be = 29000
110 PRINT " one moment please ...": PRINT
1000 REM "The Star Spangled Banner"
1010 REM must load SmartTUNES player routine first
1020 DATA G4G3G54,E4E3E54,C4C3C58
1030 DATA E4E3E58,G4G3G58,C5C4C616
1040 DATA E5E4E64,D5D4D64,C5C4C68
1050 DATA E4E3E58,f4f3f58,G4G3G516,XYZ1
1060 DATA G4G3G54,XYZ1,G4G3G54
1070 DATA E5E4E612,D5D4D64,C5C4C68
1080 DATA B5B4B616,ASA4A64,B5B4B64
1090 DATA C5C4C68,XYZ1,C5C4C68
1100 DATA G4G3G58,E4E3E58,C4C3C516
1110 DATA G4G3G54,E4E3E54,C4C3C58
1120 DATA E4E3E58,G4G3G58,C5C4C616
1130 DATA E5E4E64,D5D4D64,C5C4C68
1140 DATA E4E3E58,f4f3f58,G4G3G516,XYZ1
1150 DATA G4G3G54,XYZ1,G4G3G54
1160 DATA E5E4E612,D5D4D64,C5C4C68
1170 DATA B5B4B616,ASA4A64,B5B4B64
1180 DATA C5C4C68,XYZ1,C5C4C68
1190 DATA G4G3G58,E4E3E58,C4C3C58,E5E4E64,XYZ1
1200 DATA E5E4E64,XYZ1,E5E4E68,F5F4F68,G5G4G68,XYZ1
1210 DATA G5G4G616,F5F4F64,E5E4E64,D5D4D68,E5E4E68
1220 DATA F5F4F68,XYZ1,F5F4F616,XYZ2,E5E4E612,D5D4D68
1230 DATA C5C4C64,B5B4B616,ASA4A64,B5B4B64,C5C4C68
1240 DATA E4E5E38,f4f5f38,G4G5G316,XYZ1,G4G5G38
1250 DATA C5C4C68,XYZ1,C5C4C68,XYZ1,C5C4C64
1260 DATA B5B4B64,ASA4A68,XYZ1,ASA4A68,XYZ1,ASA4A68
1270 DATA D5D4D68,F5F4F64,E5E4E64,D5D4D64,C5C4C64,XYZ1
1280 DATA C5C4C64,XYZ1,C5C4C68,B5B4B68,G4G3G58
1290 DATA C5C4C612,D5D4D64,E5E4E64,F5F4F64,G5G4G616
1300 DATA C5C4C68,D5D4D68,E5E4E612,F5F4F64,D5D4D68
1310 DATA C5C4C632
2599 DATA W
2900 READ nt$: IF nt$ = "W" THEN GOSUB 3000: GOTO 4000
2910 GOSUB 3000: GOTO 2900
3000 FOR x = 1 TO LEN(nt$): ak = ASC(MID$(nt$, x, 1))
3010 IF ak > 64 THEN POKE be, ak: GOTO 3100
3015 pk = PEEK(be-1): IF pk = 88 OR pk = 89 OR pk = 90 GOTO 3030
3020 IF PEEK(be-1) > 64 GOTO 3200
3030 IF x = LEN(nt$) GOTO 3200
3040 a1 = VAL(MID$(nt$, x, 1)): a2 = VAL(RIGHT$(nt$, 1))
3050 POKE be, a1*10+a2: x = x+1: GOTO 3100
3100 be = be+1: NEXT x: RETURN
3200 POKE be, VAL(MID$(nt$, x, 1)): GOTO 3100
4000 tempo = 235: volume = 15: pointer = 29000: offset = 2
4010 POKE 27946, offset: REM (39,109)
4020 POKE 27792, tempo: REM (144,108)
4030 POKE 27793, volume: REM (145,108)
4040 POKE 27795, pointer/256: REM (147,108)
4050 POKE 27794, pointer-PEEK(27795)*256: REM (146,108)
4100 IF PEEK(27800) <> 229 GOTO 4200
4110 IF PEEK(28000) <> 195 GOTO 4200
4120 IF PEEK(28110) <> 108 GOTO 4200
4130 GOTO 5000
4200 PRINT: PRINT " ERROR!!! SmartTUNES"
4210 PRINT " routine not detected.": END
5000 CALL 27800: END

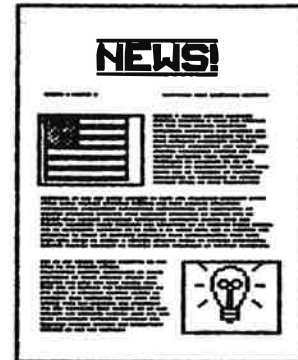
```



PRODUCT:	NewsMAKER
MANUFACTURER:	Strategic Software
MEDIA TYPE:	DDP
GRAPHICS/SOUND/DESIGN:	94;none;96
INSTRUCTIONS:	96
USEFULNESS vs. PRICE:	97
RECOMMENDATION:	highly recommended
PRICE:	\$26.95
RATED BY:	Solomon Swift

NewsMAKER is a page layout program for the ADAM computer which allows you to format document text and text graphics. It includes three primary functions: **NewsPRINT**, **NewsMAKER**, and **NewsEDIT**.

NewsMAKER is the central module. Here you can create the text portion of a page, load a page, save a page, view a greeked scaled down version of the page (looks like the picture to the right), format the page columns, get another module, or exit to **SmartWriter**. Formatting the page is very easy. Just select **EDIT** from the program's main menu. You simply position and size frames within the borders of the scaled down page. You can opt to fill the block with document text or text graphics. If you change your mind about the block's parameters (size, position, or type), you can change them just as easily. With the document text entry, you have access to basic entry functions. And, you have options for "no justification" or "even margin justification". You can also choose open or closed flow into the next empty block -- a nice feature that adds readable continuity to the printed output. You **MUST** store the page (document text, text graphics, and frame parameters) before going to the **NewsEDIT** or **NewsPRINT** modules.



NewsPRINT performs the obvious function. But, it prints the document text first. Then you insert the sheet again and press **<RETURN>** to add the text pictures.

NewsEDIT is used to design text graphic pictures. You can create original graphics in much the same manner as with Strategic's **SignSHOP** program (positioning X's on the screen); the entry of large graphic text is a little different though. You have options for small (font 1, 5 character matrix) or large (font 2, 10 character matrix). Positioning the large text graphics is a little awkward; it takes some practice to master this. If you plan to include text graphics in your page layout, it's a good idea to create them first or have a supply of ready-to-use files. The medium comes with a half dozen of these; and, Wizard's Lair also has two volumes of 35 pictures each for \$10.95. **NewsMAKER** text pictures are stored differently than **SignSHOP** text pictures; but, Strategic has included a feature to allow you to store/load in either format.

For the price, **NewsMAKER** is a remarkable program. The ability to freely format text on a page has long been a desire of many ADAM owners. I am quite impressed with this product. In future issues, some pages of **N&B** will be designed with **NewsMAKER**. I have nearly all of Strategic's commercial titles for ADAM; in just the short time I've used it, **NewsMAKER** has become my favorite.

The program does have a couple of limitations. It works with one page files. You must store and then retrieve the file when printing a page for the first time. It does not support a dot matrix printer. And, it is very slow in loading from the original data pack.

The next page tells you how to setup the program for a dot matrix printer (it will look exactly like the version for the ADAM printer). On line number one, that is "250" not "2,50". If you have our **Intel-LOAD 2.0** (or a similar program), you'll also want to convert the three **BASIC ASCII** programs to fast loading binary format.

NewsMAKER adds a new dimension to ADAM usage. I like it; I recommend it. I think that **ANYONE** who gets it will rate it somewhere between indispensable and very useful. The page after the patches is the sample that Strategic includes with the package.

HackFax 101

- (c) 1987 by DIGITAL EXPRESS -

(hacker info on Strategic Software's "NewsMAKER" program)

In the early part of December 1987 Strategic Software released "NewsMAKER". This "text and text/graphics page layout package" is an innovative piece of work for the ADAM™ computer. While impressive in its own right, some of its purchasers may note that a few patches would be welcome. A couple of these are: (1) a modification to allow for use on a standard Epson FX compatible dot matrix printer (the Panasonic KX series, the Okimata 20, etc.) and (2) the ability to speed load the three primary BASIC programs of the "NewsMAKER" package, ie, NewsPRINT, NewsMAKER, and NewsEDIT.

NOTE: "NewsMAKER" employs the public domain interpreter "SmartBASIC 2.0".

NOTE: "The spelling of a few BASIC keywords are changed: LIST becomes Lxxx, END becomes Exx, NEW becomes Nxx, and so on.

TO PATCH FOR A DOT MATRIX:

- (1) rename HELLO to hello
- (2) boot the "NewsMAKER" data pack
- (3) after BASIC 2.0 is in RAM, enter LOAD hello
- (4) add the following lines:

```

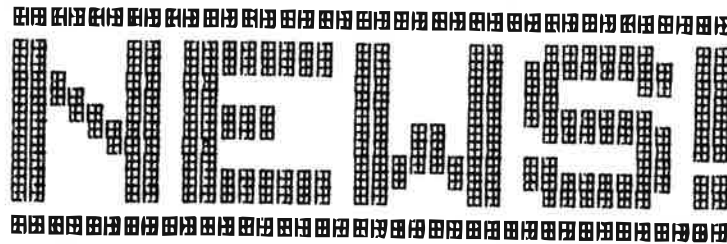
0 POKE 1648, 255: POKE 1649, 255: POKE 20242, 11
1 DATA 126,254,3,200,245,219,64,203,71,40,2 50,241
2 DATA 211,64,35,24,239
3 FOR x=63089 TO 63105: READ mc: POKE x, mc: NEXT
4 DATA 27,51,18,10,3
6 FOR x=0 TO 4: READ mc: POKE 56320+x, mc: NEXT
7 DATA 33,0,220,205,99,252,201
8 FOR x=57000 TO 57006: READ mc: POKE x, mc: NEXT
9 CALL 57000: VTAB 1: HTAB 8: PRINT "dot matrix setup"

```

- (5) change RUN on line# 20 to BRUN and then enter SAVE HELLO
- (6) you may use Intel-LOAD 2.0 (by DIGITAL EXPRESS) to convert the program to speed-loading
- (7) to do so (ONLY ON YOUR BACKUP; not the original data pack!!!):
 - a. RENAME NewsPRINT to newsprint
 - b. LOAD newsprint
 - c. enter LOMEM:28500
 - d. change RUN on line# 7110 to BRUN
 - e. change CALL 64743 on line# 7510 to TEXT:Exx
 - f. execute Intel-LOAD 2.0 with CALL 56320 & BSAVE NewsPRINT
 - g. RENAME NewsMAKER to newsmaker
 - h. enter LOMEM:26960
 - i. LOAD newsmaker
 - j. change RUN on line# 6910 to BRUN
 - k. change RUN on line# 7110 to BRUN
 - l. change CALL 64743 on line# 7510 to TEXT:Exx
 - m. execute Intel-LOAD 2.0 with CALL 56320 & BSAVE NewsMAKER
 - n. RENAME NewsEDIT to newsedit
 - o. LOAD newsedit
 - p. enter LOMEM:28500
 - q. change CALL 64743 on line# 6030 to TEXT:Exx
 - r. change RUN on line# 6060 to BRUN
 - s. change RUN on line# 6061 to BRUN
 - t. execute Intel-LOAD 2.0 with CALL 56320 & BSAVE NewsEDIT

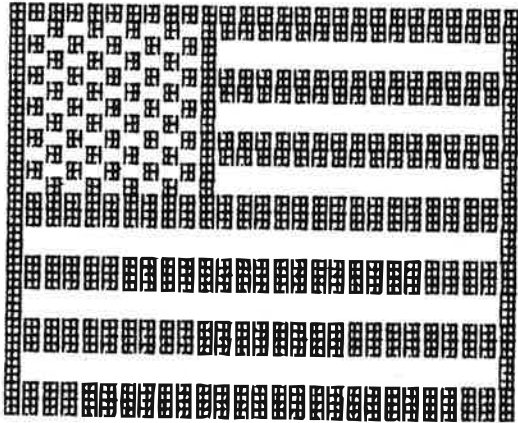
- these tips may be reprinted and/or distributed provided NO alterations are made -

If you find this information useful,
a donation of 25 cents to DIGITAL EXPRESS would be appreciated.



VOLUME I NUMBER 1

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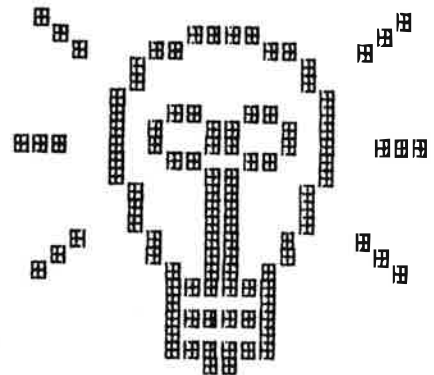


Today, a United States software company unveiled a bold new program for the ADAM Family Computer. Strategic Software, the largest and most innovative developer of Coleco ADAM software products, released NewsMAKER. NewsMAKER, the first true desktop publishing program for this system contains many powerful features. As powerful as it is, NewsMAKER is incredibly easy to use. There are no commands to remember, everything is displayed in simple English right at your fingertips.

NewsMaker is not the first product to bear the Strategic Software name. Their other quality products include the very popular SignSHOP, ProofREADER, MultiWRITE, MicroWORKS, PaintMASTER, and TurboLOAD. As stated, NewsMAKER contains many powerful features. It allows you to design very complex documents containing precisely placed text and picture elements. These elements are referred to as blocks. These blocks may be positioned anywhere on an 8 1/2 x 11 page. They may be resized and justified as well. If desired, NewsMAKER will automatically flow your text from block to block. A feature usually found in desktop publishing systems costing hundreds of dollars more. Actually, at \$29.95, NewsMAKER

may be the lowest priced software of its kind on the market today.

NewsMAKER's picture capability is quite extensive as well. Picture blocks are treated the same way text blocks are. They may be resized and repositioned at any time. A powerful picture editor is included with NewsMAKER which lets you create your own pictures and headlines (in two different type styles) or it can convert any SignSHOP picture file for use with NewsMAKER. Strategic Software has provided several graphic and newsletter samples to get you started.



**A COMPARISON OF
SHOWOFF I vs. PAINTMASTER
Reviewed by Kenneth Steblerton**

PRODUCT:	SHOWOFF I
MANUFACTURER:	DIGITAL EXPRESS
MEDIA TYPE:	DDP / disk
GRAPHICS/SOUND/DESIGN:	98;96;99
INSTRUCTIONS:	99
USEFULNESS vs. PRICE	100
RECOMMENDATION	highly recommended
PRICE:	\$24.95

VERSUS ...

PRODUCT:	PAINTMASTER
MANUFACTURER:	STRATEGIC SOFTWARE
MEDIA TYPE:	DDP
GRAPHICS/SOUND/DESIGN:	90/none/90
INSTRUCTIONS:	96
USEFULNESS vs. PRICE:	90
RECOMMENDATION:	recommended
PRICE:	\$20.95 (M.W. Ruth Co.)

Although many ADAM owners may own one, or both, of these fine painting programs, I feel it is necessary to help those who have not yet purchased a computer painting utility by comparing them. Hence, this review will attempt to compare STRATEGIC SOFTWARE's "PAINTMASTER" with DIGITAL EXPRESS' "SHOWOFF I."

PAINTMASTER, the first computer painting utility developed for the ADAM, is a nicely designed program. Running under SmartBASIC V1.0, the program provides access to all of ADAM's colors, provides various shapes (i.e., circles, polygons, triangles, and straight lines), allows changing of foreground and background colors, erasure of work, addition of text to drawing, moving or copying areas of the drawing, and storage of pictures to data pack or disk. All features of this program work flawlessly. In addition to the above functions, the paintings can be printed on the standard ADAM printer. This is probably the greatest plus for the program. Since many ADAM owners do not own dot matrix printers, PAINTMASTER is a big "plus" for the "standard" ADAM owner (one who only owns the base system). PAINTMASTER is easy to use, and comes complete with a professionally designed, easy to use manual.

SHOWOFF I, the second computer painting utility developed for the ADAM, is also a nicely designed program. Using the "direct execute" technique used by COLECO, SHOWOFF I loads by pulling the computer reset switch and is completely menu driven. Unlike PAINTMASTER, SHOWOFF I contains TWO painting utilities; one for LOW RESOLUTION painting and one for HIGH RESOLUTION painting. BLOCK-PAINT 2.3 allows simple painting in LOW RESOLUTION MODE. BLOCKPAINT accesses all of ADAM's colors and allows storage/retrieval access to data pack or disk. SmartPAINT, the HIGH RESOLUTION painting program, is very professionally designed and accesses all of ADAM's colors, allows changing of foreground and background colors, erasure of blocks or the picture, storage/retrieval of pictures to data pack or disk, choice of polygons, choice of brush tips, use of special text characters, and three printing options for dot matrix printers: standard density (60 dpi), double density (120 dpi), and quadruple density (240 dpi). In addition, paintings can be printed in a "mirrored" fashion (showing the painting backwards) and using different screen lengths. Furthermore, SHOWOFF I includes a utility which allows use of PAINTMASTER paintings in SHOWOFF I, as well as a utility which allows use of SHOWOFF I pictures in your own personal SmartBASIC V1.0 programs. SHOWOFF I's features also work flawlessly, and are discussed in a very professional, easy to understand manual.

Overall, both programs are professionally designed. SHOWOFF I, however, is more "user friendly" than PAINTMASTER, particularly due to the single step "BOOT" process and onscreen instructions provided with each step of the SmartPAINT program. SHOWOFF I gets a "+" for allowing access to existing PAINTMASTER paintings, as well as being able to use SHOWOFF I paintings in SmartBASIC V1.0 programs. Furthermore, SHOWOFF I is "faster" when executing commands (due to the machine language routines the program uses). PAINTMASTER is a capable program which can print hi-res pictures on the ADAM printer, but only by using six sheets of paper to accomplish the feat. SHOWOFF I, while limited in that it cannot print hi-res pictures on the ADAM printer, allows adjustment of picture size when dumping a painting to a dot matrix printer.

Overall, these programs are excellent additions to any ADAM library. PAINTMASTER is a fine choice for ADAM owners on a budget with the standard ADAM system. SHOWOFF I is the best choice for ADAM owners who have upgraded their systems to include dot matrix printers. Both programs, however, would be fine additions to any ADAM library, and I recommend each.

ALCAZAR: The Forgotten Fortress
 Copyright 1985 by: ACTIVISION
 Released by: TELEGAMES U.S.A.
 List price: \$27.95 Disk/Data Pack
 \$32.95 ROM Cartridge
 Obtained through: E & T SOFTWARE
 Reviewed by: David E. Carmichael

The country is covered with castles and curios, with bridges and flying carpets. And there's no way around it. Your destination is on the other side. What perils lurk in these mysterious castles? Which path is quick and sure? With map in hand, you'll dare across, collecting the tools you'll need. The tools are used to master that grandest of castles, the lure, the dream. The goal... the legendary keep ALCAZAR.

The graphics are clean and smooth moving. The game play is much like the game "GATEWAY TO APSHI" by EPYX. But unlike "GATEWAY", you only have seven "DEMONS" to fight in this game. BUT, the program for the COLECO ADAM/'VISION is much more colorful than "GATEWAY"! You have a top view, looking down on your screen player. I found that the way you use your weapons is a little hard to get the hang of, pushing the joystick the direction that you wish to fire/use your weapon while at the same time pushing the fire button. But once you do, you are able to fight your way through the many castles.

What really surprized me about this program disk is that this is the first ADAM format disk (I HAVE USED) that uses some sort of COPY PROTECTION. This means that you can not make backups of this game!! And with this being a DISK game I had thought for sure that there would of been a way to save a game in progress. But that feature was never added to the DISK version. The DISK seems to be nothing more than a CARTRIDGE COPY! If I had known this beforehand, I would have spent the extra funds for a ROM CARTRIDGE version of this game.

While I want to say THANK YOU to TELEGAMES U.S.A. for releasing so many games to ADAM COMPUTER users, I do hope that some of the GAME programmers start releasing NEW games for the COLECO system. I, for one, am looking forward to the upcoming game(s) from Digital Express

Overall here is my rating of this program (**** = HIGHEST)

GRAPHICS ****
 INSTRUCTIONS .. **
 GAME PLAY ****
 VALUE ***

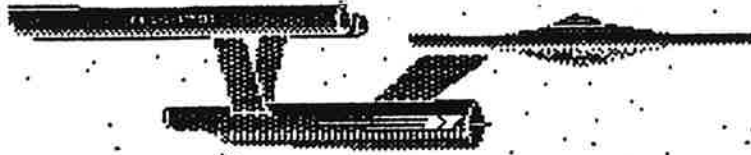
PRODUCT:	DEFENDER
MANUFACTURER:	AtariSoft
MEDIA TYPE:	DDP
GRAPHICS/SOUND/DESTOP:	97;97;97
INSTRUCTIONS:	92
USEFULNESS vs. PRICE:	98
RECOMMENDATION:	highly recommended
PRICE:	\$11.95
RATED BY:	Solomon Swift

DEFENDER is one of the older computer games; but it caused problems with the regular ADAM system. This is now fixed. We carry this arcade quality game on cartridge plus a disk or data pack (you choose) backup.

It had been some time since I'd played this game. When it arrived I was eager to try it out. I pushed in the disk and pulled reset. After a couple of title screens, it asked for the number of players (1 or 2). Then the game begins.

You maneuver your spaceship across the scrolling hi-res screen blasting aliens, trying to avoid their shots, and working at protecting the inhabitants of the planet below. The action is fast, the graphics are very good, the animation is very smooth, and the sounds are realistic. I recommend this one to all gamers.

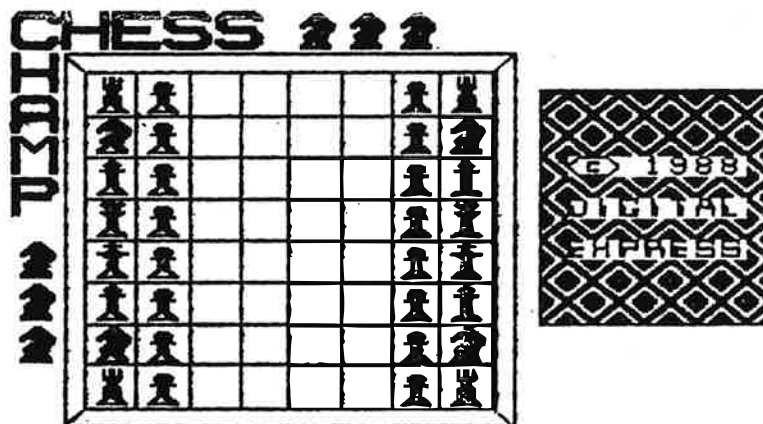
BEYOND TREK



It's here! Pull the reset, a title screen instantly appears and the theme song starts playing. A few seconds later, the Enterprise appears as more of the program loads into memory. You'll hear a couple of more tunes and then Kirk's soliloquy is displayed (and "spoken" if you have the Eve SS/CC). Then you take command.

Your goal is to protect the four starbases and annihilate those belligerent Klingons. You have a full arsenal of weapons and you can get more at a starbase that's in good condition. You have a variety of maneuver options. Plus three charts and a graph are at your disposal.

The entire game is played with the front game controller keypad. There are four skill levels and a hall of fame for high scores (for the session or permanent record). How much is this innovative adaptation of the most popular computer classic adventure. Just \$19.95 on disk or data pack. And, N&B subscribers can get it for only \$14.95. Your ship awaits you.



The first graphic chess game for the ADAM computer. Standard board setup or you can position the pieces to your preference. Seven skill levels. Choose black or white. Change sides if you prefer. Move your pieces with a graphic hand. Store and load inchoate games. Requires a 64K expander (compatible with larger Orphanware expanders). Just \$19.95. And, N&B subscribers can get it for ONLY \$14.95. Are you ready to play chess with ADAM? (Should be finished by 2/29/88.)

MEGA SYSTEM-XR

© 1988 by DIGITAL EXPRESS

Are you tired of juggling disks, data packs, and utility programs to get the right printer patches, the right ramdisk, and the right media utilities? Are you ready to turn your ADAM into a SUPERFAST productivity system? MegaSYSTEM - XR could be just what you're looking for.

MegaSYSTEM-XR turns your Orphanware 256K or 512K expander into a *dream machine*. You can instantly switch between 10 great programs. You never have to pull the computer reset (as you do with XRAMPak I); just tap CONTROL + DELETE twice and "MSXR-menu" appears allowing you to select the program to instantly load..

You can boot SmartBASIC V1.0 (it comes with the program) without any patches or with either of two sets of fixes -- regardless of your choice, you can still RUN your HELLO program on the ramdisk.

You can select SmartWriter (even if you have an earlier version, you'll be updated to the latest revision, 80). You can customize the SW screen colors, and choose one of three print options. You can select ADAM printer, Standard Epson compatible (with regular SW subscript, superscript, and underline functions), or Panasonic 1080i (works just like the ShowOFF II enhancement). You can even access the ramdisk from SmartWriter.

A clock and perpetual calendar program is available. The clock requires the EVE 9S/CC.

You have access to an Electronic notepad.

You can use a massive media utility program. Includes disk formatting, file copying, block editor, block verifier, and directory modifier.

You can use MSXR-HGRprint to print SmartPAINT or PowerPAINT screens with various hardcopy options. A very limited drawing capability is included. Works with either the ADAM printer or an Epson FX compatible.

You can use the charts / graphs assembler for creating hi-res charts to printed or stored.

You can also use MSXR-ezPRINT to print SmartWriter documents in left, right, auto, or center justification. Use headers & footers and change margins on a page too. Can be used by ADAM printer or a dot matrix.

You can select ADAMlink II (included) with options for either the ADAM printer or a dot matrix. No ramdisk access is provided with AL II. Some systems can have problems accessing ADAMlink II with a 512K expander installed.

You can also switch to ADAMcalc (instructions are provided for easily transferring your ADAMcalc to the MegaSYSTEM-XR medium). You can choose standard ADAM printer or a parallel interfaced dot matrix. No ramdisk access is provided for ADAMcalc.

There are a couple of limitations. The program uses 175K+ on your ramdisk. And, most files must be stored (on tape, disk, or ramdisk) before INSTANTLY switching to another program.

This is a mammoth package combining all these programs for INSTANT access -- just tap CONTROL + DELETE twice (pulling reset could destroy the program). Finally its all here in one package supporting both the ADAM printer and a dot matrix.

MegaSYSTEM-XR is THE productivity enhancement for ADAM. We even have two versions. The ".a" version comes ready to use -- it's just \$39.95 (\$34.95 to N&B subscribers). The ".b" version is for those who already have MegaDISK 1.0 (you'll need to transfer the 'shortdisk' program to the MegaSYSTEM-XR medium). The ".b" version is just \$32.95 (\$27.95 to N&B subscribers). (Both versions should be finished by 2/29/88.)

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Vinh Le
9150 Todos Santos
Santee, CA 92071

CP/M 2.2 software
catalog: \$1.00

Elliam Associates
1230 Bayview Heights Drive
Los Osos, CA 93402

Great ADAM games
Reedy Software
10085 60th Street SE
Alto, MI 49302

ADAM disk drive for sell
not reconditioned / original box
\$180 + actual shipping
Hector Sanchez
3606 Swiss
Corpus Christi, TX 78415

PROGRAMMING UTILITY SOFTWARE

- DDI Intel-BEST 3.3** (by DIGITAL EXPRESS) \$24.95 (retail) \$18.95 (SDP)
 † makes over 3 dozen changes to BASIC 1.0; comes with 9 very user friendly MUSIC commands
- DDI Intel-LOAD V1.0** (by DIGITAL EXPRESS) \$15.95 (retail) \$11.95 (SDP)
 † converts BASIC 1.0 programs to load up to 12 times faster; stays in RAM; 2 BSAVE options
- DDI Intel-LOAD V2.0** (by DIGITAL EXPRESS) \$15.95 (retail) \$11.95 (SDP)
 † converts BASIC 2.0 programs to load up to 12 times faster; stays in RAM; 2 BSAVE options; works only in STD MEM
- DDI SmartBEST V1.0** (by DATA DOCTOR) \$16.95 (retail) \$14.95 (SDP)
 † makes several changes to BASIC 1.0; not compatible with Intel-BEST 3.3
- DDI SmartTRIX** (by DATA DOCTOR) \$29.95 (retail) \$14.95 (SDP)
 † a set of 10 excellent programming aids; two very nice sprite programs; 60 page manual; disk & DDP versions not compatible
- DDI BASICaide (rev 2)** (by Mr. T. SOFTWARE) \$11.95 (retail) \$9.95 (SDP)
 † several BASIC 1.0 enhancements; new CHAIN command; new BIN command to store fast loading programs; macros; fixes; more
- DDI TurboDISK 1.0** (by DIGITAL EXPRESS) \$24.95 (retail) \$19.95 (SDP)
 † creates ramdisk ability with BASIC 1.0; corrects several BASIC bugs; includes TurboCOPY -- very nice media control and copy utility; requires 64K expander
- DDI MegaUtil** (by MARATHON COMPUTER) \$32.95 (retail) \$27.95 (SDP)
 † an excellent collection of varied programming aids; includes ByteWriter (block editor), CopyWriter (media backup utility), PD modules, programming tips, plus more
- DDI TurboDISK 2.0** (by DIGITAL EXPRESS) \$15.95 (retail) \$11.95 (SDP)
 creates a powerful ramdisk ability for BASIC 2.0 and a 64K expander; disables EXT MEM command
- DDI MegaDISK 1.0** (by DIGITAL EXPRESS) \$24.95 (retail) \$19.95 (SDP)
 † creates the ramdisk ability for BASIC 1.0 or your own Z80 programs; works with 64K, 128K, 256K, 512K, and 1M ORPHANWARE memory expanders; automatically checks size of your XRAM card; does NOT disable NMI interrupt (FLASH, etc.); comes with 5 PD programs including EZfileXFER; much, much faster than a Coleco disk drive
- DDI XRAMpak I** (by DIGITAL EXPRESS) \$19.95 (retail) \$14.95 (SDP)
 † the perfect companion for MegaDISK 1.0 and your ORPHANWARE memory expansion board (any size); includes XRboot (boot BASIC 1.0, ADAMcalc, and ADAMlink in about 2 seconds), XRcopy (a VERY powerful copy utility uses ramdisk space ABOVE your files stored there -- great for multiple copies of PD software), PACK and UNPACK (compacts and decompacts your favorite utilities into/from one large file for quick system setup), EZfileXFR2 (faster than EZfileXFER, by not restarting the directory after each transfer)
- DDI AUTOWRITER** (by Mr. T. SOFTWARE) \$15.00 (retail) \$14.25 (SDP)
 † a menu driven utility that writes machine code routines and BASIC subroutines (included) of your choice to a user designated data pack or disk; file may then be merged with existing programs to add special features; detailed instruction manual

DOT MATRIX PRINTER SOFTWARE

- DDI FILE PRINTER** (by Terry Fowler) \$9.95 (retail) \$9.45 (SDP)
 † a fine set of BASIC utilities for use with your dot matrix printer; prints SmartWriter compatible files; allows you to set default printer functions; (price goes UP at the end of November)
- DDI ShowOFF II** (by DIGITAL EXPRESS) \$19.95 (retail) \$14.95 (SDP)
 † machine code print enhancements for SmartWriter (adds 32 print controls and 5 CONTROL functions to SmartBASIC; requires Centronics parallel interface, a Panasonic KXP-1080 or 1080i printer, and at least a 64K expander)
- DDI ShowOFF IIa** (by DIGITAL EXPRESS) \$19.95 (retail) \$14.95 (SDP)
 † very similar to ShowOFF II except that it is compatible with any dot matrix printer that supports Epson FX escape codes; works with Epson, Star, and printers and the Okimate 20; does NOT include line justification commands or internal document margin control; requires at least a 64K expander
- DDI Fast & Calc Patch** (by ORPHANWARE) \$9.95 (retail) \$8.95 (SDP)
 † FastPatch directs all printer output to your parallel interfaced printer -- can be used with SmartBASIC 1.0, SmartWriter, and SmartFile; CalcPatch directs ADAMcalc output to your dot matrix printer; neither patch includes special printer commands -- works just like the standard ADAM versions
- DDI LinkPatch** (by ORPHANWARE) \$9.95 (retail) \$8.95 (SDP)
 † ADAMlink II telecommunications software with up and down loading of ASCII files; plus directs printer output to your dot matrix

RECREATION/GAMES SOFTWARE

- 000 MageQuest (rev 2)** (by REEDY SOFTWARE) \$16.95 (retail) \$14.95 (SDP)
 * superb graphic adventure; includes 9 levels of play in the main adventure plus 3 solo adventures; additional solo adventures available from REEDY SOFTWARE
- 000 TriviaPac I** (by Mr. T. SOFTWARE) \$17.95 (retail) \$14.95 (SDP)
 * 1200 questions; 6 categories; one to four players; graphics and sound; hall of fame; many hours of fun
- 000 Kid's TriviaPac** (by Mr. T. SOFTWARE) \$17.95 (retail) \$14.95 (SDP)
 * 1080 questions; 6 categories; one to four players; graphics and sound; hall of fame; many hours of fun
- 000 Strategy Strain** (by DATA DOCTOR) \$18.95 (retail) \$14.95 (SDP)
 * nine intellectually challenging computer classics; graphics and sound; good Star Trek game
- 000 Lab Mouse** (by REEDY SOFTWARE) \$13.95 (retail) \$11.95 (SDP)
 * exciting game that puts you in the role of a laboratory mouse stuck in a maze; all hi-res graphics; 5 skill levels
- 000 Entertainment Pack** (by REEDY SOFTWARE) \$16.95 (retail) \$14.95 (SDP)
 * three challenging computer classics (connect 4, blockade, and slide puzzle); great graphics; fast animated sprites; one or two players
- 000 Stage Fright** (by REEDY SOFTWARE) \$16.95 (retail) \$14.95 (SDP)
 * extensive text adventure in which you play the role of an actor or actress trapped in an abandoned theater; some graphics and sound; easy to play -- challenging to win; game save option; three progressive levels of play
- 000 Diablo** (by IMAGE MICROCORP) \$19.95 (retail) \$18.95 (SDP)
 * a maze-like game in which the play field consists of user movable tracks on which you try to keep a ball in motion; good graphics; requires substantial strategy to play
- 000 Black Gold** (by IMAGE MICROCORP) \$19.95 (retail) \$18.95 (SDP)
 * a board style game for one to four players; compete by digging for oil; good graphics
- 000 Stock Market Game** (by IMAGE MICROCORP) \$19.95 (retail) \$18.95 (SDP)
 * a board style game for 1 to 4 players; see who makes the biggest profit buying and selling stock; a relatively good tool for learning about the stock market; more enjoyable with some stock market understanding
- 000 Centipede** (by Coleco) \$13.95 (retail) \$11.95 (SDP)
 * the still popular arcade game in which you shoot away segments of oncoming centipedes; available in cartridge ONLY
- 000 Defender** (by Coleco) \$13.95 (retail) \$11.95 (SDP)
 * the action packed arcade game in which you shoot attacking alien ships and attempt to save inhabitants of the planet below; available on cartridge PLUS disk or data pack (specify which one you want with the cartridge)
- 000 Beyond Trek** (by Digital Express) \$19.95 (retail) \$14.95 (SDP)
 * pits you against hostile klingons; very good graphics; good sound/music; protect 4 starbases and annihilate the klingons; you command the Enterprise; hall of fame for 10 high scores (for session or all-time); requires at least a 64K expander
- 000 Chess Champ** (by Digital Express) \$19.95 (retail) \$14.95 (SDP)
 * the FIRST graphic chess game for the ADAM; great graphics; easy user interface; skill levels; switch sides; a little slow on higher skill levels; good chess playing companion; documentation includes instructions on playing chess; requires at least a 64K expander

COLECO COPYRIGHTED SOFTWARE

- 000 SmartLOGO** (data pack only) \$22.95 (retail) \$18.95 (SDP)
 * Coleco's version of the popular structured language; good for graphics and sound control; 350+ page manual
- 000 SmartFILER** (data pack only) \$16.95 (retail) \$12.95 (SDP)
 * Coleco's general purpose database program; easy electronic filing system; search features; 38 page manual
- 000 ADAMcalc** (data pack only) \$24.95 (retail) \$18.95 (SDP)
 * advanced electronic spreadsheet; comes with sample templates; 154 page manual.
- 000 CP/M 2.2** (data pack only) \$22.95 (retail) \$25.95 (SDP)
 * Coleco's version of the still popular operating system; 1000's of public domain supporting programs; 250+ pages

GUIDES/BOOKS/INSTRUCTIONS

- 000 Hacker's Guide (vol 1) (by Peter & Ben Hinkle) \$12.95 (retail) \$10.95 (SDP)
 † The Hinkle's in - depth guide to the technical aspects of exploring ADAM; 60 pages; 18 programs
- 000 Hacker's Guide (vol 2) (by Peter & Ben Hinkle) \$12.95 (retail) \$10.95 (SDP)
 † The Hinkle's detailed guide to SmartBASIC V1.0; 110 pages; HELLO program includes several BASIC fixes and enhancements
- 000 Hacker Software (by Peter & Ben Hinkle) \$5.95 (retail) \$4.95 (SDP)
 † the programs from volumes one and two (above)
- 000 ez ref 101 (by DIGITAL EXPRESS) \$2.45 (retail) \$1.95 (SDP)
 † approximately 700 Z80 instructions listed in NUMERICAL sequence; 9 pages; decimal, hex, op code, operands; good for disassembling machine code; holes drilled for easy binder insertion
- 000 ez ref 102 (by DIGITAL EXPRESS) \$2.45 (retail) \$1.95 (SDP)
 † approximately 700 Z80 instructions listed in ALPHABETICAL sequence; 9 pages; decimal, hex, op code, operands; good for assembling machine code routines; holes drilled for easy binder insertion
- 000 ez ref 103 (by DIGITAL EXPRESS) \$3.95 (retail) \$2.95 (SDP)
 † study of ADAM's EOS; jump table vectors, routines, setup for CALLs, exit register meanings; plus several assorted tables that have appeared in N&B; 21 pages; holes drilled for easy binder insertion
- 000 Pinball/HardHat Guide \$2.45 (retail) \$1.95 (SDP)
 † 40 pages of instructions for the popular public domain package; holes drilled for easy binder insertion; includes Pinball reference chart

"NIBBLES & BITS" SOFTWARE

- 000 N&B binder01 (by DIGITAL EXPRESS) \$29.95 (retail) \$24.95 (SDP)
 † all six issues from 07/86 thru 12/86; sturdy 3-ring binder; includes two DDPs or two disks containing all the programs
- 000 N&B binder02 (by DIGITAL EXPRESS) \$29.95 (retail) \$24.95 (SDP)
 † all six issues from 01/87 thru 06/87; sturdy 3-ring binder; includes two DDPs or two disks containing all the programs
- 000 N&B issue programs (by DIGITAL EXPRESS) \$6.95 (retail) \$3.95 (SDP)
 † set01: all the programs from 07/86 thru 09/86
 † set02: all the programs from 10/86 thru 12/86
 † set03: all the programs from 01/87 thru 03/87
 † set04: all the programs from 04/87 thru 06/87
 † set05: all the programs from 07/87 thru 09/87
 † set06: all the programs from 10/87, 11/87, & 03/88

GRAPHICS DESIGN SOFTWARE

- 000 ShowOFF I (by DIGITAL EXPRESS) \$29.95 (retail) \$24.95 (SDP)
 † graphics design package (enter text, draw polygons, paint, save pictures, etc.); fast color changes; a variety of print options (preset for Epson FX / IBM 5152 printer codes); printing graphics requires Centronics parallel interface for printer
- 000 CLIPPER (by DIGITAL EXPRESS) \$19.95 (retail) \$14.95 (SDP)
 † introduces the concept of "clip art" to ADAM; totally machine code program; build clip art collections; put clip art in hi-res pictures; draw and edit clip art; also capture from hi-res pictures; enter text; change colors; includes an 11K ramdisk (does NOT require 64K expander)
- 000 FontPOWER (by DIGITAL EXPRESS) \$16.95 (retail) \$12.95 (SDP)
 † utility using Coleco-like graphics for designing your own font sets; comes with 8 font sets including "script", "Roman", "cory", and "bold"; shows you how to use the font sets in high or low resolution graphics; plus three font shape tables for HGR and HGR2 modes; includes demos; fonts can be used in your own BASIC 1.0, BASIC 2.0, and z80 programs
- 000 SpritePOWER (by DIGITAL EXPRESS) \$19.95 (retail) \$14.95 (SDP)
 † totally machine code utility using Coleco-like graphics for designing your own sprites; includes 3 sets of sprites; extensive instruction manual; shows you how use sprites in BASIC 1.0, BASIC 2.0, and Z80 programs; includes PUFF; includes 11K ramdisk (does not require 64K expander); very easy to use program
- 000 PowerPAINT (by DIGITAL EXPRESS) \$44.95 (retail) \$34.95 (SDP)
 † 80K machine code graphics processor for ADAM; the most extensive graphics design program available; uses Coleco-like graphics; a large variety of file storage and retrieval options (directly loads PaintMASTER, SmartPAINT, GraphixPAINTER, SmartLOGO, and RLE pictures); quick global color changes; move, copy, and erase options; many hardcopy print options (screen, labels, letterheads, and whole picture); screen scroll options; four screen pictures with 64K card (8 screen picture with 256K or 512K expander); uses FontPOWER font sets, CLIPPER clip art, and SpritePOWER sprites; requires at least a 64K memory expander; requires a Centronics parallel interfaced Epson FX or IBM 5152 compatible dot matrix printer for hardcopies; fully compatible with SmartPAINT; you can easily UNDO changes

MISCELLANEOUS SUPPLIES

000 Coleco/LORAN digital data packs	\$33.95 (retail--for 10) \$29.95 (SDP--for 10)	\$4.95 (retail--each) \$3.95 (SDP--each)
* designed and formatted by Loranger Manufacturing; no face label		
000 plain label digital data packs	\$19.95 (retail--for 10) \$17.95 (SDP--for 10)	\$3.45 (retail--each) \$2.25 (SDP--each)
* Sony brand formatted by E&T SOFTWARE; no face label		
000 plain label 5.25" disks for ADAM	\$6.95 (retail--for 10) \$4.25 (SDP--for 10)	\$.79 (retail--each) \$.49 (SDP--each)
* double-sided; double density; includes envelope and write protect tabs		
000 printer ribbons for SmartWRITER printer	\$15.95 (retail--for 3) \$14.75 (SDP--for 3)	\$5.75 (retail--each) \$5.25 (SDP--each)
* black ink; standard replacement ribbon cartridge		
000 Panasonic printer ribbon	\$6.95 (retail--each) \$5.45 (SDP--each)	
* black ink; nylon; standard replacement ribbon for 1080, 1080i, 1090, 1091, 1091i, and 1092		
000 standard multipurpose adhesive labels	\$5.45 (retail--for 1000) \$3.95 (SDP--for 1000)	\$2.95 (retail--for 500) \$2.25 (SDP--for 500)
* white, pin-feed, 3 1/2" by 1 5/16"; fan fold; single column		
000 multipurpose adhesive labels	\$9.95 (retail--for 1000) \$8.95 (SDP--for 1000)	\$7.95 (retail--for 500) \$6.95 (SDP--for 500)
* white, pin-feed, 4" by 1 7/16"; fan fold; single column		
000 word processing computer paper	\$4.25 (retail--for 250 sheets) \$3.45 (SDP--for 250 sheets)	
* white; pin-feed; 9 1/2" by 11"; fan-fold; 20 lb. wt.; clean edge; one part		
000 MX-64 memory expansion card	\$39.95 (retail -- each) \$32.95 (SDP -- each)	
* ADAM compatible 64K card; expands ADAM to 144K; plugs into slot three inside console		

EDUCATIONAL SOFTWARE

000 Spanish Vocabularian (by MARATHON COMPUTER)	\$18.95 (retail)	\$16.95 (SDP)
* a unique program for ADAM; includes electronic dictionary; comes with 1600 words; expandable to 7400 words; quizzes; printed study sheets; report cards		
000 QuikFax Quest (by DATA DOCTOR)	\$18.95 (retail)	\$14.95 (SDP)
* three academic quizzes; includes study mode (on - screen and hardcopy); US capitals, world capitals, and Chemistry elements		

BUSINESS SOFTWARE

000 SoftPACK I (by E&T SOFTWARE)	\$18.95 (retail)	\$18.45 (SDP)
* four menu driven home management programs; SoftCHECK, Checkbook Totalizer, CheckBook Reconciler, and SoftMailer (address filer for labels and envelopes)		
000 Business Pack I (by E&T SOFTWARE)	\$18.95 (retail)	\$18.45 (SDP)
* two useful programs for creating and printing address files; plus two very good programs for inventory control and printing		



□□□□□ "SDP" stands for Subscriber Discount Price. N&B subscribers get a 5% to 25% discount off the suggested retail price of items listed.

□□□□□ Unless otherwise noted, all software is available on disk or datapack.

□□□□□ All DIGITAL EXPRESS storage media (disks and data packs) are warranted to be free from defects in materials and workmanship. If the storage medium proves defective, return it to us for replacement or repair (at our discretion). After 90 days from purchase, a \$3.00 return shipping fee is required.

□□□□□ The product prices listed herein may be subject to change after April 1, 1988.



Public Domain Software Info

Public domain software is offered as a quick, inexpensive means for you to expand your ADAM software library. Note, however, that public domain software is not necessarily of commercial quality. Although, we do attempt to winnow out flawed programs, there is no guarantee of the quality regarding these packages. If, however, the storage medium itself proves defective within 90 days of purchase, we will replace it free of charge.

You may get any of the volumes described below on digital data pack for \$5.95 or on disk for \$4.95. Subscribers also have an option to get a volume FREE (limit three per calendar month); this option does not apply to volumes in the "Coleco PD library".

Here's how to get one FREE. (1) Contribute an original program for any library. (2) send a signed statement that the program is NOT copyrighted. (3) send the program on DDP (digital data pack) or disk; one DDP or disk for each volume that you want to exchange. And, (5) include a return mailer with sufficient postage or send \$2.50 for shipping costs.

SmartBASIC V1.0 LIBRARY

Each of these volumes is self-booting with SmartBASIC stored on the volume. When you pull the reset, a graphic screen will be displayed as BASIC loads. All programs will speed load. Each volume (except the utility volumes) is controlled by a user friendly ramdisk (does NOT require the 64K expander) central menu for easy file selection. Each volume contains over 120K of files.

N&Bgames (volumes 1, 2, & 3): an assortment of text adventures, board games, and animation games.
 N&Bgraph (volumes 1 & 2): a variety of graphics displays and music programs.
 N&Bmath (volumes 1 & 2): several scientific and financial math programs.
 N&Butil (volumes 1 & 2): an assortment of programming utilities.

GRAPHICS FILES LIBRARY

In order to view/use the hi-res picture files in this library you need SmartPAINT (from ShowOFF I) or the HGR Picture Manager program (02/B7 N&B, page 16).

N&Bpix (volumes 001 thru 016): 13 files each.
 Art Gallery (volumes 1 & 2, compiled by REEDY SOFTWARE): 13 files each.
 PaintMATES (vol 1 & 2): collections of small art for use with PowerPAINT (fonts, sprites, clip art, & brushes).
 PaintFORMS (vol 1 & 2): one full page graphic, 3 letterheads, & 1 label for use with PowerPAINT.

Coleco PD LIBRARY

SmartBASIC 2.0: improved interpreter; 49K file; works with or without 64K expander
 Pinball/HardHat Mac: latest version with two demo games; 1 to 4 players.
 ADAMlink II: supports up and down loading of SW compatible files; includes printed U/D docs.
 Jeopardy: just like the game show; great graphics; 1 to 3 players.
 Super SubRoc: 90K arcade-type game; super graphics; hall of fame.
 Troll's Tale: Easy graphic adventure; supports one player; disk & DDP not compatible.
 Video Hustler: graphic billiards game; 1 or 2 players.
 Disk Manager: file handling utility; the program that comes with a disk drive.
 SmartBASIC 1.0: a replacement for the BASIC that came with your ADAM.

CP/M 2.2 LIBRARY

CP/Mgames (volumes 1 & 2): assorted EBASIC (included) games.
 demo carts; requires 64K XRAM card; music samples, system tester, much more.
 CP/Mutil01: a variety of utility .COM files for CP/M.

PINBALL GAMES LIBRARY

PBgames (volumes 01 thru 04): 10 pinball games each; self-booting.

MISCELLANEOUS COLLECTIONS LIBRARY

MWplus01: a collection of improvements to MultiWrite (required); by Jim Guenzel.
 N&Bacalc01: several paradigm and other files; 149K; by Terry Fowler.
 EZpak: self-booting medium; contains EZmenu & EZcopy.
 ezFILER: self-booting medium; contains nice BASIC address filer.
 SHAPEMAKER: several font shape tables; nice shape design utility; by Guy Cousineau.
 N&Blogo01: a variety of SmartLOGO (required).
 One Minute Formatter: 1 or 2 drives, single or double sided, same time, plus more.
 MusicBOX (vol 1 & 2): 10 SmartTUNESsongs each, plus instructions, and more.

Volume Title: N&Bpix013
(13 hi-res pictures in SmartPAINT format)

stereo.HRP (drawing of a cassette player)
7phone.HRP (drawings of 7 different types of telephones)
Coke.HRP (drawing by Anthony Yulo of a can of Coke™)
hambrg.HRP (drawing by Anthony Yulo of a hamburger and soft drink)
sundae.HRP (drawing by Anthony Yulo of an ice cream sundae)
W.E.C.HRP (a drawing of Wile E. Coyote of Road Runner cartoon fame)
dancer.HRP (drawing of two oriental dancers)
corner.HRP (drawing of a dilapidated street corner)
snoopy.HRP (drawing of Snoopy sleeping on his dog house)
pencil.HRP (drawing by Bryan Payton of a large pencil)
Max.HRP (drawing of Max Headroom with glasses on)
dwarfs.HRP (drawing of Walt Disney's depiction of Snow White's dwarfs)
pool.HRP (drawing of an above ground swimming pool)

Volume Title: N&Bpix014
(13 hi-res pictures in SmartPAINT format)

HMS.HRP (Her Majesty's Ship 377 - missile cruiser; by Anthony Yulo)
airprt.HRP (drawing a desert airport; by Anthony Yulo)
madman.HRP (drawing by Anthony Yulo of a man in a straight jacket)
bridge.HRP (drawing of the Golden Gate bridge)
review.HRP (header for "software reviews")
letter.HRP (header for "letters to the editor")
board.HRP (header for "bulletin board")
phones.HRP (header for "over the phone lines")
ADAM.HRP (drawing of ADAM system and giant letters)
screen.HRP (PowerPAINT screen layout used in manual)
things.HRP (drawings of assorted 3D objects)
bthDAY.HRP (drawing of HAPPY BIRTHDAY in large letters with balloon)
xmas.HRP (assorted Christmas drawings)

Volume Title: N&Bpix015
(13 hi-res pictures in SmartPAINT format)

Kirk.HRP (drawing of William Shatner as Captain Kirk of Star Trek)
McCoy.HRP (drawing a DeForest Kelly as Dr. McCoy of Star Trek)
orbit.HRP (digitized photo of Enterprise in planet orbit)
BTpic.HRP (final title screen from Beyond Trek game)
STNG01.HRP (digitized photo of Capt. Picard from new Star Trek)
STNG02.HRP (digitized photo of Dr. Crusher from new Star Trek)
STNG03.HRP (digitized photo of Cmdr. Riker from new Star Trek)
STNG04.HRP (digitized photo of Cnslr. Troi from new Star Trek)
STNG05.HRP (digitized photo of Lt. Cmdr. Data from new Star Trek)
STNG06.HRP (digitized photo of Sec. Chf. Yar from new Star Trek)
STNG07.HRP (digitized photo of Lt. Wolf from new Star Trek)
STNG08.HRP (digitized photo of Lt. LaForge from new Star Trek)
Yamato.HRP (drawing spaceship battle cruiser "Yamato")