

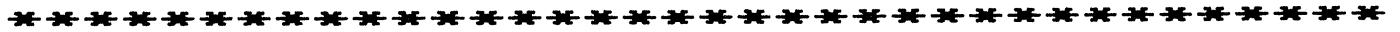


Multi-function User Group
MONTHLY NEWSLETTER-PUBLIC DOMAIN LIBRARY
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I hope you are all having a great summer. Continuing our study in Ephesians Chapter 5.

Therefore be imitators of God, as beloved children.

2And walk in love, as Christ loved us and gave himself up for us, a fragrant offering and sacrifice to God.

3But immorality and all impurity or covetness must not even be named among you, as is fitting among saints.

4Let there be no filthiness, nor silly talk, nor levity, which are not fitting; but instead let there be thanksgiving. 5Be sure of this, that no immoral or impure man, or one who is covetous (that is an idolater), has any inheritance in the kingdom of Christ and of God.

6Let no one deceive you with empty words, for it is because of these things that the wrath of God comes upon the sons of disobedience. 7Therefore do not associate with them, 8for once you were darkness, but now you are light in the Lord; walk as children of light 9(for the fruit of light is found in all that is good and right and true), 10 and try to learn what is pleasing to the Lord.

In chapter 5 Paul continues with his instructions to the Church by first stating that they should be imitators of God, as children. Having the right role model is extremely important for children, it can have a great impact (positive or negative) on a child's attitudes and overall personality. Paul says that our major role model should be God, our heavenly father. It is unfortunate that the world sets up movie stars, singers, etc. as role models for children and leads them into idolizing these people because they are "cool", pretty, handsome, etc.. We as a tough job to teach our children what are the true values they should embrace and that the lifestyles these so called "idols" lead only ends up in destruction. The recent string of cocaine overdose deaths of some athletes is an all too clear example of this. God's WORD (the Bible) contains the truths, values and teachings that we all need to use as a role model.

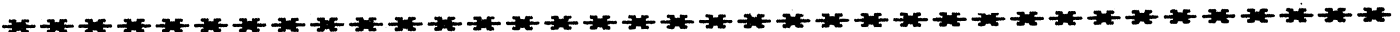
The second instruction given is to love others as Christ loved us, using the example of the fact that Jesus suffered and gave up his life for us. I do not believe that we are asked to suffer as Jesus did, but to give

ourselves in love to others, which was the motivation behind Jesus' sacrifice. The Gospel of John states that the two greatest commandments are to first love God with all our might and to second love each other as Christ loved us. Loving others who do not act loving to us is difficult to say the least, but is required of us never the less. It helps me to remember that God loves me when I don't act nice! In fact, He loved me when I was a sinner, when I stated there was no God, when I used His name in vain and did not recognize the fact that Jesus suffered and died for the payment of my sins and to give me eternal life. What an example of Godly love, for Him to "put up" with us and still love us so much that He sent His only Son to redeem us and bring us back to Him. If we can keep this fact in our thoughts at all times it will definitely help us to love others!

Paul goes on in verses 3 - 10 with some specific instructions to the Church. These instructions are not rules in and of themselves but flow out of verses 1 and 2 which is why Paul wrote them first. We humans tend to look for rules to follow and lose sight of the principals they are based on. We can only follow God's rules if we allow His Spirit, which came into us when we accepted Jesus as our Lord and Saviour, work in us to change us. This change can not come about by the power of our own will, but by God's Spirit at work in us renewing our mind. We must remember that it is because of Jesus that we are redeemed from sin, not because of our good deeds. God Bless you all.

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CONTRIBUTORS: W. Motel; C. Kolander; B. Lennes; D. Zimmerman



## NIAD NEWS

. BUSY BUSY BUSY I have been. Although summer is typically a slow time for computer software, supplies, etc. we have processed so many new members over the last 2 months that our workload has not decreased, but increased. Hence, we have added more part time employees to the NIAD roster. I thank God for Sandy, Eileen, Mary and of course my wife Julie who holds the house together while all this is going on !!

. The US Mail really messed us up this time on the First Class mailing of the June issue. They held them for 4 days and then said I needed additional postage !! Sorry for the delay this caused for you US First Class people.

. Issue #'s were goofed up by yours truly. Both the March and April issues were numbered 15, May was incorrectly numbered 16. I corrected the problem with June which was correctly numbered 18. As a result, there is no issue #17, but no one has missed any issues. Whew - hope that makes sense to you !

. The SMARTFiler fix is a great hit but there is one thing you must be aware of. The spacing between mailing labels is set up on the "fixed" version for small labels. If you need additional spaces between labels, which will be readily apparent when you try to print labels, you must insert 1 or 2 carriage returns PRIOR to your name and address format as follows:

↓ carriage return only  
↓ carriage return only  
[First name] [Last name]  
[Street]  
[City], [State] [Zip]

. Family Computing magazine has a survey in the August issue that I want ALL of you to fill out and send in. It is a survey on game preferences and they have a list of computers INCLUDING the Coleco ADAM! Our ADAM is not often listed along with the Commodores, Apples, etc. and when it is I think we should make sure we respond in volume. Please pass this along to your ADAM friends, User Groups and have them all send in the survey.

. LOGO is a super language that is all color graphics oriented and especially useful for getting young children into using the computer and actually programming it. The August issue of Family Computing has a feature article on Logo that applies to ADAM SMARTLogo. Some examples are given and a good list of books is provided. Read up on it, you Logo buffs.  
Note that we now have a second volume of Logo on our PD list and a Logo program in this issue.

. The disk drive situation is as follows. I only received 10 out of the 25 drives that were "supposedly" PAGE 1

shipped in early June. I hope that the others will be here by the time you read this. This will be it for the Coleco drives - there will be no more new ones. You may be able to find some rebuilt ones, however.

Eve Electronics is progressing on there single and double sided drives - see Updates.

. Modems are also a problem. I did not receive the quantity I was promised. I have found another source and should have plenty by the first week of August. Sorry for the delay, but my hands are tied. I appreciate your patience. The same problem exists with the Super Action Controller sets.

. The Quickcopy copy program has been modified to correctly copy to right directory (SuperGame) tapes without using the procedure described in last months issue. Send in your tape/disk and \$3.00 if you want the upgraded version.

. 2010: Text Adventure is now available for those of you that have patiently waited for us to fill your backorders.

. Chicago Local Chapter meetings are held the first Thursday of each month at the Glenside Library, 25 East Fullerton in Glendale Hts, IL.. The next meeting is August 7th at 7:00 PM.

. A SMARTBasic class is being considered for you Chicago area people. A one day class for a modest fee is what we are planning. Please let me know if you are interested.

. The Signshop enhancement to allow printing to a dot matrix printer is still having the kinks worked out. We should have it done next month.

. Bob Wright reports that his BBS will be down for the next month or so.

. Renewals - Get your renewals in early to insure you don't miss any issue. If "0786" are the first 4 digits of your member number this is your last issue.

### NIAD product information - SPECIALS

- . Double Sided disk drive upgrades - \$139.95 each or two for \$265.00 (must be packaged together).
- . 1985 ADAM Resource Directory \$9.95
- . 3 1/2 by 15/16 " tractor feed address labels \$6.95/1000
- . 9 1/2 by 11" 20 LB tractor feed with "clean edge" perforations \$3.95/ 100 or \$19.95/1000
- . Six ribbons for \$25.95
- . Right directory tapes for copying Supergames \$2.50
- . Reconditioned data drives \$19.95
- . Super Zaxxon \$10.95

## NEW PRODUCTS

- . Trivia Pack I
- . Jeopardy Question Pack
- . Reedy Entertainment Pack
- . Media Aid Utilities Pack
- . Multiwrite word processor
- . Electronic Games Pack
- . PIA2 Parallel printer interface
- . Number Bumper math arcade game
- . Quickcopy backup utility program
- . Paintmaster Hi Res painting program
- . Signshop sign/picture printing program
- . Powerprint print formatting program
- . New Infocom CP/M text adventure games
- . Rocky Super Action Boxing
- . Super Sub Roc PD game
- . 80 Column Video board
- . Disk drives - single and double sided

## NIAD Services

- . Disk conversion of Super games - Buck Rogers, Super Zaxxon, Dragon's Lair, 2010: Text Adventure, Donkey Kong and DK Jr., Recipe Filer, Smart Letters & Forms, Family Feud - send in the card label from your data pack as proof of purchase and \$4.00
- . Replacement SMARTBasic tapes \$7.00
- . ADAMLink II Telecommunications software for upload and download of programs \$7.00
- . Fix SMARTFiler tapes (send yours in) to provide the ability to print mailing labels by correcting the spacing problem and give you the latest bug free version \$4.00
- . Updates or fixes to damaged Public Domain tapes \$3.00.

## UPDATES

. The new Eve disk drives are moving along but availability of some parts will delay initial shipments until early September. Eve has indicated that the instability of the electronics "chip" prices may cause some fluctuation in the price of the units. Unless the prices go up dramatically, NIAD will hold our quoted price until September 1st. We feel that strongly that these drives have to be made available at a reasonable price - we will even sacrifice our profit to do so !!

I want to thank Eve for "stepping out in faith" to produce an ADAM disk drive. This is a costly investment on their part for a computer that is no longer being manufactured, but I think the demand is there for disk drives. We have received many orders already, especially for the double sided drive which is encouraging. I just received one of my drives back after being upgraded to double sided - 320K of space on one diskette is fantastic! Note that under CP/M there is only 254K available in addition to the system and directory space for a total of 270K per diskette due to a limitation of ADAM CP/M 2.2..

. Nibbles & Bits is a new newsletter published by a start up ADAM only company called Digital Express of 1203 Northwoods Dr; Kings Mtn, NC 28086. I talked to Luke Whitman, who runs Digital Express, and he seems committed to the ADAM and has many good ideas and plans for Nibbles. Luke is also doing software development for the ADAM which is great. The ADAM needs more high quality software. His first project is Intel-LOAD, which is a "fast load" program for SMARTBasic files. There are a few of these programs around (TurboLoad, Basic Manager reviewed in previous NIAD issues), but Intel-LOAD offers some extras. See our review in this issue. Digital Express will be coming out with another product shortly that sounds very good - Intel-BEST 3.3 is a comprehensive set of enhancements to SMARTBasic. We will have a review on this next month. Also see the NIAD News section for information about Data Doctor and Digital Express.

The premiere issue of Nibbles is packed with good information. There are a total of 29 pages. A nice two column right justified format is used, there are 42 characters per column (NIAD has 59 as a comparison) resulting in good readability but not alot on each page. Luke has stated that he wants to provide a comprehensive newsletter for both beginners and the more advanced programmer. He has certainly done this in his first issue. There is a nice "intro to computers" section followed by some "beginners basic" information. There is a "Hacker's" section that gets into assembly language programming and some details on the ADAM video chip processing. These sections include some nice routines and programs as well. Overall, I think this issue was well done and would recommend Nibbles to you. The real question is what will come in future issues. Lets hope they are as good as the premiere issue.

. Orphanware is working on a 1200 baud modem for the ADAM as well as expanded memory cards (128 and 256K). We will keep you informed of their progress.

. QUICKCOPY is a great copy utility program as many, many of you have found out. Glenn Gabarik, the developer of Quickcopy is working on a comprehensive set of utilities, all done in machine language that will reside in an expanded memory expander for use at any time from almost all of the ADAM programs !! These memory resident utilities will provide many additional and useful functions for the serious ADAM software user. Watch for updates in future issues. It is great that so many quality developers are supporting our little orphan, the ADAM.

. Mr. T software is a new developer that shows alot of promise. His first product, Trivia Pack I is excellent. It is a full fledged Trivia game with 1200 questions built in! See our review in this issue.

. Super Action Soccer has not arrived yet. I had hoped to have a review on it this month, but I guess we'll have to wait.

## PUBLIC DOMAIN WORKSHOP

. ADAM's Future is being questioned by some people who may want to see it dead before its time. The ADAM is still an excellent home computer system that is geared for the average person, who does not have alot of experience with computers. In fact, many of you state that the ADAM is "over your head", and we try to provide the help you need to get the most out of your system. The ADAM is a great word processing system, providing the capability to produce most types of documents with typewriter quality output. The ADAM is also a full fledged computer capable of running Basic and CP/M programs. It is also an advanced game machine with some of the best, classic games available. The ADAM owner has access to a wealth of software and hardware, plenty to keep us all busy at the keyboard if we wanted to. Public Domain programs are abundant and contain some great game titles as well (Pinball, Super Sub Roc, Jeopardy, etc.).

Now, let's talk about what the ADAM isn't, which is where many people get frustrated.

The ADAM is not a comprehensive, business wordprocessor supporting advanced features. These type of word processing programs cost \$100 - \$250 for most computers and are not needed for most home and small business applications.

The ADAM is not an IBM PC computer with alot of memory or expensive software.

The ADAM is not a state of the art graphics or game system.

The issue is what do we as home or small business users NEED. I would propose that most of us are not getting the full benefit out of our ADAMs and would get even less out of a larger, more expensive computer. If we can't use the ADAM to 100% capacity, do we need another computer? We should all ask ourselves this question. On the other hand,

I have recommended to some people who had large applications (professional writers, medium sized business') that a larger computer would be required to meet their needs.

If games is your "thing", I wouldn't buy a Commodore or Apple but would consider a dedicated game system like Nintendo or Sega. The continual improvement in color graphics chips and software will always result in new, specialized systems like these that will out perform a multi-purpose computer. There is no reason to not have both a sophisticated game system and a home computer, each serving their purpose. Obviously, this is what Nintendo and Sega have figured out.

In conclusion, the ADAM is what it is - a home/ small business system that will meet most needs. ADAM still has plenty of software and hardware support at reasonable prices. My advice is to not "jump" to a larger system unless your need truly warrants it. You will find yourself out some money and more frustrated then you are now!

. The CP/M 2.2 library is up to 21 volumes, SMARTBasic is now 16 volumes, ADAMCalc 2 volumes, Logo 2 volumes and Utilities 2 volumes. NIAD has the most extensive and highest quality set of ADAM Public Domain libraries that I am aware of based on comments from you. SMARTBasic volume 12 listed below is a good example - look at the wealth of programs on this one volume! The PD librarians put in alot of time and energy to create these libraries for you. I see our PD libraries popping up all over the place!! I have no problem with this, since that is what PD is all about. The only thing I ask is that the NIAD librarians be given the recognition for their work and other User Groups not claim these PD volumes as "theirs".

Please do not submit programs to the PD library that we already have or ones that are published in Family Computing. We will return these to you if you do!

. As noted in previous PD workshops, we updated several of the PD library volumes. You may get these updates by sending in your tape/disk and \$3.00.

. Pinball Games Volume I is almost done, we want to add a couple more games.

NIAD SmartBasic Public Domain  
Program Descriptions #BNDV12  
by Bob Lennes

- \*SNAFU- the classic computer game in which you build up a tail with your player, trying to cut off your opponent before you get cut off yourself.
- \*SNAFU.ASM- Fast-loading version Type 'BRUN SNAFU.ASM'
- \*jingle- play the jingle bell song
- \*RENROBOT- (low-res graphics) You must maneuver through the doors and halls to the center while avoiding the renegade robot who is after you. This game requires quite a bit of skill.
- \*mask- draws a low-res graphics mask
- \*egg- Several eggs are hidden in different rooms- you must guess their color
- \*babybox- everytime a key is pushed, the screen changes colors and ADAM plays a musical note
- \*mirror- Draw 'reflective' lines
- \*CARDCALL- this is a modified version of the CARDCALL program seen in NIAD newsletter #15 (April, '86). It will set the line length to 240 and load the program you wish
- \*BBTOTALS- keeps track of your baseball card collection
- \*BBTOTALDOC- See this for info. on above program
- \*turkmusic- plays a song
- \*Z80DSMBLR- A very good ADAM disassembler program
- \*Z80.ASM- fast loading version- type 'BRUN Z80.ASM'.
- \*TYPEdrill- tests you on your ability to find keys on the keyboard. You can choose the skill levels.
- \*MAZECREATE- Lets you create mazes for the screen or on

the printer. You can then try to get through it.

- \*MAZE.ASM- fast-loading version- type BRUN MAZE.ASM
- \*MAZE.DOC- see this for instructions on MAZECREATE.
- \*GUNNER- set your trajectory and try to shoot your enemy. See GUNNERDOC for instructions
- \*CATCLEAN- Clears away deleted files from your directory and resets the blocks free. Be careful- the changes made by this pgm. are permanent!
- \*wordwar- try to beat your opponent with a higher valued word.
- \*CANNONS- High-res graphic cannon duel
- \*WILDADVTR- Wild Adventure (text)

## SMARTBASIC WORKSHOP

### GRAPHICS (TEXT in GR/HGR) By W. MOTEL

In the CUBE program, I've used a little routine to spice up the text portion of the display. Hopefully, this article will explain the procedure and give you a little insight into VRAM. Video RAM is nothing more than a special 16K (16,384 bytes) used for the video display (text or graphics). It can be divided up in many different ways (depending on the graphics mode you are using). Special registers keep track of where the various areas start in VRAM. Within the VRAM is the COLOR areas, the PATTERN areas (text and graphics), SPRITE areas, etc. Depending on the graphics mode used, the COLOR area can represent the color for actual screen locations or the color associated with one character or a group of characters.

The PATTERN areas can be patterns within a screen location created by BASIC commands (such as HLIN, HPLLOT, PLOT) or they can represent the patterns for our text characters. In my usage in CUBE, I want to change the colors for certain text characters. On the normal text screen, a color is associated with a group of 8 text characters. In the GR/HGR mode, each text character has its own color associated with it. Unfortunately, not all text characters are available in GR/HGR mode. The only text characters available are those associated with ascii codes 32 thru 127 (96 characters). These DO NOT include inverse characters (ascii values > 127), nor some of the special characters (ascii value < 32).

Think about a text character being defined as a pattern of 8 by 8 dots. Some are on, some are off. This 8 x 8 pattern is the 8 bits per byte, by 8 bytes. The first byte is the top 8 bits, the second byte the next row of 8 bits, thru the 8th byte being the bottom row of 8 bits. Each 8 bytes of the character pattern have an associated 8 bytes of COLOR code in the COLOR area of VRAM. The color bytes use the same type of coding as for POKEing into the background/text changes. Here the upper 4 bits of a color byte (using the color codes 0 - 15) show the color for the

character and the lower 4 bits denote the background color. The only difference is that we change 8 color bytes for each text character. Whenever the character is displayed on the GR/HGR screen, the letter/background will be the colors you have set. Notice, this means you can have a string of text, where each character is a different color, as is it's background. If you want to be really fancy, you can have the top half of the character one color (1st 4 bytes of color code) and the bottom half another color (the 2nd 4 bytes of color code).

For GR/HGR, the color portion for the text characters are stored at VRAM locations 5376 thru 6143 (decimal). Remember, this is not the same address as regular memory, but the address within VRAM. VRAM is not normally available to you thru BASIC, but only thru special machine language coding, using COLECO operating system routines.

In terms of addressing, 5376 thru 6143 can be expressed as 21-00, 22-00, and 23-00. This is 3 pages (a page is 256 bytes) or 768 bytes. Remember, we said these 768 bytes are where the color codes are stored for text characters in GR/HGR mode. The only text characters available were ascii values 32 - 127. These 96 characters, each character using 8 color bytes, give us 96 x 8 = 768 bytes. If you look at your BASIC manual (C12 - C15), you will see the ascii values (decimal) and the equivalent display characters.

Ascii values 32-63 (space thru ?) color codes are within VRAM page 21-00 thru 21-255. Ascii 64-95 (@ thru .) are within page 22-00 thru 22-255. Ascii 96-127 (' thru small letters) are within page 23-00 thru 23-255. Each character uses 8 bytes within the page. Notice each page is used for 32 characters, 32 x 8 = 256, the page size.

Remember, this is applicable only for the text portion of GR/HGR. Notice, there is no room to store characters below ascii value 32 or characters above ascii value 127 (INVERSE). This is why you cannot display these on the GR/HGR screen.

Below is an explanation of the machine language routine at line 5000 thru 5020. The routine is loaded into memory starting at address 27450. I use variable ge to denote this starting address.

```
ge      33 00 21 LD HL,"VRAM address"
ge+3    17 00 03 LD DE,"move count"
ge+6    62 245   LD A,"color code",
ge+8    205 38 253 CALL "put (A) to VRAM for DE
count"
ge+11   201     RETURN
```

Remember, the address/values are put in as the LO portion then the HI portion. The actual value is LD + (HI \* 256). the LOAD HL is initially set to 21-00 and the count LOAD DE is initially set to 03-00. A is loaded with 245 (hi 4 bits is 15 and lo 4 bits is 5). This is white letter (15) on blue background (5). All text characters are initially set to this. VRAM 21-00 (5376) for a count of 03-00 (768 bytes).

This initial call is within line 2680. After the initial setting, I change the HI portion of the LOAD HL and the HI portion of the LOAD DE count to 0. These are then selectively changed in line 5050 - 5090.

See if you can figure out what characters and what color combinations are being set in lines 5050 - 5090. We

will finish up next month.

One last thing at line 2680. POKE 16953,32 sets the cursor to a space (invisible). Line 2240 (normal game end) sets it back to ascii value 95. If you break the game in the middle without doing the normal end, you will not have a cursor. Simply do the POKE 16953,95 and TEXT to reset.

MAD CUBE By W. Motel

This is a computerized version of RUBIK's CUBE. The

program was adapted by me from an APPLE version published in NIBBLE magazine (1982). The screen displays the 6 faces of the cube. Each face contains 9 squares, 3 columns by 3 rows. The faces are unfolded. This may get some getting use to.

The instructions in the program, fully explain the display setup and the use of the controller. You can even save a game for later replay.

I did not put any sophisticated error traps on the SAVE/LOAD functions. The last drive used is the default drive used for the SAVE/LOAD. If you want, you can enhance this to prompt for a drive.

Basically, you can ROTATE the faces (change the view as to the front face) or MOVE the rows or columns on the front face up/down or left/right. One thing you also do with a real cube is "SWIVEL" a face, that is turn it clockwise or counter-clockwise. This is accomplished here by 3 steps. Use a real cube to see for yourself.

Assuming you want to swivel the front face

1. ROTATE the front face LEFT
2. MOVE the left column  
UP for counter-clockwise turn  
DOWN for clockwise turn
3. ROTATE the front face RIGHT

The original face is now back in view, and it has been "turned". This is nothing magical but simply what is actually being done with a cube "SWIVEL". As I said, try it with a real cube, and you'll see what I mean.

One thing I did do is add a little fancier text display on the GR screen. This is explained in my GRAPHICS article, elsewhere in the issue.

Hope you have fun with this and fine the graphics display helpful in some of your own programs.

5REM MAD CUBE ADAPTED FROM NIBBLE MAGAZINE FOR THE ADAM BY  
W. MOTEL

8LDMEM :27500

10POKE 17115, 245:POKE 17126, 75:TEXT:GOTO 2340

30REM

40FOR v=x TO x+1:VLINE y, y+1 AT w:NEXT w

50RETURN

70REM

80FOR fa=0 TO 11

90FOR ro=0 TO 2

100FOR co=0 TO 2

105IF fa=0 OR fa=2 OR fa=6 OR fa=8 OR fa=9 OR fa=11 THEN  
150

110 x=(fa-INT(fa/3)\*3)\*9+co\*3+6

120 y=INT(fa/3)\*9+ro\*3

130COLOR =nc(fa, ro, co)

140GOSUB 30

150NEXT co:NEXT ro:NEXT fa

160RETURN

200FOR ro=0 TO 2:FOR co=0 TO 2: hc(ro, co)=nc(of, ro,  
co):NEXT co: NEXT ro

210FOR nr=0 TO 2:FOR mc=0 TO 2

220 dr=mc: oc=2-nr

230 nc(nf, nr, mc)=hc(dr, oc)

240NEXT mc:NEXT nr

250RETURN

270FOR ro=0 TO 2:FOR co=0 TO 2: hc(ro, co)=nc(of, ro,  
co):NEXT co:NEXT ro

280FOR nr=0 TO 2:FOR mc=0 TO 2

290 dr=2-mc: oc=nr

300 nc(nf, nr, mc)=hc(dr, oc)

310NEXT mc:NEXT nr

320RETURN

340 nf=6: of=3:GOSUB 200

350 nf=8: of=5:GOSUB 270

360 nf=9: of=6:GOSUB 200

370 nf=11: of=8:GOSUB 270

380 nf=0: of=9:GOSUB 200

390 nf=2: of=11:GOSUB 270

400RETURN

410REM \*\*\*\*\*

420REM ROTATE AXIS

430GOSUB 3500:GOSUB 3700:GOSUB 3800:REM get  
direction

435IF dr%2=1 THEN 690

440IF dr%2=2 THEN 550

450IF dr%2=4 THEN 620

460IF dr%2=8 THEN 480

470GOTO 430

480REM ROTATE AXIS LEFT

490 ro=0:GOSUB 1770

500 nf=1: of=1:GOSUB 270

510 ro=1:GOSUB 1770

520 ro=2:GOSUB 1770

530 nf=7: of=7:GOSUB 200

540GOTO 1950

550REM ROTATE AXIS RIGHT

560 ro=0:GOSUB 1700

570 nf=1: of=1:GOSUB 200

580 ro=1:GOSUB 1700

590 ro=2:GOSUB 1700

600 nf=7: of=7:GOSUB 270

610GOTO 1950

620REM ROTATE AXIS DOWN

630 co=0:GOSUB 1600

640 nf=3: of=0:GOSUB 1890

650 co=1:GOSUB 1600

660 co=2:GOSUB 1600

670 nf=5: of=2:GOSUB 1890

680GOTO 1950

```

690REM          ROTATE AXIS UP
700 co=0:GOSUB 1530
710 nf=3: of=6:GOSUB 1890
720 co=1:GOSUB 1530
730 co=2:GOSUB 1530
740 nf=5: of=8:GOSUB 1890
750GOTO 1950
760REM          *****
770REM          INPUT MOVES
780VTAB 20:HTAB 1:? CHR$(7); :? CHR$(7);
790HOME:VTAB 21:HTAB 3:? "MOVE 1b";

791VTAB 22:HTAB 3:? "ROTATE rb";
792VTAB 23:HTAB 3:? "OTHER *";
795 bl$="CENTER ": dr$="UP ": dr%=1: bl%=5
800IF PDL(13)=10 THEN 2220:REM other
810IF PDL(7)=1 THEN tp%=1: tp$="MOVE ":GOTO 840
820IF PDL(9)=1 THEN tp%=2: tp$="ROTATE ":GOTO 430
830GOTO 800
840GOSUB 1970:REM get move face block
845GOSUB 3500:GOSUB 3650:GOSUB 3700:GOSUB 3800:REM
get move direction
850IF bl%=4 THEN 900
855IF bl%=6 THEN 1010
860IF bl%=2 THEN 1120
870IF bl%=8 THEN 1230
880IF bl%=5 THEN 1340
885GOTO 840
890REM          *****
900REM          LEFT COL MOVE
910IF dr%=1 THEN 980
940REM          MOVE DOWN
950 co=0:GOSUB 1600
960 nf=3: of=0:GOSUB 1890:GOTO 1950
970REM          MOVE UP
980 co=0:GOSUB 1530
990 nf=3: of=6:GOSUB 1890:GOTO 1950
1000REM          *****
1010REM          RIGHT COL MOVE
1020IF dr%=1 THEN 1090
1050REM          MOVE DOWN
1060 co=2:GOSUB 1600
1070 nf=5: of=2:GOSUB 1890:GOTO 1950
1080REM          MOVE UP
1090 co=2:GOSUB 1530
1100 nf=5: of=8:GOSUB 1890:GOTO 1950
1110REM          *****
1120REM          TOP ROW MOVE
1130IF dr%=8 THEN 1200
1160REM          MOVE RIGHT
1170 ro=0:GOSUB 1700
1180 nf=1: of=1:GOSUB 200:GOTO 1950
1190REM          MOVE LEFT
1200 ro=0:GOSUB 1770
1210 nf=1: of=1:GOSUB 270:GOTO 1950
1220REM          *****
1230REM          BOTTOM ROW MOVE
1240IF dr%=8 THEN 1310
1270REM          MOVE RIGHT
1280 ro=2:GOSUB 1700

```

```

1290 nf=7: of=7:GOSUB 270:GOTO 1950
1300REM          MOVE LEFT
1310 ro=2:GOSUB 1770
1320 nf=7: of=7:GOSUB 200:GOTO 1950
1330REM          *****
1340REM          CENTER ROW or COL
1350IF dr%=1 THEN 1500
1360IF dr%=8 THEN 1440
1370IF dr%=4 THEN 1470
1400REM          MOVE RIGHT

1410 ro=1:GOSUB 1700
1420GOTO 1950
1430REM          MOVE LEFT
1440 ro=1:GOSUB 1770
1450GOTO 1950
1460REM          MOVE DOWN
1470 co=1:GOSUB 1600
1480GOTO 1950
1490REM          MOVE UP
1500 co=1:GOSUB 1530
1510GOTO 1950
1520REM          *****
1530REM          MOVE CO UP
1540 fa=1:GOSUB 1670:REM save
1550 nf=1: of=4:GOSUB 1690
1560 nf=4: of=7:GOSUB 1690
1570 nf=7: of=10:GOSUB 1690
1580 fa=10:GOSUB 1680
1590RETURN
1600REM          MOVE CO DOWN
1610 fa=10:GOSUB 1670:REM save
1620 nf=10: of=7:GOSUB 1690
1630 nf=7: of=4:GOSUB 1690
1640 nf=4: of=1:GOSUB 1690
1650 fa=1:GOSUB 1680
1660RETURN
1670FDR ro=0 TO 2: hc(ro, co)=nc(fa, ro, co):NEXT
ro:RETURN
1680FDR ro=0 TO 2: nc(fa, ro, co)=hc(ro, co):NEXT
ro:RETURN
1690FDR ro=0 TO 2: nc(nf, ro, co)=nc(of, ro,
co):NEXT:RETURN
1700REM          MOVE RO RIGHT
1710 fa=4:GOSUB 1840:REM save
1720 nf=4: of=3:GOSUB 1860
1730 nf=3: of=10:GOSUB 1870
1740 nf=10: of=5:GOSUB 1880
1750 fa=5:GOSUB 1850
1760RETURN
1770REM          MOVE RO LEFT
1780 fa=4:GOSUB 1840:REM save
1790 nf=4: of=5:GOSUB 1860
1800 nf=5: of=10:GOSUB 1870
1810 nf=10: of=3:GOSUB 1880
1820 fa=3:GOSUB 1850
1830RETURN
1840FDR co=0 TO 2: hc(ro, co)=nc(fa, ro, co):NEXT
co:RETURN
1850FDR co=0 TO 2: nc(fa, ro, co)=hc(ro, co):NEXT
co:RETURN

```

```

1860FOR co=0 TO 2: nc(nf, ro, co)=nc(of, ro, co):NEXT
co:RETURN
1870FOR co=0 TO 2: nc(nf, ro, co)=nc(of, 2-ro, 2-co):NEXT
co:RETURN
1880FOR co=0 TO 2: nc(nf, 2-ro, co)=nc(of, ro, 2-co):NEXT
co:RETURN
1890REM          COPY FACE OF TO NF
1900FOR ro=0 TO 2

1910FOR co=0 TO 2
1920 nc(nf, ro, co)=nc(of, ro, co)
1930NEXT co:NEXT ro
1940RETURN
1950GOSUB 340:GOSUB 70
1960GOTO 770
1970REM          BLINK POSITION
1980GOSUB 3500:GOSUB 3600
1985IF PDL(13)=0 THEN POP:GOTO 770:REM          clear 0
1990IF PDL(9)=1 THEN 2200:REM          do move (rb)
1995IF PDL(13)=15 THEN 1985:REM          no press
2002IF PDL(13)=2 THEN bl%=2: bl$="TOP    ROW":GOTO 2020
2004IF PDL(13)=4 THEN bl%=4: bl$="LEFT   COL":GOTO 2020
2005IF PDL(13)=5 THEN bl%=5: bl$="CENTER":GOTO 2020
2006IF PDL(13)=6 THEN bl%=6: bl$="RIGHT  COL":GOTO 2020
2008IF PDL(13)=8 THEN bl%=8: bl$="BOTTOM ROW":GOTO 2020
2010GOTO 1985
2020GOSUB 3550
2040 ro=1: co=1
2050IF bl%=4 THEN co=0
2060IF bl%=6 THEN co=2
2070IF bl%=2 THEN ro=0
2080IF bl%=8 THEN ro=2
2090 hc(ro, co)=nc(4, ro, co): nc(4, ro, co)=bk
2100GOSUB 2140
2110 nc(4, ro, co)=hc(ro, co)
2120GOSUB 2140
2130GOTO 1985
2140REM          DRAW SQUARE AT FA<R0<C0
2150 fa=4
2160 x=(fa-INT(fa/3)*3)*9+co*3+6
2170 y=INT(fa/3)*9+ro*3
2180CDLOR =nc(fa, ro, co)
2190GOSUB 30
2200RETURN
2220REM          SAVE GAME
2230HOME:? " SAVE this GAME (y/n) "; :GET z$?:IF z$="Y"
OR z$="y" THEN 2270
2240? " CONTINUE (y/n) "; :GET z$?:IF z$="N" OR z$="n"
THEN POKE 16953, 95:TEXT:END
2250GOTO 770
2270HOME:? " SAVING GAME": d$=CHR$(4):? " INSERT
MEDIA":? " ANY KEY when READY "; :GET z$?:
2275? d$; "OPEN CUBESAVE"
2280? d$; "WRITE CUBESAVE"
2290 fa=3:GOSUB 2320: fa=1:GOSUB 2320: fa=5:GOSUB 2320:
fa=4:GOSUB 2320: fa=7:GOSUB 2320: fa=10:GOSUB 2320
2295? d$
2300? d$; "CLOSE CUBESAVE":GOTO 2240
2320FOR ro=0 TO 2:FOR co=0 TO 2: nc(fa, ro, co):NEXT
co:NEXT ro:RETURN
2340REM

```

```

2370 bk=0: rd=1: bl=14: gn=4: br=7: ng=9: ye=13: wh=15
2380DIM nc(11, 2, 2), hc(2, 2)
2390HOME:VTAB 3:HTAB 5:? "C U B E Rich"
2391VTAB 5:HTAB 5:? "U      B      Hatcher"
2392VTAB 7:HTAB 5:? "B      U      MICRO-SPARC"
2393INVERSE:VTAB 5:HTAB 8:? "M"; :VTAB 6:HTAB 9:? "A";
:VTAB 7:HTAB 10:? "D"; :NORMAL
2394VTAB 9:HTAB 5:? "E B U C      1981"
2395VTAB 13:HTAB 6:? "NIBBLE  1982 (APPLE)"
2396VTAB 16:HTAB 6:? "Adapted for ADAM by"
2397VTAB 18:HTAB 9:? "W. MOTEL NIAD"
2400VTAB 21:? " INSTRUCTIONS (y/n) "; :GET y$?:IF
y$="Y" OR y$="y" THEN GOSUB 2900
2410GOTO 2660
2660? " LOAD saved game (y/n)":GET x$?:IF x$="Y" OR
x$="y" THEN 2740
2670REM          *** initialize graphics ***
2680POKE 16953, 32:6R:GOSUB 5000:CALL qe:POKE qe+2, 0:POKE
qe+5, 0:GOSUB 5050
2690COLOR =br
2700FOR r=0 TO 1:HLIN 6, 31 AT r*9+8:NEXT r
2705HLIN 14, 23 AT 26
2710FOR c=0 TO 1:VLIN 0, 34 AT c*9+14:NEXT c
2720IF x$="Y" OR x$="y" THEN 2880
2730GOTO 2820
2740REM          ** read saved game **
2745HOME:? " LOADING GAME ": d$=CHR$(4):? " INSERT
MEDIA":? " ANY KEY when READY "; :GET z$?:
2750? d$; "OPEN CUBESAVE"
2755? d$; "READ CUBESAVE"
2770 fa=3:GOSUB 2800: fa=1:GOSUB 2800: fa=5:GOSUB 2800:
fa=4:GOSUB 2800: fa=7:GOSUB 2800: fa=10:GOSUB 2800
2775? d$
2780? d$; "CLOSE CUBESAVE"
2790GOTO 2680
2800FOR ro=0 TO 2:FOR co=0 TO 2:INPUT nc(fa, ro, co):NEXT
co:NEXT ro:RETURN
2820 fa=3: cl=rd:GOSUB 2890
2830 fa=1: cl=bl:GOSUB 2890
2840 fa=5: cl=ye:GOSUB 2890
2850 fa=4: cl=gn:GOSUB 2890
2860 fa=7: cl=ng:GOSUB 2890
2870 fa=10: cl=wh:GOSUB 2890
2880GOSUB 340:GOSUB 70:GOTO 770
2890FOR ro=0 TO 2:FOR co=0 TO 2: nc(fa, ro, co)=cl:NEXT
co:NEXT ro:RETURN
2900REM          INSTRUCTIONS
2901TEXT
2902VTAB 3:HTAB 3:? "THIS IS A COMPUTERIZED CUBE";
2904VTAB 4:HTAB 3:? "PUZZLE";
2906VTAB 6:HTAB 3:? "YOU ARE SHOW THE 6 FACES";
2908VTAB 7:HTAB 3:? "OF THE CUBE UNFOLDED AS:";
2910VTAB 9:HTAB 11:? "-TOP-";
2912VTAB 11:HTAB 3:? "-LEFT- -FRONT- -RIGHT-";
2914VTAB 13:HTAB 9:? "-BOTTOM-";
2916VTAB 15:HTAB 10:? "-BACK-";
2918VTAB 23:HTAB 3:? "RETURN FOR NEXT PAGE"; :GET a$
2920TEXT
2922VTAB 3:HTAB 3:? "EACH OF THE FACES CONTAIN";

```



```

2924VTAB 4:HTAB 3:? "9 SQUARES. THESE ARE AS";
2926VTAB 5:HTAB 3:? "FOLLOWS";
2928VTAB 8:HTAB 7:? "1 2 3 < TOP ROW";
2930VTAB 9:HTAB 7:? "4 5 6";
2932VTAB 10:HTAB 7:? "7 8 9 < BOTTOM ROW";

2934VTAB 12:HTAB 7:? " ;
2936VTAB 14:HTAB 7:? "L R 5 is the"
2938VTAB 15:HTAB 7:? "Ec I CENTER";
2940VTAB 16:HTAB 7:? "Fo Gc";
2942VTAB 17:HTAB 7:? "Tl Ho";
2944VTAB 18:HTAB 7:? " Tl";
2946VTAB 22:HTAB 3:? "RETURN FOR NEXT PAGE"; :GET a$:TEXT
2948VTAB 3:HTAB 3:? "CONTROLLER 1 WILL BE USED";
2950VTAB 4:HTAB 3:? "TO MAKE YOUR MOVES. ON";
2952VTAB 5:HTAB 3:? "SCREEN PROMPTS WILL EXPLAIN";
2954VTAB 5:HTAB 3:? "SCREEN PROMPTS WILL EXPLAIN.";
2956VTAB 7:HTAB 3:? "lb/rb is LEFT/RIGHT BUTTON";
2958VTAB 8:HTAB 3:? "YOU ALSO USE THE KEYPAD.";
2960VTAB 10:HTAB 3:? "YOU CAN SAVE/RELOAD A GAME";
2962VTAB 11:HTAB 3:? "THE DEFAULT IS TO THE LAST";
2964VTAB 12:HTAB 3:? "USED DEVICE"
2966VTAB 14:HTAB 3:? "YOU CAN PERFORM 2 FUNCTIONS";
2968VTAB 16:HTAB 3:? "ROTATE";
2970VTAB 18:HTAB 3:? "MOVE";
2972VTAB 22:HTAB 3:? "RETURN FOR NEXT PAGE"; :GET a$:TEXT
2974INVERSE:VTAB 3:HTAB 3:? "ROTATE"; :NORMAL:? " SIMPLY
ROTATES THE"
2976? " FACES. I.E. ROTATE DOWN"
2978? " THE TOP IS NOW THE FACE,"
2980? " THE FACE IS NOW THE BOTTOM"
2982? " THE BOTTOM IS NOW THE BACK"
2984? " THE BACK NOW THE TOP. THE"
2986? " SIDES ROTATE 90 degs, SO"
2988? " THE ROWS BECOME THE COLUMNS"
2990? " AND VICE VERSA. THIS IS IN"
2992? " ESSANCE THE SAME AS HOLDING"
2994? " A CUBE AND CHANGING IT SO"
2996? " THAT YOU NOW LOOK AT A NEW"
2998? " FACE"
3000?:? " YOU CAN (IN EACH TURN)"
3002? " ROTATE UP, DOWN, LEFT, or"
3004? " RIGHT"
3006VTAB 22:HTAB 3:? "RETURN FOR NEXT PAGE":GET a$:TEXT
3008INVERSE:VTAB 3:HTAB 3:? "MOVE"; :NORMAL:? " IS A 2
STEP PROCEDURE"
3010? " YOU SPECIFY THE TOP/BOTTOM"
3012? " ROW, or LEFT/RIGHT COLUMN,"
3014? " or CENTER (ROW or COL)"
3016? " YOU THEN SPECIFY HOW YOU"
3018? " WANT IT MOVED"
3020?:? " ROWS (3 SQUARES ACROSS)"
3022? " CAN BE MOVED LEFT/RIGHT"
3024?:? " COLS(3 SQUARES UP/DOWN)"
3026? " CAN BE MOVED UP/DOWN."
3028?:? " CENTER IS TREATED AS ROW"
3030? " IF MOVED LEFT/RIGHT, ELSE"
3032? " AS A COL FOR UP/DOWN"
3034?:? " ALL CORRESPONDING ROW/COL"
3036? " ON OTHER FACES ARE ADJUSTED"
3038?:? " RETURN FOR NEXT PAGE":GET a$:TEXT
3040VTAB 3:HTAB 3:? "THE ONE THING YOU WILL"
3042? " NEED TO GET USE TO IS THE"

3044? " VIEW. IT IS BASICALLY THE"

3046? " SAME AS LOOKING AT A REAL"
3048? " CUBE. THE EXCEPTION IS"
3050? " THE BACK FACE. IT IS FOLDED"
3052? " DOWN, THEREFORE WHAT SHOWS"
3054? " AS THE BOTTOM ROW IS REALLY"
3056? " THE TOP (ON THAT FACE) AND"
3058? " THE TOP ROW IS THE BOTTOM."
3060?:? " TO START, SIMPLY DO A FEW"
3062? " MOVES TO MIX UP THE CUBE"
3064? " THIS IS THE SAME AS YOU"
3066? " WOULD DO WITH A REAL CUBE"
3068?:? " HAVE FUN! REMEMBER YOU CAN"
3070? " SAVE/RELOAD A GAME"
3072?:? " RETURN TO START":GET a$:TEXT:RETURN
3500REM LINE 21
3510HOME:VTAB 21:HTAB 2:? tp$; :HTAB 23:? "0 clears";
3520ON tp% GOTO 3550, 3560
3550VTAB 21:HTAB 10:? bl$; :RETURN
3560VTAB 21:HTAB 10:? dr$; :RETURN
3600REM MOVE Line 22-24
3610VTAB 22:HTAB 11:? "#2#";
3620VTAB 23:HTAB 3:? "SET BLK 456 WHEN DONE rb";
3630VTAB 24:HTAB 11:? "#8#"; :RETURN
3650REM MOVE Line 22 direction
3660VTAB 22:HTAB 10:? dr$; :RETURN
3700REM Direct INST Line 23-24
3710VTAB 23:HTAB 3:? "SET DIRECTION WITH joystick";
3720VTAB 24:HTAB 11:? "TO EXECUTE lb"; :RETURN
3800REM DIRECTION MOVE routine
3810IF PDL(13)=0 THEN POP:GOTO 770:REM clear 0
3820IF PDL(7)=1 THEN RETURN:REM do it (lb)
3830IF PDL(5)=0 THEN 3810:REM no press
3835IF PDL(5)=dr% THEN 3810
3837IF tp%=1 AND bl%<>5 THEN 3900:REM MOVE edit
3840IF PDL(5)=1 THEN dr%=1: dr$="UP ":GOTO 3860
3845IF PDL(5)=2 THEN dr%=2: dr$="TO RIGHT":GOTO 3860
3850IF PDL(5)=4 THEN dr%=4: dr$="DOWN ":GOTO 3860
3855IF PDL(5)=8 THEN dr%=8: dr$="TO LEFT ":GOTO 3860
3858GOTO 3810
3860IF tp%=2 THEN GOSUB 3560:GOTO 3810:REM rotate
reprint direction
3870GOSUB 3650:GOTO 3810:REM move reprint
direction
3900REM MOVE edit direction
3910IF bl%=2 OR bl%=8 THEN 3930
3920IF PDL(5)=1 OR PDL(5)=4 THEN 3840
3925? CHR$(7); :GOTO 3810
3930IF PDL(5)=2 OR PDL(5)=8 THEN 3840
3935? CHR$(7); :GOTO 3810
5000DATA 33,0,21,17,0,3,62,245,205,38,253,201
5010 ge=27450:FOR x=ge TO ge+11:READ v:POKE x, v:NEXT x
5020RETURN
5050 gl%=128: gh%=21: gz%=80: ga%=24:GOSUB 5100
5055 gl%=128: gh%=21: gz%=8: ga%=26:GOSUB 5100
5060 gl%=8: gh%=23: gz%=208: ga%=26:GOSUB 5100
5070 gl%=24: gh%=21: gz%=8: ga%=26:GOSUB 5100
5080 gl%=80: gh%=21: gz%=8: ga%=26:GOSUB 5100
5090RETURN

5100POKE ge+1, gl%:POKE ge+2, gh%:POKE ge+4, gz%:POKE
ge+7, ga%:CALL ge:RETURN

```

## BEGINNERS BASIC WORKSHOP

We're going to talk about BOOT this month. One might ask, what does a boot have to do with SMARTBasic ?

In computer lingo "BOOT" is short for BOOTSTRAP, which I'm sure doesn't help much either - hold on though, it will all clear up soon. Let's review - information is stored on tapes in "blocks". There are 256 blocks on a tape. The first block (actually located in the middle of the tape) is known as the "BOOT" block. When you insert a tape and pull the computer reset button, the ADAM finds the BOOT block, reads whatever instructions are there and follows them. If there are no special instructions in the boot block, the Electronic Typewriter is loaded. Your SMARTBasic tape (the one that came with your ADAM) has special instructions in the boot block that will automatically load the SMARTBasic interpreter (we will refer to the "program" that is on the SMARTBasic tape as the interpreter to not confuse it with programs that are written in the SMARTBasic language and must be run by the interpreter) that is on the tape. The SUPERGames tapes automatically load the game, etc..

If you have a tape with one or several SMARTBasic programs on it, like our PD Basic volumes, and you put it in the computer and hit reset, the tape will spin and you will end up in the Electronic Typewriter. This happens because there are no special instructions in the boot block AND the SMARTBasic interpreter itself is not on the tape. This is why you must first insert your SMARTBasic tape, hit reset, take it out and then insert the Basic PD tape if you want to run any of the programs.

Let's do a little project to make this easier. First pick out several of your favorite SMARTBasic programs that you would want to have on one tape. Now, make a backup copy of your SMARTBasic tape using Utilcopy (UNDV1) or Quickcopy.

There are 2 ways of getting your programs on the backup tape containing the SMARTBasic interpreter:

1. Load SMARTBasic; insert the tape containing your favorite programs; enter (without the quotes) "load math" (or whatever the name of the program is on your tape, NOTE: the name you enter must be exactly the same as displayed when you list your catalog); after your math program has finished loading, remove the tape, insert the tape with SMARTBasic on it and enter "save math".

Repeat this for each of the games you want to transfer to your "favorite program" tape

2. If you have Quickcopy or another program that can copy individual files use it to copy each of the programs to your SMARTBasic tape.

Now, you can just insert this tape, pull the reset button, SMARTBasic will be loaded by the "BOOT" routine and you can just enter "run math" to execute your program.

Next month we will add a MENU program that will be automatically loaded and allow you to use the arrow keys to select which program you want to run, without typing in the name of the program.

Here is a low resolution color painting program using the hand controllers from NIAD PD volume BNDV5. It should provide alot of fun for children. You can save pictures you have created and recall them to change them again.

```
10& Paint by Daniel A. Pease
20& Edt'd-B.Lennes 12/2/85
110TEXT
120?:? " Welcome to PAINT"
130?:? " This program allows you to"
140? " create low resolution art"
150? " creations to be saved on DDP"
160? " or disk. Try and modify the"
170? " sample file named PaintNIAD"
180?
190? " Insert the disk or DDP"
200? " that contains the artwork to "
210? " be modified. "
220?:INPUT "Enter <return> when ready"; a$
230GOSUB 660
240 c=5
250& print location of pdl
260 v=INT(PDL(3)/6.4)
270 w=INT(PDL(1)/6.4)
280 t=v: u=w
290 s=SCRN(v, w):& remember screen
300COLOR =c:PLOT v, w
310& now move the stick
320? " 1 = NEW COLOR    7 = QUIT"
330? " HIT LEFT FIRE = PAINT"
340? " HIT RIGHT FIRE = ERASE"
350& painting loop
360GOSUB 850
370IF PDL(7)=1 THEN s=c
380 key=PDL(13)
390IF PDL(9)=1 THEN s=0
400IF key=7 THEN 470
410IF key=1 THEN c=c+1
420 key=PDL(13)
430IF key<>15 THEN 420
440IF c>15 THEN c=0
450COLOR =c
460GOTO 360
470& save data
480?
490INPUT " Save this data (Y)"; a$
500IF a$<>"y" AND a$<>"Y" THEN 640
510INPUT "Enter filename "; a$
520 n$=LEFT$(a$, 9)
530? CHR$(4); "open "; n$
540? CHR$(4); "write "; n$
550FOR i=0 TO 39
560FOR j=0 TO 39
570? SCRN(j, i)
580NEXT j
590NEXT i
600?:? CHR$(4); "close "; n$
610TEXT
```

```

620? CHR$(4); "catalog"
630END
640TEXT:END
650& end of file saving
660& get new file
670?
680? CHR$(4); "catalog"
690INPUT "Modify a painting (Y/N)?"; a$
700IF a$(">")="y" AND a$(">")="Y" THEN GR:COLOR =5:GOTO 840
710INPUT "Enter filename "; a$
720GR:COLOR =5
730 n$=LEFT$(a$, 9)
740? CHR$(4); "open "; n$
750? CHR$(4); "read "; n$
760FOR i=0 TO 39
770FOR j=0 TO 39
780INPUT a
790COLOR =a:PLOT j, i
800NEXT j
810NEXT i
820?
830? CHR$(4); "close "; n$
840RETURN
850REM          move subroutine
860 v=INT(PDL(3)/6.4)
870 w=INT(PDL(1)/6.4)
880IF v=t AND w=u THEN 920
890COLOR =s:PLOT t, u
900 t=v: u=w
910 s=SCRN(v, w)
920COLOR =c:PLOT v, w
930RETURN

```

### ADAMCALC WORKSHOP By W. Motel

We all know ADAMCALC is great for spreadsheet use, but I've found it to be extremely useful for list processing.

What makes it so helpful is the SORT capability. I've made lists for my wife's PTA work, for my work with the cubscouts, and even for my own job as a programmer. Let me give you an example to get you going. This was something I used for the pinewood derby race we had from our cubscout troop.

The sheet consisted of 4 columns:  
LASTNAME FIRST DEN # CAR #

I entered all 64 scouts in with their den # and a car number I randomly assigned. I saved the sheet on disk. I now had my original sheet protected. Here is where ADAMCALC now proved to be very useful. I was able to print lists for our use in various orders. Sorted on LASTNAME, I had my alphabetic list. Sorted by DEN #, I had my list in order of DEN and with the PRINT BLOCK ability of ADAMCALC, produce lists for each individual DEN. Finally, I sorted the sheet by CAR #, to get a list in CAR # order.

This will hopefully give you an idea of some additional uses for ADAMCALC. There is just one thing to watch out for. I've had some times where I've entered information in, but not all the values were known yet. Take the following example:

```
PROJECT# EST-HRS START-DATE COMPL-DATE
```

Entering the values in for each project, I did not have the COMPL-DATE for a few projects. Keep in mind that if I SORT on that column, the SORT will not sort any row if the sort field is blank. This produces a list with those projects in the originally typed in position. How can we force these BLANK values to sort together. We can't use a blank value, but we can use one of 2 values, depending if we wanted these at the beginning or end of the list.

Within the sort sequence, ! is the lowest value  
and \* is the highest.

Instead of leaving the unknown value blank, fill it in with either value, depending on how you will be doing the sort. After you do your SORT and prior to PRINT, just reblank out these fields.

One final thing, if your just using this for prints, you can keep all your cells as TEXT, since you won't be doing any calculating on them. Also to slightly speed up entry, set it to MANUAL RECALC. Hopefully, this will give you a new idea for using ADAMCALC.

### SMARTLOGO WORKSHOP

SMARTLogo is a great language for using two strong points of the ADAM - color graphics and sound. Logo is very "user friendly" and especially good for introducing kids to a computer.

We have just added our second volume of Logo programs to our PD library. Here is the catalog of programs on this second volume:

NIAD PUBLIC DOMAIN  
SMARTLOGO VOLUME LNDV2 By L. Marschand

GENERAL INSTRUCTIONS: Load your SMARTLOGO tape first. Insert this tape and type CATALOG. A list of all the programs will appear. To load and run a specific program enter: LOAD "XMAS as an example. NOTE: Some programs (like PATTN.LGD) may require you to enter the name of a specific procedure before they will start).

ANIMALS is an artificial intelligence program that "learns" as you play it. New animals are added by you based on questions asked by ADAM. Type LOAD "ANIMALS in LOGO to play this interesting game (do not type LOAD "ANIMAL).  
XMAS

This SmartLOGO program is an electronic Christmas Card. The program draws a Christmas Tree, decorates the tree, builds a snowman, wishes you a Merry Christmas, and then plays Jingle Bells. Ho Ho Ho!!!

## MENU

This program is used as a menu for a DDP or disk of SmartLOGO programs. The user will have to change the names of the programs in the "CAT" and "GETPRO" procedures to match the programs that are on the DDP or disk being cataloged.

The use of the MENU program is exactly like the catalog in SmartWriter. Use the arrow keys to find the name of the program you want to load, and then press the "STORE/GET" key to load the program. When the "STORE/GET" key is pressed, the MENU program deletes itself and then loads the program that was selected.

## STARTUP

This program is a simple Startup program for SmartLOGO. Save this program on your SmartLOGO language tape or disk with the filename "STARTUP" as described on page 250 of the SmartLOGO manual. When SmartLOGO is booted, it automatically looks for and runs a program file titled "STARTUP", if there is such a file on the program tape. This startup program asks the user if a catalog is needed and, if not, asks for the file name to load. When the file name is entered, the STARTUP program deletes itself and loads the requested file.

## NIM

This is a classic computer game - read the separate documentation file.

## FOLKSONG

This contains some nice music - read teh FOLKSG doc file first.

## MADL.LGO

This generates a funny little poem based on answers you give it.

## CLOCK.LGO

This is neat. It draws a functioning clock that keeps time on the screen - very well done.

## ASRFLG.LGO

For you Aussies - draws the Australian flag.

## FLAG.LGO

Draws our Old Glory.

## PATTN.LGO

A collection of five pictures. After you load the program, you must enter the name of each one you want:

PICTURE - a nice country scene

DALLAS - the skyline of Dallas

BEAR - a bear

HOUSE - a pattern of squares

## ASTRO.LGO

Generates a number of nice designs

## KENO.LGO

You can play the game of Keno with ADAM.

## GARFLD.LGO

Draws everyones favorite cat. NOTE: This program has some bug in it that places characters randomly on the screen.

If someone can figure out why please call me.

Here is a listing of the ASTRO.LGO program from LOGO PD volume #2:

```
TO T.Y.  
CIRCLEL 100  
CIRCLER 100  
CIRCLER 40  
CIRCLEL 40  
CIRCLEL 20  
CIRCLER 20  
CIRCLER 10  
CIRCLEL 10  
END
```

```
TO GE  
T.Y.  
FD 10  
T.Y.  
END
```

```
TO LOG  
RT 90 FD 50 RT 90 FD 20  
RT 90 FD 100 RT 90 FD 20  
RT 90 FD 50  
END
```

```
TO RET  
CIRCLER 80  
CIRCLEL 80  
CIRCLER 40 CIRCLEL 40  
CIRCLER 20 CIRCLEL 20  
CIRCLER 10 CIRCLEL 10  
HT SETBG 1  
END
```

```
TO ASTRO  
CS  
RET  
REPEAT 4 [LOG]  
WAIT 60  
CS GE  
SETBG RANDOM 6  
BK 5  
T.Y.  
END
```

```
TO INFO  
CS SETCURSOR [5 11]  
PR [ASTRO - BY NICK MOUNT]  
SETCURSOR [10 12]  
PR [FROM YPLA]  
WAIT 100  
ASTRO  
END
```

```

TO RCP :R
RT 5
FD :R * ( 3.14159 ) / 18
RT 5
END

```

```

TO LCP :R
LT 5
FD :R * ( 3.14159 ) / 18
LT 5
END

```

```

TO ARCR :RADIUS :DEGREES
MAKE "STEP 2 * :RADIUS * 3.1416 / 36
MAKE "REM REMAINDER :DEGREES 10
REPEAT :DEGREES / 10 [RT 5 FD :STEP RT 5]
IF :REM > 0 [FD :STEP * :REM / 10 RT :REM]
END

```

```

TO ARCL :RADIUS :DEGREES
MAKE "STEP 2 * :RADIUS * 3.1416 / 36
MAKE "REM REMAINDER :DEGREES 10
REPEAT :DEGREES / 10 [LT 5 FD :STEP LT 5]
IF :REM > 0 [FD :STEP * :REM / 10 LT :REM]
END

```

```

TO CIRCLEL :RADIUS
MAKE "STEP 2 * :RADIUS * 3.1416 / 36
REPEAT 36 [LT 5 FD :STEP LT 5]
END

```

```

TO CIRCler :RADIUS
MAKE "STEP 2 * :RADIUS * 3.1416 / 36
REPEAT 36 [RT 5 FD :STEP RT 5]
END

```

```

MAKE "STARTUP [WINDOW INFO]
MAKE "STEP 1.7453333

```

```

PPROP "AIDS "BURY "TRUE
PPROP ".SYSTEM "BURY "TRUE

```

## CP/M 2.2 WORKSHOP

By C. Kolander

### PATCHES

There has been alot of interest by NIAD members as to if and how one can Autoboot a program from CP/M. Yes it can be done but it requires a little patch work on the part of the user. The following will show how it can be done but not how it works, if you are more interested in the how it works there is a section on autobooting CP/M 2.2 on pages 200 -204 of the CP/M Users Guide by Tom Hogan and on pages 248- 270 of Inside CP/M by David Cortesi. The following patches are based on some articals by John Moore that have appeared in ECN (#9 & #11).

First off make up a disk (format) with the following files on it, Ddt.Com and Sysgen.Com, and another disk with the program you want to autoboot, it must be a command file. Now type the following at the prompt:

```

A> DDT SYSGEN.COM
-S125
0125 C3 00 <= You type
0126 00 .
-S26D
026D 52 53
026E 65 68
026F 62 69
0270 6F 70
0271 6F 29
0272 74 20
0273 29 3F
0274 20 20
0275 3F 20
0276 20 .
-60 <= 6 Zero

```

Now at the prompt type:  
SAVE B SYSGEN.COM

Now we can actually start patching in the Autoboot. Using the new sysgen you just made, at the prompt type:  
A> SYSGEN

When asked for a source drive type A, but when asked for a destination drive type just a carriage return. Now at the prompt type:

A> SAVE 75 MYCPM.COM

Now at the prompt type:

A> DDT MYCPM.COM

Now before you start patching in the name of the file you wish to autoboot you should get a chart that shows the hex values for ASCII charcters and write down the hex values to the name of your program. For the example we will have the system autoboot CPMADAM.COM.

ASCII	HEX
C	43
P	50
M	4D
A	41
D	44
A	41
M	4D

Note you don't have to patch in the extender. Now we can take these and patch them into the CCP to make the program autoboot. The first byte to be patched is the total number of charcters +1, of the name of your autoboot file. To do this, do the following:

```

-S2707
2707 00 08 <= Total of charcters
2708 20 43
2709 20 50
270A 20 4D
270B 20 41
270C 20 44
270D 20 41
270E 20 4D
270F 20 20 <= enter a space

```

2710 20 00 <= ends string

2711 20 .

-60 <= G Zero

Now run sysgen again, but when asked for a source just type a carriage return, then put the new system on the disk you wish to have the autoboot on. Make sure you have the file you are asking for on the disk. You should have 128 bytes to play with for your autoboot, but I have had trouble trying to get a command name with a command tail to boot. And that does it, remember that when ever the disk that you have your autoboot on is warm or cold booted this program will automatically run, and that the only way out of it is to insert a different disk.

### Miscellaneous Tips

By D. Zimmerman

1. SHIFT UNDO toggles the SMARTkeys on and off
2. CONTROL UP ARROW toggles ALL CP/M into an alpha upper/lower case lock. The ONLY characters that toggle are the alphabetical keys and NOT the numeric/ special keys which is SUPER.
3. CONTROL LEFT OR RIGHT ARROW moves you across the screen in the moving window format.

### NIAD CP/M PUBLIC DOMAIN

By C. Kolander

This month we will be covering PD Disk #13, which contains mostly utility programs.

**SORTDIR.COM,DOC** - This program does exactly what the name implies, it will sort your disk directory and put all the files in alphabetic order. To use simply type SORTDIR, or to sort the B: drive, type SORTDIR B: at the command line. Disk contains a good documentation file.

**UNERA.COM,DOC** - Handy program for recovering files that have been erased. To use simply type UNERA filename.type. Wildcards are permitted for mass recovery (UNERA \*.COM), but if you save files after erasing and then try to recover, the program won't be able to help. Good doc file on disk.

**TELL.COM** - Useful program for programmers. When ran, the program will give you useful addresses in memory, such as the bdos entry and cbios jump table addresses, where the ccp begins and dos call addresses.

**SURVEY4.COM** - This program is similar to the one above, except it is more general towards information. Program gives a nice graph showing how CP/M uses the ram/rom on your system. Other useful information given includes tpa size, I/O port assignments and drive information.

**CHECK.COM** - This program will check the files on your disks for you. Gives crc information as well as the amount of records used by each file. You can check files individually or you can check a whole disk at a time. Invoking the program with no command tail will show correct syntax usage.

**DUPUSER.COM** - This program will make copies of your files at different user levels for you. A lot easier to do with this program than with Pip. For correct syntax type DUPUSER without command tail.

**GENHOSP.COM** - This program is a text adventure, with you being a doctor at a major hospital. It is in 80 column so you may want to use Screenchop or Wid30 before playing.

**LOCK,UNLOCK,MKEY.COM,DOC** - These are a set of programs you can use to "lock" files so that others cannot see or use them. Lock.Com will lock any file, access to the file is gained by use of a password that is given to the file when it is locked. If the user happens to forget the password Mkey.Com can be used to retrieve it. Unlock.Com will restore the file to normal use. There is a fair documentation file on the disk.

**PHONE.COM,DOC** - This program is a menu driven address/phone directory database. It will allow you to store up to 1000 records keeping track of such information as name (first and last name fields), street address, city, state, zip, phone number and occupation. It allows search by any of the fields, but not multiple search. A very good program, has fair documentation.

**WASH.COM,DOC** - This program is a disk directory maintenance utility. The program will make an alphabetical list in memory of the programs on the selected disk, and will allow the user to rename, copy, backup, view and delete any of the files by tagging the file as the program flips through them one by one. The program has an excellent documentation file.

**VFILERS.COM,ASM,DOC** - This program is similar to Wash.Com except it is a lot more user friendly. The command file furnished on the disk is NOT installed, so the first thing to do with this program is to install it. This is done by editing the asm file with Ed.Com, filling in the needed info for the terminal. This information can be found on page D29 of the CP/M manual. Once the needed information has been filled in assemble with Asm.Com and then install the resulting hex file into Vfiler8.Com with ddt, the program is then ready to use. When booted up the program will display the disk directory on the screen with an arrow. The arrow can be moved around with the cursor keys allowing the user to delete, copy, view ect. There is a fair documentation file on the disk, and the asm file has

installation directions in it.

**WSFAST15.LBR** - The files in this library will be of interest only to WordStar users. It contains patches to speed up the loading of WordStar. It also contains patches that will allow you edit one file while another one prints and automatic sign-on of the B: drive at boot up time. Has fair documentation file.

That's it for this disk, next month I will be writing about PD Disk #11 which we had skipped. It contains a complete Pascal compiler system. There are now 21 disks in the CP/M library, with #22 and #23 just about completed. #23 will contain Irv Hoff's Imp modem program for those interested. This program supports Kmd as well as Xmodem binary file transfers, including the lk packet transfer method for 1200 baud modems and faster. The disk will contain a Hayes modem overlay for the program that will allow full use of it's

"AT" command set from the terminal. There will be an overlay for the Racal-Vadic VA212 also.

Intel-LOAD By L. Marschand

## REVIEWS

### TRIVIA PACK I By L. Marschand

Trivia has arrived for ADAM !! This a new program from a new software developer, Bob Tarnowski, who shows alot of promise.

Up to four players can play this SMARTBasic program. The Trivia Pack contains 1200 questions and answers in 6 categories -

Music & Stage

TV & Screen

Times & Events

People & Places

Art, Lit & Science

Sports & Games

The questions are contained in 6 Question pack files, each containing 150 questions, 25 in each of the categories. The program randomly selects one of the 6 categories for you and displays the question. An on screen counter counts down from 60 seconds while you think. Some of the more difficult questions have formats displayed (e.g. \_ \_ \_ \_ \_). You can hit the wildcard key to pass and the answer will be displayed.

A correct answer will be rewarded with a nice tune, while a wrong one gets a "downbeat" one.

Your score and the per cent of correct answers is kept track of and can be displayed at any time by hitting ESCape. Once you have gone through 25 questions in a category, a new question pack is automatically loaded in to "replenish" all the categories. Based on your score you get to choose your winning category and upon correctly answering the next question in that category you get to go to the winning "Hall of Fame" screen and register yourself.

The questions are geared for those at least 25 years old and there are some very challenging ones.

Bob has done an excellent job on this package. Some very nice graphics, color and sound routines are used that Bob cleaned from SmartBEST and SmartTRIX. Bob has done his homework and it shows. The input routines are nice and sound accompanies them. Colorful, special characters are displayed to enhance the screens. A fast load option is used to reduce the amount of time to load the program and question packs. I think you will be impressed with this program. I'm sure you Trivia lovers will love this one. Even though this program took hours upon hours of work, Bob wants to sell it for a reasonable price.

RATING - A

This is the first software product from another new ADAM software developer, Digital Express, Inc. (see this months Updates).

The purpose of Intel-LOAD is to allow fast loading of SMARTBasic programs by saving them as a special binary type of file instead of the normal way Basic files are saved on tape/disk. These special binary type files can not be displayed via SMARTWriter because they are displayed in a special format that is not readable, but do load super fast as compared with regular Basic programs. For programs on tape they will load 12 times faster, for disk about 7 times faster. This type of "fast load" program is especially useful for large Basic programs on tape.

There are a few of these "fast load" programs out already. We have previously reviewed both Basic Manager and Turboload, which contain such a program as well as some other utilities.

The process that is required to create a "fast load" version of a SMARTBasic program is to first load and run the fast loader program, load the Basic program you want to create a "fast load" version of and then save it back to the tape/disk using the some special commands provided by the fast loader program (Intel-LOAD in this case). The advantage of Intel-LOAD is that the special program that does the converting of Basic programs to a "fast load" version can be loaded and permanently stored in one of SMARTBasics buffer areas that is only used for reading and writing of a second file. The program is stored in locations 56320 through 57319. The fact that the program can remain in memory as you work with Basic programs is a great advantage because you can use it at any time to save a program that can be later "fast loaded". The other "fast load" programs must be loaded each time you want to use them. The second advantage is the price of \$11.95. A well done instruction manual comes with Intel-LOAD that provides all the data needed to use it. Additionally, the program itself displays instructions on the screen describing input requirements.

If you do not have a disk drive and run large Basic programs, Intel-LOAD can offer you a real benefit. Remember, this program only works for Basic files, not SMARTWriter.

RATING - A

NOTE: I was not able to get a hold of Digital Express before our deadline to ask if they would wanted to sell through NIAD - will let you know next month.

### NINTENDO Game System By W. Motel

As Lyle mentioned last month, SEGA is coming out with a sophisticated game system this September. The other system that is already out (since last year on the East and West coasts) is the NINTENDO game system. It features

extremely clear/detailed graphics and sound. In my opinion, some of the graphics equal or surpass those of the actual arcade game, and this is on your own regular TV set (you can also hook it up to a monitor if you wish). I recently purchased one, so this is my report.

The full unit comes with a game console, 2 controllers, a light gun, a robot unit and two game cartridges. One of the games uses the light gun, the other the robot "ROB". The unit is approximately 1/2 the size of the ADAM tape/memory unit. The cartridge opening is covered and a light tells you when the power is on. It blinks to let you know that you do not have a cartridge inserted or it is inserted improperly. The RF modulator can be attached to the normal antenna leads (twin screws) or to a cable type (75 OHM) input. It is automatic and requires no game/TV switch. When power is on and the TV is on channel 3 or 4 (you set), the game display is automatically selected.

The controllers are unique in that they are fairly small. They measure roughly 2 inches by 5 inches and roughly 1/2 inch thick. Everything is on the face. There is no joystick, but a raised cross in its place. There is a game select button and a start/pause button. It also contains an "A" and "B" fire buttons. At first I thought I would have a problem with the controller, but they work very well. They are easy to handle and very responsive. Even though I'm used to the Atari 2600 and Coleco type controllers, I enjoy the Nintendo controllers as well, if not better.

The light gun is used for shooting games. It is extremely sensitive and works flawlessly. When the trigger is pulled, this causes an area on the screen (usually around the target(s)) to light up. If the gun is aimed correctly, the light is sensed by the receptors in the barrel. This causes the game to register a hit, or miss. The cartridge included is the DUCK HUNT arcade version. Two versions exist, 1 or 2 ducks per screen. Your hunting dog barks and out comes a duck (or ducks). You have limited time and shots to shoot it down. If you miss, the dog laughs at you. This is a one-player game, however, the 2nd controller can be used by another person to "guide" the duck(s) around the screen in a more erratic pattern. As the game progresses, the ducks are faster and fly around more. Also included is a Clay Pigeon (skeet shoot) game. You must get as many of the 10 (per round) clay pigeons as you can (with limited ammo). As the rounds progress, you must have fewer misses. The pigeons realistically are large, then get smaller as they fly into the distance. Graphics on the cartridge are colorful and cartoon-like. The game is easy enough for youngsters, but does get harder at the higher rounds.

The robot utilizes the cartridge GYROMITE. The robot games allow you to operate your controller for normal game play and to give the robot commands so that the robot ROB acts as a second player. The "eyes" of the robot are light sensors which pick up commands from the TV screen. You cause these signal with your controller by being in "command" mode instead of "play" mode. These signals cause ROB to "move". Actually he doesn't move around the room, but moves by raising/lower his arms, turns left/right on his base. or open/closes his hands. What ROB moves is 2 discs to various stations on the base. By placing a disc

at the correct spot, this engages controller 2's A/B button (the controller is attached to the robot base). Since the robot can only hold 1 object at a time, you sometimes need to get the disk spinning (in the gyro) before leaving it. This keeps it from falling. The game is interesting, however, I've not played it that much.

The complete system (as described above), is available for \$139 (TOYS-R-US) to \$159 (other stores). They have just made it available in separate components. The unit alone (with SUPER MARIO BROS game) is \$79. The light gun (no cart) is \$24. The robot (no cart) is \$49. The carts are each \$24 - \$30. Although this way costs more if you get everything, it does let you get off cheaper if you don't want all the parts, plus you can get a different light gun cart. SUPER MARIO BROS is a must buy cart anyway as it is probably one of the best, never get tired games I've seen. Hogans Alley is also a better gun cart, which you would probably get anyway. The robot is OK, but you can do without it. Assuming you wanted the gun, Hogans Alley and the base unit. the total would be

Base unit with Super Mario Bros.	\$79
Light Gun	\$24
Hogans Alley	\$30
TOTAL	\$133

By the way, this is the equivalent configuration of the SEGA system. They do not have a robot.

Overall, this is a GREAT system. If you love game playing, you won't be disappointed. If you are old Atari 2600 people and remember the AWE from going from it to the Coleco system, this is pretty much the equivalent feeling going up from the Coleco system. This does not replace the ADAM computer, nor does it obsolete the Coleco games playing, BUT it is a dedicated GAME UNIT made to do specific things with the latest technology. It can produce 52 colors and as they state, produces realistic 3-d type effects and depth-of field. The sprite objects are not limited to one color, but contain many colors for great detail. There is almost never any flickering (very very rare). They have (or should at printing) have roughly 20-25 carts available. They range from sports, action, to some that even let YOU DESIGN YOUR OWN GAME. They have (per VIDEO GAME UPDATE) signed with DATA EAST and some other major software houses to cooperate with them in developing games for the system. Nintendo wants to make sure the games meet their standards, so that the market will not be flooded with poor quality games. Some that I've played are EXCITEBIKE (arcade - you can program), KUNG FU, SUPER MARIO BROS (a must buy), BASEBALL (Arcade), CLU CLU LAND (maze), ICE CLIMBER (arcade), PINBALL, GOLF (arcade), and WRECKING CREW. Oh yes, let's not forget HOGAN'S ALLEY (arcade). In the 5 weeks I've had the unit, my house has become the neighborhood arcade). The kids love it.

RATING - Highly recommended

(Editor's NOTE: We will have a review of the Sega game system next for a comparison with Nintendo. NIAD may carry one of these ultimate game only systems if you are interested).



# PRODUCT LIST

## HARDWARE & ACCESSORIES

ADAM DISK DRIVE ## AVAILABLE 9/1/86 ##  
DC-1A/SINGLE SIDED 160K CAPACITY \$ 229.00  
DC-1A/DOUBLE SIDED 320K\*CAPACITY \$ 309.00  
 5-1/4" high-capacity disk drive for the Coleco Adam.  
 Provides expanded capability for faster storage and retrieval and increased reliability. Requires standard diskettes. Manufactured by Eve Elec Sysems and 100% software and hardware compatible with the ADAM.  
 \* 270K in CP/M 2.2  
DOUBLE SIDED DISK DRIVE UPGRADE \$ 149.95  
 Send in your Coleco disk drive to be upgraded to 320K (270K in CP/M 2.2) capacity. Send in your complete drive with cables/ Disk Manager and CP/M System disk if you have CP/M. If your drive requires repair you will be charged \$19.95 plus parts.  
 NOTE: Due to a limitation of CP/M you can not mix single and double sided drives while using CP/M.  
ADAM LINK MODEM 7818 \$ 69.95  
 ADAM phone modem which provides capability, with included software, to interface with other ADAM computers or large bulletin board systems such as Compuserve. Includes coupon for receiving advanced communications software for uploading and downloading of programs.  
COMPUSERVE STARTER KIT \$ 25.95  
 Includes account number, password and five free hours of connect time to the popular compuserve information system.  
EVE 64K MEMORY EXPANDER ME-64 \$ 49.95  
 Provides additional 64K of memory for SMARTWriter, CPM programs. Provides print buffer spooling for ADAMCalc.  
EVE RS232/PARALLEL INTERFACE SP-1 \$139.95  
 Allows the connection of the ADAM to any popular printer and other devices requiring either serial or parallel interface connections. Includes software for directing print to additional printers directly from SMARTWriter, SMARFiler, BASIC, CPM programs.  
 Includes EITHER parallel or serial cable - specify which one desired.  
EVE SP-1 PARALLEL INTERFACE ONLY \$ 79.95  
 (Includes parallel cable)  
ORPHANWARE PIA2 PARALLEL INTERFACE\$ 50.00  
 (Parallel cable required)  
PARALLEL OR SERIAL CABLE SP-1C \$ 17.95  
 Second cable required to attach SP-1 interface to parallel or serial printers.  
SPEECH SYNTHESIZER/CLK CAL SS-CC \$109.95  
 Output voice speech and words via Basic and CPM programs. Includes software to construct words. Real time clock calendar provides continuous date and time accessible from Basic and CPM.  
EVE 80-COLUMN VIDEO/MOTHER BOARD VD-MB  
     With Power Supply\$329.95  
     W/D Power supply \$309.95  
     With trade in of PS-1 \$299.95

Provides 80-column video output from the ADAM to a monochrome 80-column monitor. Also includes separate power supply and expansion slots for attaching other EVE products. Expands ADAMS capability for CP/M SOFTWARE ONLY requiring 80-column display.  
 \*\* Includes Word Processing and Basic software programs \*\*  
EVE MON-80 \$329.95  
 80 Column video board and monochrome monitor assembly. Includes cable to attach to inside of ADAM console. Does NOT include independent power supply or motherboard  
 \*\* Includes Word Processing and Basic software programs \*\*  
EVE POWER SUPPLY FOR ADAM PS-1A \$ 79.95  
EVE MULTI-UNIT ADAPTER MA-3 \$ 44.95  
 Special adapter cable required to attach both the SP-1 and SS-CC to the ADAM. NOTE: Not required for 80-column video board.  
CARD EDGE ADAPTER CEA-1 \$ 24.95  
 For attaching ADAM Autodialer to MA-3 cable.  
ADAM PRINTER TRACTOR FEED \$ 72.95  
 Hooks unto the ADAM printer as originally designed to provide for feeding of pin-fed continuous form paper. Provides consistent alignment and advancing of paper. All metal design - guaranteed.  
PRINTER STAND/ON/OFF SWITCH \$ 15.95  
 Provides raised legs for the ADAM printer and relocates the on/off switch to the front of the printer for easier access when loading paper.  
MONITOR CABLE 7830 \$ 9.95  
 Required to hook complete ADAM console to a video monitor. Supports both picture and sound signals.  
EXPANSION MOD MONITOR KIT \$ 29.95  
 Kit to modify colecoveision unit to allow it to be connected to a monitor via 7830 cable above. Requires soldering skill - see review in 2/85 issue.  
ADAM REPLACEMENT RIBBONS 7806 \$ 4.95  
ADAM DUST COVERS  
 3 pieces for complete ADAM system \$ 18.95  
     Disk Drive Only Cover \$ 8.95  
 3 pieces for ADAM Colecoveision Expansion Unit \$ 23.95  
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TAPE DRIVE HEAD CLEANING KITS \$ .50  
COLECO/LORAN DATA PKS \$ 4.75 @  
     10 for \$ 39.95  
NIAD/LORAN DATA PKS \$ 4.25 @  
     10 for \$ 34.95  
NIAD UNFORMATTED DISKS - DS/DD 1-9 \$1.50 @  
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     50 or more\$ .85 @

PRICES VALID 8/1 to 9/1/86

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 GAME BY MGM/UA 7849 \$ 20.95  
 FAMILY FEUD 7710 \$ 20.95  
 BEST OF BRODERBUND \$ 19.95

**NIAD USER'S GROUP PRODUCTS:**

I. NIAD PUBLIC DOMAIN SOFTWARE

\*\* COST IS \$7.00 FOR EACH VOLUME ON DDP \*\*  
 \*\* COST IS \$5.00 FOR EACH VOLUME ON DISK \*\*  
 \*\*\* SPECIFY VOLUME # AND DISK OR DDP\*\*\*

- SMARTBasic Volumes I-15 #BNDV1-15 (15 different volumes)
- SMARTLogo Volumes 1-2 #LNDV1-2 (2 volumes)
- ADAMCalc Volumes 1-2 #ANDV1-2 (2 volumes)
- BASIC Utilities Volume I #UNDVI (INCLUDES BACKUP UTILITY PROGRAM)
- CPM 2.2 Volumes I-21 #CNDV1-21 (21 volumes available)
- JEOPARDY
- PINBALL/ MACK
- TROLLS TALE
- ADAM DIAGNOSTIC (NOTE: Requires 64K Memory Expander)
- SUPER SUB ROC
- ADAMLINK II TELECOMMUNICATIONS

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SMARTGAMES PACK \$ 9.95 DISK  
 \$ 11.95 DDP  
 ROYAL AMBASSADOR EDUCATION PACK I (CHRISTIAN PGMS) \$ 9.95 DISK SPECIAL  
 \$ 11.95 DDP  
 CPM NEVADA BASIC \$ 39.95 DISK/DDP  
 SP-1 CUSTOM SOFTWARE FOR SMARTWRITER /FILER (AVAILABLE FOR MOST PRINTERS) \$ 20.00

OTHER SOFTWARE- SPECIFY DDP OR DISK

BOUNTY HUNTER VS4048 \$19.95  
 VIDEOTUNES (DDP ONLY) \$26.95  
 FANTASY GAMER (DDP) \$22.95 SPECIAL  
 BASIC BONANZA \$22.95 SPECIAL  
 DIABLO \$19.95  
 SOFTPACK I \$18.95  
 LVAC ARCHIVES I \$ 9.95 SPECIAL  
 REEDY SOFTWARE LIB \$15.95 SPECIAL  
 QUICKFAX QUEST \$22.95  
 PERSONAL ACCOUNTANT \$19.95  
 SMARTBEST \$16.95 NEW  
 STRATEGY STRAINER I \$19.95  
 BUSINESS PACK \$18.95  
 PAINTMASTER \$22.95 NEW  
 TURBOLOAD \$26.95 NEW  
 POWERPRINT \$22.95 NEW  
 SIGNSHOP \$22.95 NEW  
 SMARTTRIX \$28.95 NEW  
 QUICKOPY DISK \$11.95 NEW  
 DDP \$14.95  
 MULTIWRITE \$36.95 NEW  
 MEDIA AID \$19.95 NEW  
 ELEC GAME PACK DISK \$17.95 NEW  
 DDP \$19.95  
 NUMBER BUMPER DDP \$18.95 NEW  
 REEDY ENTERTNMNT PK DSK \$15.95 NEW  
 DDP \$17.95  
 JEOPARDY QUESTION PACK \$19.95 NEW  
 TRIVIA PACK I DISK \$14.95 NEW  
 DDP \$16.95

CARTRIDGE SOFTWARE

SMURF PAINT AND PLAY 2697 \$18.95  
 SUESS FIX UP  
 PUZZLE 2699 \$18.95  
 MONKEY ACADEMY 2694 \$18.95  
 TELLY TURTLE LOGO  
 GRAPHICS 2698 \$18.95  
 DUKES OF HAZZARD \$18.95  
 ROCKY BOXING \$18.95  
 WARGAMES \$18.95  
 CABBAGE PATCH PIC SHOW \$18.95

CP/M 2.2 COMM'L SOFTWARE - REQUIRES ADAM CP/M SOFTWARE

INFOCOM PRODUCTS:

Planetfall \$34.95  
 Zork I \$34.95  
 Zork II, III \$39.95 @  
 Starcross \$39.95  
 Deadline \$39.95  
 Seastalker \$39.95 NEW  
 HitchHiker Guide \$34.95 NEW

**\*\*\*\* NIAD SPECIALS \*\*\*\***

EVE SP-1P (PARALLEL ONLY) AND PANASONIC 1080 PRINTER \$ 309.95  
 RECONDITIONED DIGITAL DATA DRIVES \$ 19.95(30 day guar)  
 NEW ADAM (TAN) HAND CONTRS 2 for \$ 10.00

SIX # 7806 RIBBONS \$25.95  
 3 1/2 x 15/16 PIN FEED ADDRESS LABS \$ 6.95/1000  
 9 1/2 x 11 20 Lb PIN FEED PAPER \$ 3.95/100  
 \$19.95/1000  
 JANE'S RECIPES (REQ'S RECIPE FILER) \$ 7.00 DISK  
 (specify VOL 1 Deserts or VOL 2 Salads) \$9.00 DDP

CONVERSION OF SUPER GAMES TO DISKETTE: \$ 4.00 EACH  
 NOTE: YOU MUST SEND IN THE LABEL CARD FROM THE GAME AS PROOF OF PURCHASE EDUCATION PACK II \$ FAMILY FEUD; BEST OF BRODERBUND CAN BE COPIED DIRECTLY BY MOST COPY PROGRAMS

SMARTFILER COPY SERVICE FOR LATEST VERSION WITH MAILING LABEL PRINT FIX (SEND IN YOUR FILER DISK/DDP) \$ 4.00

BACK ISSUES OF NIAD NEWSLETTER FROM 1/85 \$ 3.00 EACH \$ 2.50 EACH (10 +)

RIGHT DIR TAPES FOR COPYING SUPERGAMES \$ 2.50 EACH TO TAPE

NIAD PRODUCT CATALOG

\*\*\* PRINTERS \*\*\*

\*\* MONITORS \*\*

PANASONIC KX-1080 \$ 249.95  
 . TYPE: 9x9 DOT MATRIX  
 . SPEED: DRAFT MODE -100 CPS (PICA & ELITE);  
 NEAR LTR QUAL - 20 CPS; PROPRTIONL -75  
 . PRINT CHAR:BI-DIRECTIONAL; 96 CHAR W/ASCII DEC'S  
 NORMAL, ELONGATED,CONDENSED,IBM GRAPHICS  
 ITALICS, IBM SPECIAL CHAR'S  
 . MEDIA HNDL:ADJ TRACTOR FEED, FRICTION FEED  
 4" to 10" PAPER  
 . INTERFACE: CENTRONICS 8 BIT PARALLEL  
 . BUFFER: 1K STANDARD - 4K ADD'L OPTIONAL (\$ 69.95)  
 . SIZE: 4.5"x15.9"x11.3"; WEIGHT 14.6 LBS  
 . FEATURES: 2 YEAR LIMITED WARRANTY

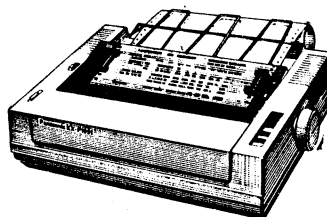
PANASONIC KX-1091 \$ 299.95  
 . TYPE: 9x9 DOT MATRIX  
 . SPEED: DRAFT MODE -120 CPS (PICA & ELITE);  
 NEAR LTR QUAL - 29 CPS; PROPRTIONL -75  
 . PRINT CHAR:BI-DIRECTIONAL; 96 CHAR W/ASCII DEC'S  
 NORMAL, ELONGATED,CONDENSED,IBM GRAPHICS  
 ITALICS, IBM SPECIAL CHAR'S  
 . MEDIA HNDL:ADJ TRACTOR FEED, FRICTION FEED  
 4" to 10" PAPER  
 . INTERFACE: CENTRONICS 8 BIT PARALLEL  
 . BUFFER: 1K STANDARD - 4K ADD'L OPTIONAL (\$ 69.95)  
 . SIZE: 4.5"x15.9"x11.3"; WEIGHT 14.6 LBS  
 . FEATURES: 2 YEAR LIMITED WARRANTY

PANASONIC KX-1092 \$ 399.95  
 . TYPE: 9x9 DOT MATRIX  
 . SPEED: DRAFT MODE -180 CPS (PICA & ELITE);  
 NEAR LTR QUAL - 33 CPS; PROPRTIONL -112  
 . PRINT CHAR:BI-DIRECTIONAL; 96 CHAR W/ASCII DEC'S  
 NORMAL, ELONGATED,CONDENSED,IBM GRAPHICS  
 ITALICS, IBM SPECIAL CHAR'S  
 . MEDIA HNDL:ADJ TRACTOR FEED, FRICTION FEED  
 4" to 10" PAPER  
 . INTERFACE: CENTRONICS 8 BIT PARALLEL  
 . BUFFER: 7K STANDARD - 4K ADD'L OPTIONAL  
 . SIZE: 5.4"x16.3"x13.8"; WEIGHT 19.6 LBS  
 . FEATURES: 2 YEAR LIMITED WARRANTY

PANASONIC RIBBONS # P110 (ALL MODELS) \$ 9.95

STAR SG10 \$ 279.95  
 . TYPE: 9x9 DOT MATRIX  
 . SPEED: DRAFT MODE - 120 CPS; NLQ -30 CPS  
 . PRINT CHAR:BI-DIRECTIONAL, NORMAL,ELONGATED, CONDSD  
 ITALICS, IBM GRAPHICS/ SPECIAL CHAR"S  
 . MEDIA HNDL:ADJ TRACTOR FEED,FRICTION FEED  
 4" TO 8 1/2 "  
 . INTERFACE :CENTRONICS 8 BIT PARALLEL  
 . BUFFER: 2K STANDARD)  
 . FEATURES: 140 DOWNLOADABLE CUSTOM CHARACTERS  
 . ACCESSORTES: RIBBONS \$ 2.95 n  
 4K BUFFER \$ 109.95

PANASONIC COLOR DT-S101 COMPOSITE \$ 199.95  
 . CRT TYPE: 10" 90 DEG INLINE DARK; P22  
 . DOT PITCH: .63 MM  
 . RESOLUTION: 250 HOR x 300 VERTICAL  
 . SIZE: 10.3 x 11.2 x 13.4 "  
 . AUDIO: YES  
 . FEATURES: BLK & WHITE DISPLAY  
 . OPTIONS: TILT SWIVEL STAND \$ 19.95



TRAINING MANUALS/ BOOKS

SPECIAL 1985 ADAM RESOURCE DIR \$ 9.95  
 (Includes disc coupon for '85 DIR)  
 LEARNING EXPRESS AUDIO TRAINER \$ 32.95  
 CP/M USER'S GUIDE BY T. HOGAN \$ 15.95  
 FIRST BOOK OF ADAM - BASIC  
 BY P. ROTH \$ 10.95  
 2ND BOOK OF ADAM - SMARTWRITER \$ 7.95  
 THE COLECO ADAM USER'S HANDBOOK \$ 8.95  
 THE BASIC ADAM : A SELF TEACHING  
 GUIDE BY ABIKOFF & CORNELL \$ 14.95



P.O. BOX 1317  
 LISLE, IL 60532  
 312-961-3529; CUS 72255,47

\*\*\* BUYING SERVICE ORDER FORM \*\*\*

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

HARDWARE/ ACCESSORIES

ITEM NAME/ NUMBER

PRICE

\_\_\_\_\_ | \$ [\_\_\_\_.\_\_\_\_]

\_\_\_\_\_ | \$ [\_\_\_\_.\_\_\_\_]

SUB TOTAL HDW/ACC \$ [\_\_\_\_.\_\_\_\_]

ILLINOIS RESIDENTS ADD 6.75 % SALES TAX \$ [\_\_\_\_.\_\_\_\_]

NOTE: CARTRIDGE SOFTWARE REQUIRES TAX ALSO

SOFTWARE PRODUCTS / PUBLIC DOMAIN SOFTWARE

ITEM NAME/ NUMBER

PRICE

\_\_\_\_\_ | \$ [\_\_\_\_.\_\_\_\_]

\_\_\_\_\_ | \$ [\_\_\_\_.\_\_\_\_]

SUB TOTAL SOFTWARES \$ [\_\_\_\_.\_\_\_\_]

TOTAL THIS ORDER \$ [\_\_\_\_.\_\_\_\_]

SHIPPING/INSURANCE \$ [\_\_\_\_.\_\_\_\_]

	US UPS	US MAIL	CANADA
(FIRST \$50 -	\$2.50	\$4.00	\$6.00)
(FIRST \$100-	\$4.50	\$7.00	\$10.00)
(FIRST \$200-	\$7.00	\$10.00	\$16.00)
(MAXIMUM	\$10.00	\$15.00	\$22.00)

NOTE: US FUNDS ONLY PLEASE

PAYMENT - CHECK (ALLOW A WEEK TO CLEAR); MONEY ORDER; MASTERCARD OR VISA	
CARD #	_____
EXPIRATION DATE [       ]	_____
BANK # (LFT. SIDE) [       ]	_____
SIGNATURE-	_____

MEMBERSHIP # OR INITIAL ANNUAL FEE REQ'D \$ [\_\_\_\_\_]

TOTAL INCLUDED \$ [\_\_\_\_.\_\_\_\_]