Spring isn't far away now !

Continuing our study of Romans, Chapter 2 -
Therefore you have no excuse, O man, whoever you
are, when you judge another; for in passing
judgment upon him you condemn yourself, because
you the judge, are doing the very same things,
²We know that the judgment of God rightly
falls upon those who so such things and yet do
them yourself, you will escape the judgment of God
? ⁴ Or do you presume upon the riches of his
kindness and forbearance and patience? Do you no
tknow that God's kindness is meant to lead you to
repentance? ⁵ But by your hard and impenitent
heart you are storing up wrath for yourself on the
day of wrath when God's righteous judgment will be
revealed. ⁶ For he will render to every man
according to his works: ⁷ to those who by
patience in well-doing seek for glory and honor
and immortalitym, he will give eternal life;
⁸ but for those who are factious and do not
obey the truth, but obey wickedness, there will be
wrath and fury. ⁹ There will be tribulation
and distress for every human being who does evil,
the Jew first and also the Greek, ¹⁰ but glory
and honor and peace for every one who does good,
the Jew first and also the Greek. ¹¹ For God
shows no partiality.

These verses can be misinterpreted as being
condeming and over emphazing the wrath of God. Our
God is a loving God, who wants to help us and save
us, not punish us. He is not waiting for us to
make a mistake so he can pounce on us, rather he
is always waiting for us to come to him so he can
love us and bless us. God loved us so much that
he sent his own precious son to suffer and die as
the mechanism to give mankind the oppurtunity to
have our sins forgiven. If God just wants to
punish us for our sins why would He have sent His
son Jesus to save us ?
Paul is specifically talking to the Jews in these
verses, but his statements apply to all of us. He
warns against judging others while we are not free

from sin. This is something that seems to come
too naturally to us humans. We are too quick to
negatively judge others, many times for the same
things we do. Human nature seems to have a built
in mechanism for rationalizing our own faults,
while at the same time criticizing others. Paul
points out that this kind of action will result in
God's judgment, not just because we are judging
others but because of our own sin. God is just
and righteous, he treats everyone the same - no
favorites. We are either sinners or we have had
our sins forgiven through Jesus. God is
constantly giving us the opportunity to have our
sins forgiven so we can be one with him. Paul is
telling these people that just because they judge
others does not make them sinless. Just because
you go to church does not insure you have had your
sins forgiven. You must confess your sins, ask
forgiveness for those sins and accept Jesus as
your personal Lord and Saviour.
God bless you all.

NIAD NEWS/ UPDATES

Well, things just keep on hopping in the world of ADAM ! More information and more great software keep on coming as you'll find in this issue.

. ANNOUNCEMENTS

- We're changing the newsletter a bit. We won't publish the entire product list each month because it is just getting too big. Instead, we'll publish any changes and new items only in the monthly newsletter. Hence, save and refer to your February issue for the complete list. New members will also get a complete product list with their first issue. We will republish the complete list every few months or you may request one at any time.
- There will be no Saturday AM technical call in on March 28th.
- Chicago local chapter meetings are held the second Thursday of each month, 7:00 PM at the College of DuPage, Student Resource Center, room 1042A next to the cafeteria. The college is located at the intersection of Lambert and 22nd streets in Glen Ellyn, Il, just west of highway 53 on highway 56 (Butterfield Rd) and then north on Lambert; or take Rt 38 (Roosevelt Rd) west from 53 and go south on Lambert. Call the college at 858-2800 for more directions if required.
I'm sorry about the confusion regarding the February meeting. We found out at the last minute that they would not be open on the 12th due to Lincoln's birthday so we attempted to call most people on Wednesday night after we rescheduled with the college for the following Thursday. Some of you came on the 12th anyway - sorry.
Our next meeting will be Thursday, March 12th. We will demoing some new software products, answering questions and giving mini classes on Basic and SMARTWriter. I will have tapes, ribbons and some software for sale as well. We will have some door prizes as well for NIAD members ! Come and meet with your fellow ADAMites and learn more about your system.
- SASE's are required for all requests for information and correspondence. Please help us by addressing and stamping a return envelope. Also, if you are requesting multiple pieces of information include extra postage.
- Your renewal is due if the first 4 digits of your member number as displayed on your envelope are 0387.

. Mike Keith has created a nice collection of SIGNSHOP pictures and has volunteered to become our SIGNSHOP librarian. Send one SIGNSHOP picture to Mike on a tape/ disk with return postage and a mailer and he will send you the PD pictures back. Mike Keith, United Methodist Church

P.O. Box 368
Fredicktown, MO 63645
We're offering a special of both the SIGNSHOP program and either SIGNS Vol's 1 or 2 for $27.95. SIGNSHOP is one of the most popular programs for he ADAM (we have printed some examples in this issue).

. There is evidently some confusion as to the functions of GRAPHIXPAINTER and GRAPHIXPIX I. GRAPHIXPAINTER was reviewed in the November/ 86 issue and is a graphics printing program for dot matrix printers.
GRAPHIXPIX I was reviewed in the Dec/ Jan issue and is a graphics display program for which a dot matrix printer is NOT required. Both programs contain several high resolution graphics pictures.

We're offering a special of both GRAPHIXPIX I and one of the three PAINTINGS volumes (1,2,3) for only $19.95 since GRAPHIXPIX I can display pictures created by the PAINTMASTER drawing program. You will be very impressed by these pictures !
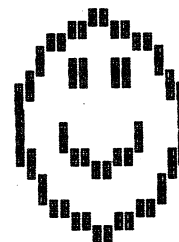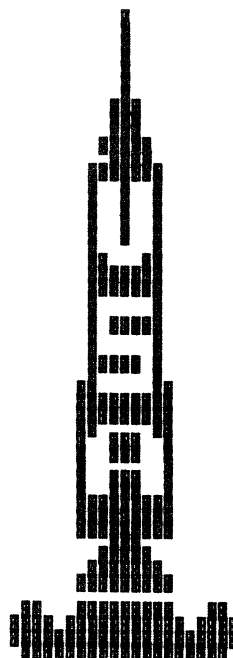
. NEW SOFTWARE

Boy, more great software continues to come out for our ADAMs !

In this issue we have reviews of -

.. MICROWORKS, a fully integrated set of five productivity programs for home/ small business from Strtegic Software. A spreadsheet, database, text editor, picture editor and graph program are all included in this first of its kind package for the ADAM.

.. EASY COME, EASY GO a multi-faceted home financial package providing complete functions for determining loan and savings costs using variable interest rates, financing costs with many options. This is another fine program from MMSG (Backup 3.0).

.. A series of 3 good educational programs by A-WARE: SOLAR SYSTEM, WORLD GEOGRAPHY and AMERICA AT WAR. These are oriented to junior high level and are fun to play.

.. ADAMTALK, a comprehensive program for generating speech from Basic programs for those of you that have the Eve SS-CC speech synthesizer/ clock calendar device. This program, done by our own Bob Lennes contains a facility for storing 1300 predefined words in a dictionary.

.. WIZARDS PINBALL contains some fantastic Pinball games for you pinball buffs. You won't believe what the author has done in designing these games via the Pinball Construction set program.

Great News - Based entirely on the fact that the ADAM has continued to generate positive sales of quality software, we will soon have a spelling checker. Yes, PROOFREADER is now under full development by Strategic Software. This program will be written entirely in machine language for speed and will support a 7,000 word spelling checker ! Strategic will include 3,000 words in the dictionary and provide an easy mechanism to add additional words by running file of words into the dictionary. The design will allow you to write your document with SMARTWriter, store it and then run it against the spelling checker. If a word is found to be spelled incorrectly, optional spellings will be provided to choose from. We have been encouraging Strategic for some time to go ahead with this much needed program and are ecstatic that they have decided to. This will make the ADAM and SMARTWriter an even better system, which is our goal !

We will also have reviews of BASICAID from Mr. T Software and BASIC MANAGER from practical programs next month.

HARDWARE

The disk drive situation continues to look bleak. It appears that the Coleco drives are gone. We are still working on getting some used ones. I understand that a fellow named Don Pearlman has developed an ADAM compatible double sided disk drive that he is selling for $285.00. I don't have anymore information but was told that Coleco is giving out an address for ordering if you call their customer service number. There is also one other company seriously considering manufacturing an ADAM compatible disk - more next month.

Data drives are also starting to dry up. Modems are pretty plentiful as is all other hardware. See last months newsletter for information on where to get complete ADAM systems, printers and consoles.

Syd Carter of Trisyd Video in Canada is finalizing a 1200 baud internal Hayes compatible modem for the ADAM. This modem will sell for $300 Canadian (about $225 US). Currently it will only support CP/M 2.2 modem software, but a version of ADAMLink II is under development. Syd has also submitted an interesting little hardware/ software device for our review which will allow you to format a drilled audio tape using one of the ADAM tape drives. We will have a review next month. The price if you have two tape drives is $25 Canadian, $60 if you only have one tape drive plus 10% shipping. For more information contact Trisyd at 26 Florence Cres., Toronto, Ontario Canada M6N 4E4 (416) 769-6446.

ITEMS OF INTEREST

. I received some feedback about the BBS "developed" by D. Threat mentioned in the last issue. Evidently, this program is a modified version of a Public Domain BBS for the C64 and has some bugs. It also has little documentation.

. The March issue of Family Computing magazine has some information on computer camps for kids. There is one in Weston, MA that supports the ADAM, so if your kids need some ADAM instruction and like camps sign them up.
In the same issue on page 20 are the results of a survey FC did last August. Notice that 8% percent of the responding owners had ADAMs, more then the Atari ST and Amiga.
On page 24 there are some good tips on buying and using modems as well.

. I forgot to mention that Peter Villanyi is the one who supplied us with the complete Christmas greeting program published last month. Thanks Peter !

. There is a new BBS up in Cincinatti, OH (513) 489-0018,
another new one in Connecticut (203) 568-5452 (Sundays 10AM to 6PM EST.

. Telegames USA has many of the hard to find cartridges for the Colecovision/ ADAM. Write for a free catalog to Box 901, Lancaster, TX 75146.

. MULTIWRITE AND PRINTFILE CHANGES
BY: Jim guenzel
MultiWRITE is a fine WP program for ADAM. The program is in basic and there are some limitatons to the program because of low memory space. Documents you are working with are stored in memory starting at 33000 and ending at 44800 "peek(1130)" holds the top storage pointer, 175 in my copy. This gives you 11800 memory spaces or 5 or 6 pages of single spaced text. I did write an addition to MutliWRITE to allow for merging of files but the 5/6 page limit is a problem. In order to get around that limit I wrote an addition to PRINFILE that allows for the "chaining" of two or more files.
PRINTFILE CHANGES:
(1) I added a routine to do multiple copies.
(2) I added a routine to start page numbering on the second page. For this to work correctlu enter a "RIGHT JUSTIFY" or a "LEFT JUSTITY" command at the very start of your document. Failure to do this will cause one extra <CR> at the end of the print-out of the first page.
(3) I added a routine to allow for "chaining" of two or more files during printout.

(4) I added routines to do "footers" and "headers".
(5) I added an "auto footer" routine that prints the file name and date at the bottom of each page-this is not done if a regualr footer or no footer is selected.
(6) I added a better error routine. If a file load error of 7(file not found) is generated the program tells you and allows you to reenter the file name. Any other error will stop the program and print the ERRNUM. Look up the meaning of the ERRNUM in the ADAM BASIC MANUAL, correct the problem and enter "goto 3030" to restart the program at the file routine.

MULTIWRITE CHANGES
(1) I added a routine to allow for merging of files.
a. In this routine you should "save" the "merged" file before doing any edit work because I did not reset all the pointers in the merged file.
b. Also I suggest that you load and run the regular version of multiwrite to edit, create etc. because the longer version which allows for merge sets lomem: to 44500 and thus costs some space. Also the longer version will cause the program to lock up and do some other weird things if you try to edit the merged file.
(2) I changed the color selections for more readable text on my screen. Just change the value poked into 29209 by line #1101.
I have all these changes in a Basic program. Just send me $5 and I'll send a DDP or disk with the changes and instructions for installing them.
Enjoy, Jim Guenzel, 12221 Spring Shadow Ct, Maryland HTs, MO 63043.

. We get many questions regarding connecting monitors to the ADAM. Firstly, if you have the Expansion Module version of the ADAM that attaches to the Colecovision game unit, there is no connector built in to plug a monitor cable in. You either have to install the Exp module monitor conversion kit or buy the standalone verion of the console which contains a built in monitor plug. You then need the ADAM monitor cable #7830 which will attach to any composite monitor. The best color composite monitors available are the Magnavox 80 and the Commodore 1802/1902. Sears also has their own monitor. All you have to ask is whether the monitor has composite video input capability and an audio input jack. Most color monitors provide both composite and RGB color connectors so they can be used by most computers, the ADAM only has composite output. You can get either a color or monochrome (green or amber only) monitor. The monochrome have higher resolution and are good for text/ word processing work but of course don't have the color. Remember, your

monitor, like a dot matrix printer are investments that can be used with any computer.

. BASIC RAM DISK AND FAST RUN PGMS
Many of the "fast run" programs which are based on the "cruncher" program developed by Serendipity, IntelLoad for one use an incorrect routine that is not compatible with the BASIC RAM DISK program reviewed in the Dec/Jan issue. Walter's Software (developers of the RAM DISK) have developed a correction to these fast run programs that will allow them to operate correctly. A correct version of the cruncher program is now included on the RAM DISK ddp/ disk as well as a program that will modify an existing cruncher program to correct the problem. If you already have a program that has been bsaved using any of these fast load programs, you will have to modify the first block of the bsaved program in order to use it with the RAM DISK program. Contact Walter's Software for more information. You may also send in your RAM DISK product to Walter's for upgrading to obtain the revised cruncher program.

LETTERS

. Enclosed is my check for $18.00 to renew my membership in NIAD. This past year has certainly gone past quickly and looking back at the previous issues of the NIAD newsletter I am amazed at the material you and your staff have covered. Please, keep up the good work! I think the interest that your group has generated nationwide in ADAM has rejuvinated the machine and is directly responsible for the increasing availability of quality hardware and software for the ADAM. I have a word of warning that you may want to pass on to the rest of the NIAD readers regarding the "HACKER'S GUIDE Vol TWO" and "TURBOLOAD" from Strategic Software. I recently attempted to run a program that I had previously saved using "Turboload" using the BASIC modifications listed in the "HACKER's GUIDE" as listed on pages 87 & 88. There was a complete disaster! The program began to run then locked up, then the tape started running, then everything crashed! The cassette data was totally destroyed including the initialization, I had to go into a tape edit utility and reconstruct the first block to get the tape to work without an "I/O Error" message. Fortunately the major program on the tape was backed up on another tape and nothing was destroyed exept some time. So unless I have a data statement wrong, there may be a potentially catastrophic bug when this variation of BASIC and TURBOLOAD (or other binary based programs) are run together.
By the way the basic mods in HACKER'S GUIDE work great on regular basic.
- D. Wilson

. I would like to ask a question that might be of value to other readers of your monthly letter.

Along with the ADAM I own a TRS-80 computer which also uses a Z80 processor. I have a large number of both Basic and machine language programs for the TRS. I know that the Basic programs may need some modification but I wonder if the machine language ones are usable as is.
I. Papazafiropoulos
- This is a tough one. You could transfer a machine language file from the TRS to the ADAM by using CP/M 2.2 and a modem program like MADAM7 (on PD volume CNDV7) on the ADAM side to retrieve the program from the TRS if you have a modem program for it that the ADAM can access. Better yet use a large BBS like Compuserve as the transfer point. Once you get the program on an ADAM disk/ ddp the problem will be getting it to run by writing a boot routine that can load and run the Z80 machine code. This one is beyond me. How about some of you real hackers out there contacting us with some help on this one !

. I have never seen any reviews in NIAD for the Infocom text adventure games that you carry. I like to know what I'm buying before I order it.
L. Kus
- All the Infocom text adventure games (no graphics) which we carry are actually the same game across multiple computers. We see no sense in reviewing these games since there have been reviews published in many of the major magazines. In fact, there are even books published containing information and hints for use in playing these very difficult games.

ADAM CALENDAR   month:
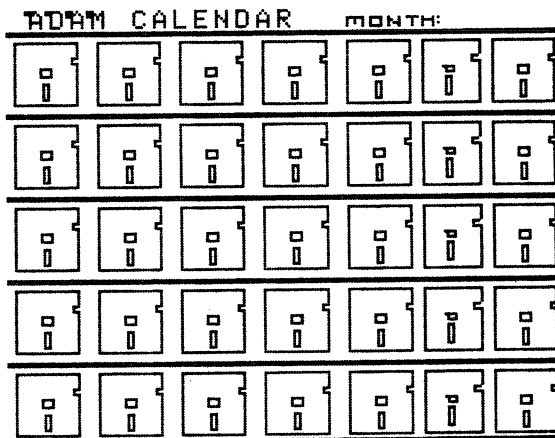
USING DOT MATRIX PRINTERS

Some clarification is needed based on questions that many of you are asking about how the ADAM can be used with other printers.

There are two types of interfaces available that will allow the ADAM to print via other printers - PARALLEL - This interface is used to attach the ADAM to other, high speed printers. Almost all dot matrix printers use this parallel interface. The Eve SP-1P and the Orphanware PIA2 are parallel printer interface cards that must be plugged into the ADAM in order to attach a dot matrix printer. Special software is included with both these devices that allows the dot matrix printer to be used from the various ADAM software programs such as SMARTWriter, SMARTBasic, SMARTFiler, CP/M, etc.. The only difference between the two units is the fact that the Eve SP-1P plugs into the outside expansion port and the Orphanware PIA2 plugs inside the ADAM (in the center slot, in between where the Modem and memory expander plug in) and requires that the cable be routed from inside the ADAM to the printer. The price of the SP-1P is $79.95 (includes cable) and the PIA2 is $39.95, not including the cable which costs an additional $15.95 . If you only need a parallel interface I would recommend either of these units.

SERIAL - A serial interface, also known as RS232, is an industry standard interface for transmitting data between devices. This interface can be used to attach the ADAM to special printers, modems, plotters, external control devices and other computers whereas the parallel interface is basically limited to printers. Eve makes the SP-1 which contains BOTH a serial and a parallel interface. This combination parallel/ serial interface is quite expensive - $139.95. Orphanware will be manufacturing a serial only interface in the near future, watch for information in future issues.

NIAD carries both of these printer interfaces. If you only think that you will need to interface to a printer, make sure that the printer you are buying comes with a parallel interface and purchase either the PIA2 or the SP-1P. If you want to connect to a special serial printer of a modem or other such device, purchase the Eve SP-1 which contains both a parallel and serial interface.

Obviously the advantage of a dot matrix printer is speed and graphics capabilities. The ADAM printer prints at about 8 characters per second. The Panasonic 1080I prints at 120 CPS in draft mode and 24 CPS in near letter quality mode as a comparison. Draft quality is what you see in the news letter, near letter quality is shown below. Hence, you can get both high speed printing for drafts of long letters or printing out your Basic programs and also have a high quality print for correspondence. With the advent of graphics printing software for the ADAM, another advantage of dot matrix printers is evident. All the pictures in this and previous issues were printed with the Panasonic 1080I, using the GRAPHIXPAINTER software.

Now, as to which printer to buy. Unfortunately, there are so many dot matrix printers around it is hard to choose - Epson, Star, IBM, etc. I have used the Panasonic and find it to be a great printer for the price and hence, highly recommend it for anyone looking for the features above and needing to do alot of printing. If you don't need to produce a high volume of printing but are looking primarily for a graphics printer I would recommend the Okidata 20 printer which not only prints text at 80 CPS (draft) and 40 CPS (letter quality) but has both black/white and COLOR graphics capability. In fact, the Okidata 20 has a 24 pin printhead as compared to a 9 pin on most other dot matrix printers, giving it better graphics printing capabilities. It is a smaller printer then most, but doesn't have some capabilities such as printing of mailing labels or any pin fed paper smaller then 8 1/2 inches. It is only designed for lower volume printing and graphics. The price is reasonable, $200 for the printer and the ADAM Plug N Print. Okimate sells the printer by itself separately from various "Plug N Print" modules, which are required to attach the printer to a specific printer (you can't use the printer by itself without the Plug N Print). You may be able to find the printer for as little as $130, but you will need a Plug N Print module to attach it to the ADAM. You will also need the Orphanware PIA2 or Eve SP-1P parallel interface and cable. The Oki 20 is a nice little printer for light duty work if you want a black/white AND color graphics printer.

PRINTING SOFTWARE
In addition to the software that is supplied with the Eve/Orphanware parallel interfaces there is some additional software that is required for special printing on dot matrix printers - SP-1 Custom Printer Software - This software will work with either the SP-1, SP-1P or the Orphanware PIA2 interfaces. It provides that capability to insert special control characters within your SMARTWriter and SMARTFiler documents that change the print style within a document based on your printers capabilities. For example, if you want to underline one word, print a heading in large letters, print super or sub script, print

compressed, print in italics, etc. you can turn these features on/off within your document by putting special characters in your document. This Custom Printer software is a must for anyone with a dot matrix printer who uses the SMARTWriter word processor. Eve has put this software in the Public Domain just recently. Please specify which printer you have and wether you want it on disk or tape.

NOTE: The instructions provided with the Eve Custom Printer software are not the most best in if you're a novice. Th. H. Scholten has sent us some better step by step instructions that we will add to and make a more complete set of instructions. Send in a SASE and requrest the "Expanded" Custom Printer software instructions.

Wamodrive - This software is for SMARTBasic and is the only software that allows the passing of graphics commands from SMARTBasic to dot matrix printers. You run this software after loading Basic and from then on you may direct output to the dot matrix by entering the command PR#1. Enter PR#0 to go back to only displaying output on the screen. Any Basic program that prints out anything on the ADAM printer will print it on your dot matrix printer if you ran the Wamodrive program first.

A nice feature of Wamodrive is that by following the commands given in the manual for your printer you can set the printer in anyway desired, go to any other program and your printer will remain in the mode you set via Wamodrive. For example, I load Basic, then Wamodrive, then issue a command to set by Panasonic printer to print 15 characters to the inch. I then load the Eve Custom software program, go to SMARTWriter and print the newsletter articles from there. I could not print in anything but compressed mode (17 CPI) or regular print size before because the Eve Custom software does not provide a command for setting a specific number of characters per inch.

The Wamodrive program was published in the October/ 86 issue and is also included on both the GRAPHIXPAINTER and GRAPHIXPIX I products. Make sure you read the explanation of how to use the Wamodrive program in both the Oct and Nov/86 issues.

Oki 20 Color Printer - In the Feb/87 issue we included a program that will print any low resolution SMARTBasic screen IN COLOR on the Oke 20 printer (make sure you run the Wamodrive program first of course).

By using the Wamodrive program and the Oki 20 manual, you can use the graphics features of your printer.

The Oki can be used as a regular dot matrix printer by using the black ribbon cartridge instead of the color. The Eve Custom software

program can be used with the Oki as well for printing via SMARTWriter.

```
]This is an example of
the near letter quality
mode on the Panasonic 1080.
```

PUBLIC DOMAIN WORKSHOP

We occasionally receive questions as to what the Public Domain volumes are and what they can be used for.

Firstly, a "volume" is a tape/ disk full of programs. When we say there are 18 volumes of the Basic PD library, there are 18 different tapes/disks you can order. Each tape/disk has a number (e.g. BNDV10) and contains from 15 to 30 programs. These program names are listed on the Public Domain list you received with your new member packet. You can receive an updated list by sending in a self addressed, stamped return envelope as well. Each month or so we also give detailed descriptions of one of the Basic and CP/M volumes.

OK, so what do you do with these PD volumes ? All of you have the SMARTBasic program which came with your ADAM. This program does nothing by itself, it just provides you the mechanism to write your own programs and run pre-written Basic programs. The Basic PD volumes contain pre-written Basic programs that you can run yourself. There are a large variety of programs across the various volumes including games, utilities, graphics, business, etc.. Before you try to run any of the programs on a Basic PD volume you need to do two things -

1. Using SMARTWriter (not Basic), get any documentation files (these files will have the phrase DOC or README in the filename) from the volumes and print them out for reference - follow your SMARTWriter manual which will quide you in retrieving and printing a documentation file.

2. Review your SMARTBasic manual regarding how to load and run programs.

The other PD volumes are also programs that are ready to run. However, you must have the appropriate "master" program first. CP/M 2.2, ADAMCalc and SMARTLogo are master programs sold separately, which you must have to run the respective PD volumes. Refer to the respective manual as to how to load and run programs for these products.

I want to thank Bob Tarnowski for putting our recent Basic Public Domain libraries together. There is a lot of work in testing these programs and making changes as needed to these programs.

```
    ** NIAD PUBLIC DOMAIN **
       BASIC VOLUME #BNDV17
     * PROGRAM DESCRIPTIONS *
```

NOTE: Files in lower case letters are Basic programs or documentation files that must be run on the SmartWRITER. The doc files are 'H' files.
. Those in capital letters are binary files and are run by typing 'BRUN <FILENAME>'.
*** SHPEDESIGN - Create shapes, print out the data and store your shapes on tape with this very well done, colorful, menu driven program.
*** CALENDAR - Prints a custom header, then a 12 month calendar on 14" legal sized paper. Good routines.
*** wordgame - A word scramble game for 1 or 2 players that also plays a nice tune and keeps score for you.
*** typing - Make a game out of practicing your typing. Keeps score for you too.
*** ectoblastr - Shoot the hi-res ghost and make him disappear. See instructions that follow.
*** LONDON - A text adventure that takes you through the underground and streets of London to find THE SECRET!
*** renrobot2 - Get through the unlocked door before the Renegade Robot catches you in this graphic game. Use the game controller.
*** CHATEAU - You'll fight all kinds of strange beings as you wander through secret rooms and passageways trying to get out of THE CASTLE.
*** MOSQUITOES - You're in a room filled with mosquitoes. Drive them into the bug lamps to win the game without getting trapped in a lamp yourself. Color and sound.
*** BLACKJACK - The game of 21 for up to 6 players. A fun game - win or lose.
*** thelabel - A good program for printing labels in several different sizes.
*** cursor - An interesting program that will change your cursor to any ASCII character from 0 to 255.
*** firesafety - a fire safety drill for children that tests their knowledge and reactions to a home fire.
*** pokescalls - A SmartWRITER list of peeks, pokes and calls useful to the hacker - well done, easy to read.
*** colorbar - Puts a colorbar test pattern on the screen for picture and color adjustment.
*** volrename - Rename the volume name on your tape or disk easily - permits use of spaces.
*** banner - This program will print out a large banner on a daisy wheel or matrix printer with fanfold paper.
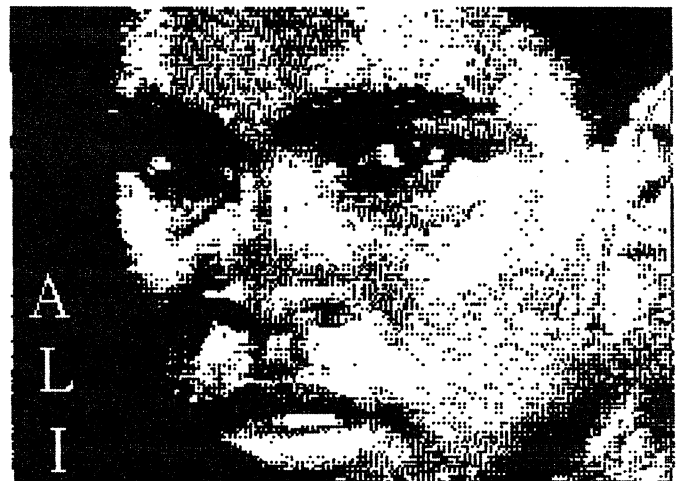*** - SURVIVAL - A good text adventure where you must survive before your time runs out! See survivedoc.
*** WORDSEARCH - A great program for printing out any size word search puzzles. Good routines & hours of fun.
    ENJOY!!!

F-15

WmDE

A
L
I
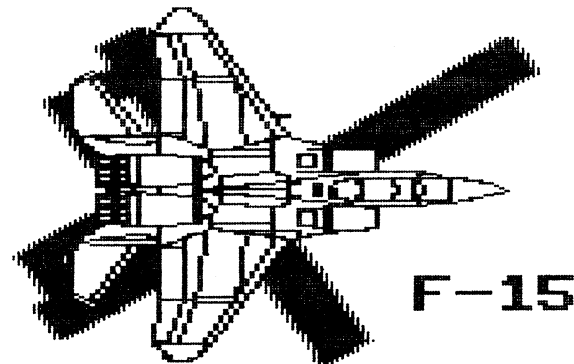
GRAPHICS WORKSHOP
Hi/Lo Res Screen Text
By W. Motel

The following program demonstrates a method of getting text data onto a Hi or Lo Res screen. This is a method I've used on our NIAD SOFTWARE logo screen.

Within the program, 3 portions exist.

A. Lines 1 - 25   Define/Load Machine Language.
B. Lines 30 - 80 Demo 1 portion. You input col, Row, Character and its put on the screen. Any value is valid. Try some control - key values. To end: 99,99,any value.
C. Lines 100 - 140 Demo 2 portion. Displays the word TWINKLE on screen and after brief pause, Repeats changing text color on Red backround. Exit with CNTL-C

Portion A is the load routine. 1 storage area exists for the column, row numbers. 2 routines exist, one to put the text to the screen, the other to set that location to your specified color (both the text and surrounding backround area). They both use existing EOS routines. We simply fill in the required data into the registers used by the EOS routines and CALL that routine.

I've set aside a storage area for the column,row so that we can poke the value in once, but it can be referenced by both routines, which need it.

In looking at the program, you'll see REMarks that explain what most of the program is doing. I've used M0, M1, and M2 for address pointers to the col,row storage area and the 2 M.L. routines. My references are all in regard to these 3 variables as to the respective area/routines. This is a little technique that lets you use my routines and load techniques and put them anywhere you want (Instead of my addresses 27408, 27410, and 27440). All you have to do is change the addresses to your desired addresses (see Lines 15,16,17). The rest of the code adjusts and loads appropriately, without any more change in the coding by you. Portion B and C are just two examples of how to use/experiment with these routines.

The first routine (M1) is a CALL to the EOS routine to transfer ascii to VDP. The second routine (M2) is a CALL to EOS routine thats transfers the contents of (A) register to VRAM. We use this for the color set. The color value is loaded into (A).

To make working with this easier, since each text character will occupy an 8 x 8 pixel area of the Hi/Lo Res screen, we refer to the desired location as to the Column and Row we want, where the Column and Row is the same as the available 32 text columns and 20 rows (24 on the HGR2 screen).

These are NOT the SAME as the 256 by 160 "pixel" position of HGR or the 40 by 40 "scrn" positions of GR, but there is a correlation. 1 TEXT location (column,row) use an 8 by 8 area, which is 8 bytes each containing 8 bits as follows

```
Byte 0   ...x....
Byte 1   ..x.x...
Byte 2   .x...x..
Byte 3   .x...x..
Byte 4   .xxxxx..
Byte 5   .x...x..
Byte 6   .x...x..
Byte 7   .x...x..
```

Even though the bytes are stored as 8 consecutive bytes in VRAM, They are displayed as shown. This arrangement is in the PATTERN portion of VRAM. We also have a corresponding COLOR portion of VRAM that also would use 8 bytes for the location, again Byte 0 in COLOR corresonds to the 8 bits of Byte 0 in Pattern. Byte 1 to Byte 1, etc. Note: One byte in the Pattern is controlled by one Byte in the Color area of VRAM. One byte of Pattern is 8 bits, Remember the 8 bit pixel "bleeding" problem? What can the bits be? Either On/Off or 1/0. Therefore we need a way in our Color byte to show the color for both the 1 (ON) bits and the color for the 0 (OFF) bits. In the color byte, the upper 4 bits contain the color value for the 1 (ON) bits, the lower 4 bits contain the 0 (OFF) bits color code. The color code chart is shown below. This is the TI VIDEO Chip colors, not ADAM Basic color codes. The value is calculated as Text (ON) bits color code value * 16 + Backround (Off) bits color value. See Line 25/110 Remarks.

TI Color Codes

0	Transparent	8	Md. Red
1	Black	9	Lt. Red
2	Md. Green	10	Dk. Yellow
3	Lt. Green	11	Lt. Yellow
4	Dk. Blue	12	Dk. Green
5	Lt. Blue	13	Magenta
6	Dk. Red	14	Gray
7	Cyan	15	White

Back to our correlation. Hi-res is 256 by 160 (or 192 if HGR2). Since each text location takes up 8 x 8, every 8 bits across (starting a location 0) is a text column. Every 8 down is a row. 256/8 = 32 columns. 160/8 = 20 rows. 192/8 = 24 rows (Note, this is on the HGR2 screen, where we don't have the 4 "normal" text rows available. We refer to our 32 columns as columns 0 to 31, and the rows as 0 - 19 (23 for HGR2). For example, if we want to place text above Hi-res row positions 100. 100/8 = 12.5, which means we want to be above text

row location 12 (we won't work with fractions),
Therefore text row 11 or less would be fine).
Going the other way, text row 11 * 8, yields
Hi-res pixel row 88 (thru 95, since the text takes
up 8 bytes). The columns are similiar, but working
with the left to right positions.

Lo-res is similiar, but we have 40 by 40 scrn
locations, because a Lo-res "block" occupies a 6
(accross) by 4 (down) pixel block.

The two routines are briefly as follows:
Transfer ascii to VDP

This transfers the "text" patterns starting
at the ascii value specified to the starting VRAM
address for the number of characters specified.

(DE) has the address to start transfer to in
VRAM

(HL) has the ascii value of the first text
character to transfer from

(BC) contains the count of "characters" to
transfer. We transfer "1" character, which the EOS
routine knows and handles as 8 actual bytes per
each character.

Transfer (A) to VRAM

(A) has the color value (See TI chart and
formula)

(HL) has the VRAM address to start transfering
into

(BC) has the count telling how many bytes to
transfer.

This routine transfers the "same" value thats
in (A) to the starting VRAM location for the byte
count specified. Here we DO specify 8 for each
location we want to transfer into for VRAM.

The two machine language routines are set up
are similiar and one thing I do is adjust the
column location by a multiple of 8. This adjust
the text location 0 - 31 into the respecitive
offset value of 0 - 255 (256 actual left/right
locations). Due to the VRAM addressing design that
I am not going into now, the row value is OK as
is.

We'll continue next month with a detail
breakdown of my two machine routines (try to
decode them yourself if you know machine language
and see if you can figure them out by next month).
Experiment with this program and/or try your own
variation. Lines 1 to 22 are all you need to load
the routines, just add your own code for the
actual text placement.

To use
1. POKE m2+17 with the color value
   Either once to keep constant or prior to each
   CALL M2.
2. POKE m0 with column value, m0+1 with the row.
3. POKE m1+15 with the ascii of desired character
4. CALL M1 and CALL M2 (either order, but do
both).

Besides finishing the code explanation, I'll

also discuss some other tricks/techniques/uses of
this. Do try it and experiment, as you'll learn
more than my explaining it. Try doing text
placement and actual HPLOTs or PLOTs. This will
help you to better see and understand the
correlation of the text location column,row and
the Hires or Lores locations. I hopefully will
also start an article next month on desgning your
own 8 x 8 bit patterns and combine them on a
Hi-res screen.

```
1 REM Text to Hi/Lo-res screen example
2 REM W. Motel  Niad 3/87
5 LOMEM :27500
10 DATA
42,16,107,17,0,32,203,37,
203,37,203,37,25,23        5,33,0,0,1,1,0,205,23,253,
11 DATA
42,16,107,17,0,00,203,37,
203,37,203,37,25,17         ,8,0,62,245,205,38,253,201
15 m0 = 27408: REM Col,Row (next byte) store area

16 m1 = 27410: REM Text to screen M.L.
17 m2 = 27440: REM Color fill screen M.L.
18 h = INT(m0/256): l = m0-(h*256): REM Calc hi/l
o of  co l,row address
19 POKE m1+1, l: POKE m2+1, l: POKE m1+2, h: POKE
m2+2, h: REM Store into M.L
.
20 FOR x = m1 TO m1+23: READ v: POKE x, v: NEXT x
: REM    Loa d Text M.L.
22 FOR x = m2 TO m2+21: READ v: POKE x, v: NEXT x
: REM    Loa d Color M.L.
25 POKE m2+17, 245: REM Set color value 15 (White
   tex t) * 16 + 5 (blue ba
ckround)
30 HGR: REM This could be HGR2 or GR also
49 REM Col range 0 - 31   Row range 0 to 19 (0 -
23 for HGR2)
50 INPUT "col, row, char"; c, r, a$
51 IF c = 99 AND r = 99 THEN 100
55 POKE m0, c: POKE m0+1, r: REM poke col,row val
ues  in storage
60 CALL m2: REM Call color set for col,row
70 POKE m1+15, ASC(a$): CALL m1: REM poke ascii o
f   char in and call M.L.
80 GOTO 50
100 REM The following is an example run
101 REM It runs after the input prompts
102 REM CNTL-C to stop
105 DATA T,W,I,N,K,L,E
110 HGR: POKE m2+17, 241: REM White text on Black

120 POKE m0+1, 10: REM Row 10
125 FOR c = 13 TO 19: READ a$: POKE m0, c: POKE m1
+15, ASC(a$): CALL m1: CALL
m2: NEXT c
128 FOR t = 0 TO 999: NEXT t: REM Delay
130 FOR x = 1 TO 13: POKE m2+17, x*16+6: REM Color
text (x) + Backround 6(red)
```
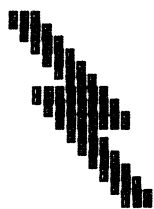
```
135 FOR c = 13 TO 19: POKE m0, c: CALL m2: FOR t =
0 TO 1: NEXT t: NEXT c: NEX
T x
  140 GOTO 130
```

SMARTBASIC WORKSHOP

SMARTBasic PROGRAMMER'S TOOLBOX
By Bob Lennes

This month I have for you a way to use BSAVE and
BLOAD without having those dreaded 'Control Buffer
Overflow Error' messages messing up your program.
The reason you would get an error in your program
is because the Control-D buffer which holds the I/
O commands following a printed CHR$(4) in the
first column was not made large enough to hol d
all the characters required to use BSAVE, or even
BLOAD with all their attributes.

Implementing BSAVE
By using some pokes and a call, you can easily
Bsave a file from your program.
  Sample to save a file named 'MACHINDAT':

```
100 ADRAT= 28000
110 LENGTH= 1024
120 AU= INT(ADRAT/256): AL= ADRAT-AU*256
130 LU= INT(LENGTH/256): LL= LENGTH-LU*256
140 POKE 16791, AL: POKE 16792, AU
150 POKE 16793, LL: POKE 16794, LU
160 FILE$= "MACHINDAT"
170 FOR T= 1 TO LEN(FILE$): POKE 16796+T,
MID$(FILE$,T,1): NEXT
180 POKE 16796+T, ASC("H"): REM Filetype
190 POKE 16797+T, 3: REM End of filename
200 POKE 16821, 8: REM 8=TAPE1,24=TAPE2,4=DISK1,
5=DISK2. This line is optional
210 CALL 20865
220 END
```

The Binary File MACHINDAT would be saved on your
tape. There is no possiblity of a Control Buffer
Error.
Implementing BLOAD

The Routine is very similiar. Here is a sample
program that will Bload the file above.
```
100 ADRAT= 28000
110 AU= INT(ADRAT/256): AL= ADRAT-AU*256
120 POKE 16791, AL: POKE 16792, AU
130 REM We must change the Basic itself for
BLOAD
140 POKE 21091, 0: POKE 21092, 24
160 FILE$= "MACHINDAT"
170 FOR T= 1 TO LEN(FILE$): POKE 16796+T,
MID$(FILE$,T,1): NEXT
180 POKE 16796+T, ASC("H"): REM Filetype
190 POKE 16797+T, 3: REM End of filename
200 POKE 16821, 8: REM 8=TAPE1,24=TAPE2,4=DISK1,
5=DISK2. This line is optional
210 CALL 21043: REM Change back Basic after this
220 POKE 21091, 241: POKE 21092, 56
230 END
```

I would like to mention that The Hacker's Guide
IIwas very helpful to me to figure out these
routines. I recommend that anyone who enjoys this
column get it since it is THE most valuable book a
Basic hacker can get.

TELECOMMUNICATIONS WORKSHOP

As mentioned last month, ADAM has a new home on Compuserve - the Computer CLub. To get there type GO CLUB from any ! prompt. Two long time ADAMites and NIAD supporters, Rob Friedman and Tim Nunes are the co-sysops of the ADAMania section. There are 2 data libraries, one for CP/M programs (DL10) and one for all other Basic, ADAMCalc, etc. (DL9). There are tons of great programs on the data libraries that you can take advantage of. There are also many messages to and from ADAMites that can be read for information. You can leave your own questions and comments as well. Since this forum covers many different computers, you can select to read only ADAMania messages by going to the User options section and selecting sections 9 and 10.

The following was retrieved from the DEScription file from Data Library 9 on the CLUB -

ADAMania is a Data Library (DL) devoted to ANY an ALL ADAM applicatins, EXCEPT those relating to CP/M (see ADAM CP/M). This DL contains applications, games, graphics, and utilities written in SmartBASIC(tm), SmartLOGO(tm), AdamCALC(tm), or for use with other programs and/or utilities (such as "VideoTunes"(c), by FutureVision).
In order to 'upload' or 'download' files from this DL, you need AdamLINK 2 (NOT AdamLINK 1). [NOTE: Please upload ALL ASCII Files (ie. SmartBASIC(tm), AdamCALC(tm), SmartLOGO(tm), .TXT/.DOC files, etc.) using the "ASCII" Option, so AdamLINK 2 users can download them.] If you don't have this program, you can obtain a copy from your local Users Group (such as NIAD) or from some other User (the program is Public Domain since Coleco ceased its manufacture). If you need further information on how to use ADAMLink 2, (R)ead the file "UPLOAD.HLP" in this DL. Also, if you would like to download CP/M or machine lang. files (such as VideoTunes(c) files), download "MBOOT.ASM" from this DL (MBOOT.ASM REQUIRES CP/M, and will futher enable you to download such Public Domain Tele.Comm. programs as MADAM7.COM and MEX114.COM, in ADAM CP/M).
Finally, just a note about FILENAMES and KEYWORDS. The KEY WORDS and FILENAMES should contain elements that DESCRIBE the file. The first part of the FILENAME is used to TITLE the file, and the second part of the FILENAME (the EXTension) is used to DESCRIBE the file. Here are some examples:
STARTR.BAS (STARTRek game.BASic)
XMAS.LGO (XMAS program.LoGO
JINGLE.VID (JINGLE bells.VIDeotunes

I hope this helps any of you w/questions about this DL.
        Uploaded by: *Tim Nunes (SYSOP/ADAMania)

AMANIADIR

I have created a listing of all of the ADAM MANIA files listed on Compuserve as of Jan. 29, 1987. It is set up to print out with the same margins as this file. Access it through SMARTWRITER. You can then read or print it out. If you choose to print it, be aware that it will take about 26 pages this size (5.5 X 8.5). I have found this size to be best for the notebooks I use. This file can save you quite a bit of time on Compuserve by knowing just what you want before logging on.

I will be updating this file from time to time and uploading it under the title AMANIADIR to the DL on the CLUB forum. If you have any questions, you can reach me on COMPUSERVE at 76667,41.
                    Mike Keith

AMERICAN PEOPLE/LINK UPDATE
HELLO fellow ADAMites! My name is DAVID E.CARMICHAEL. I am the former KANSAS ADAM USERs GROUP(s) CHAIRMAN and for the last twelve months have been proud to be the COLECO ASAM SECTION SIX CHAIRMAN in the COMPUTER CLUB.
You ask what is the COMPUTER CLUB? Well the COMPUTER CLUB is part of the telecommuncations system known as AMERICAN PEOPLE/LINK. This system can be reached via your computers modem and your local TELENT, TYMNET and in CANADA DATAPAC phone numbers.
In SECTION SIX of the COMPUTER CLUB is a message base and a DATA LIBRARY where PUBLIC DOMAIN & "FREEWARE" software is available for you to DOWNLOAD. And where you may UPLOAD programs that you have written and wish to share with other fellow ADAMits!
You say that you have heard of PUBLIC DOMAIN software but what do I mean by "FREEWARE" software? FREEWARE saftware are programs that the author/programmer has made available for you to use on either a limited basis and/or ask that if you find the software of use to send them a few dollars (what you feel that the program is worth). They also ask that you do not (or under conditions) give out copies of the program to your fellow ADAMites.
Well one of the most interesting "FREEWARE" programs to come along is a set of THREE DATA FILES that allow ADAM users that have only ADAMLink II and SmartBASIC Ver1.0 to UP/DOWN-load "VIDEOTUNES" by FUTUREVISION song files. Where before you were forced into using CP/M's ADAM.COM &CPMADA.COM and also a CP/M based terminal

program.

And just in the last few weeks we had added to the library as "FREEWARE" software THREE NEW DATA FILES that using ADAMLinK II and SmartBASIC Ver1.0 you may now share those PINBALL GAMES that you have made using the COLECO PUBLIC DOMAIN PROGRAM "THE BEST OF ELECTRONIC ARTS" - 'PINBALL CONSTRUCTION SET'!! There already are a number of very interesting games in the library for you to download and enjoy!!

I hope to SEE your ID# online soon! Speaking of ID numbers on online I go by the ID# of DAVID E,C so once you find your way their leave me a little E-MAIL telling me what you think of the COMPUTER CLUBS - SECTION SIX!

For information on how to get logged onto "Plink" you may call up their customer service number toll free everywhere other then Illinois at 1-800-524-0100. In Illinois call 1-312-870-5200.

EDITORS NOTE: Peoplelink is a large BBS like Compuserve, offering similar functions.

REVIEWS

MICROWORKS By L. Marschand

We just received a "BETA" test version of MICROWORKS (MW) so this will be a partial review, the remaining portion of the review will be done next month.

This new product from Strategic Software (PAINTMASTER, SIGNSHOP, MULTIWRITE, TURBOLOAD) is an integrated set of 5 different programs patterned after the popular APPLEWORKS program. The integration is achieved by providing the capability to pass files between all the programs. As an example, if you have a database of information in the MICROFILE program and you would like to select some portion of the database to merge into a document, you can create a file that can subsequently be read by the MICROWRITE program, through which you can add titles, summaries and other written information. You can also create a file that can be read by the MICROGRAPH program which will produce a bar, line or pie graph of specified records from your database. The MICROCALC program, which is a spreadsheet program, can also create a file for either the MICROWRITE or MICROGRAPH programs. It can also receive a file from the MICROFILE database program. As you can see this set of five programs can provide a nicely integrated set of functions or be used as five distinct programs. The advantage of this set of five programs is that

you actually get five unique programs that offer the most commonly requested computer functions plus the abilitiy to transfer data between them. Due to the number of programs and the ability to integrate them, each of the programs is not designed for large volumes of data, but for what I would call normal use for home or small business applications. As an example, the MICROFILE database program will accomodate about 150 records for a typical name and address file, whereas SMARTFiler, which is exclusively a database program written entirely in machine language, can accomodate about 1000 records.

MW was well designed to provide a common user interface from all five programs. The selections are done via a selection menu on the bottom of the screen display, patterned after some of the more popular programs you can select an item by hitting the space bar to toggle between each menu item or by entering the first letter of the item. Options for selecting from both tape and disk drives for loading and saving files are also provided.

MICROFILE

This is a full fledged database program. You can have up to 6 categories per record and depending on the length you require for each category name, you may have from 50 to 200 records in any one database. Similar to SMARTFiler, you first CREATE your database by entering field names and lengths. MICROFILE then tells you how many records your database can have. You then can ADD your individual records or go back to EDIT a record. Functions are provided to SCAN the database and SEARCH on any field. The search function is fairly sophisticated and allows you to search on combinations of fields using parameters for EQUAL matches, certain strings of characters or greater/less then functions. Their is a nice OUTPUT function provided which provides three output types -

COLUMNAR which displays the categories as columns and each record as a row. An excellent feature is the ability to have a summary printed which will give a count of the number of items in a column, a total of the values or an average of the values in a column. This gives a nice, but limited spreadsheet type of feature to the database program.

LABELS which allows you to format a mailing label and print out all or a portion of the database. You can also sort the database records by any field prior to printing.

GRAPH which gives you options to select which category you want graphed. You can also select whether you want a count or total of the values from each field in the category. As an example, if you have a database of your monthly expenses you would select to graph the month category and one of the expense categories.

Options are provided to select only certain records for printing and to sort them in any order.

MICROGRAPH
This program will very nicely display a bar, line or pie graph based on the data used to create the original graph file in MICROFILE or MICROCALC. You can also provide labels for each of the items graphed. Only the bar graph can be saved for printing by MICROWRITE.

MICROCALC
This is a full function spreadsheet program patterned after the popular MULTIPLAN spreadsheet program, limited in the number of columns (10) and rows (about 60) that can be supported in any single spreadsheet. MC supports relative and absolute cell positions, automatic cell references by highlighting the cell(s) to be included, the SUM and AVG functions, cell range copying/ erasing, variable comlumn widths and multi cell labels. This is a well done spreadsheet and since it is patterned after MULTIPLAN, there are many books available with helpful lessons and sample spreadsheet templates for many different uses.

MC can also create a file of all or a portion of the spreadsheet that can be used by either MICROWRITE or MICROGRAPH for printing/ graphing. MC can also take in a file from MICROFILE which is an important feature. The database file can be used to store and maintain a large number of records which can then be extracted and sent to the MC spreadsheet for computations. Remember that the spreadsheet is limited in the number of rows that can be filled.

MICROWRITE
We will review this in depth next month, but it is **NOT** a word processing program like SMARTWriter. It is a line oriented text editor that allows the inputting of a 75 character line, one at a time. Functions are provided for centering, tabbing, underlining, search/ replace, margin setting. As mentioned, files from the other modules can be loaded for printing. A mail merge function allows the creation of form letters that can read variable data (names, addresses, etc.) from a MICROFILE database file. Due to the limited memory, the size of the documents are limited. A feature is provided at print time to chain multiple document files together.
MW takes a very long time to load a print file and makes you think the program has aborted. Evidently the file is loaded a piece at a time and the program has to create the actual text for displaying before it loads in the rest of the file. There is a problem with the entry of data into MW from the keyboard, the program "misses"

characters that are keyed in unless you type very, very slow. I personally think this program needs some more work.

MICROEDIT
This is a picture editor, similar (but more limited) to the one in SIGNSHOP, that allows you to design logos, large letter titles, etc. for incorporation into MICROWRITE documents.

We'll finish off the review next month but I have to say that this is a value packed program for the price. Just be cognizant of its limitations as well as its advantages. The "beta" version does not support printing via a parallel interface on a dot matrix printer, but Strategic has promised to correct this in the final version.
P.S. We have just been informed that Startegic will (or maby can't) correct MICROWORKS to print on a dot matrix printer. In my opinion this is a gross oversight on their part. Many of the people that could really use a program like this have dot matrix printers. Unlike SIGNSHOP, I don't think this program can be easily modified by us to use a dot matrix printer.

Easy Come, Easy Go
By W. Motel

This is a self-booting multi module Financial Analysis type package from MMSG software. It is very easy to run and contains 3 documentation files to print under SmartWriter. They cover the various functions available, explain the calculations performed and the inputs required, as well as definitions of the various terms used.
The main program includes a toggle to allow you the use of either the ADAM printer or a parallel printer (using the WAMOprint driver, which they include). The various program outputs can be directed to either the screen or the printer.
The Main Menu lets you select one of the 5 main functions.
1. Amortization Schedule
2. Loan Payment Table
3. Loan Total Table
4. Savings Calculation (contains 5 sub-functions)
5. Loan Calculation   (contains 5 sub-functions)

AMORTIZATION SCHEDULE
Basically prints out a loan schedule (similiar to a mortgage loan). Input LOAN AMOUNT and INTEREST RATE. You must also enter either the TERM in months or the desired MONTHLY PAYMENT AMOUNT. Depending on which of the last 2 is entered, it will calculate the other. The results show the input values and the calculated monthly payment or

term required. The payment schedule then shows, for each payment, the starting loan balance, monthly payment, and what portions is going to principal (pay off the loan) and which goes to interest.

LOAN PAYMENT TABLE

Allows you to calculate monthly payments for various loan parameters at one time. These include a range of lowest to highest principal amounts with an increment value, a range of interest rates (automatically incremented by .25), and a range of loan periods.
Example, input principal range of $1000 to $1200, increment by $100, interest range 10.00 percent to 11.00 percent, for loan periods 12, 24, and 36 months. Report shows the monthly payments for $1000 at 12, 24, 36 months for interest rates 10.00, 10.25, 10.50, 10.75, and 11.00, and the same for $1100 and $1200.

LOAN TOTAL TABLE

Similiar to above inputs, this report shows monthly payment AND TOTAL PAID BACK and TOTAL INTEREST PAID.

SAVINGS CALCULATIONS

1. Present value of Future worth
2. Future value of Present worth.
3. Future worth of Regular deposits
4. Compound Interest Rate.
5. Investment needed to make Regular Withdrawls
#1 calculates the present value (deposti needed today) to reach your projected future value using your interest rate and no. of years.
#2 calculates what you will have (future worth) based on current deposit, interest, for no. of years.
#3 calculates future worth of regular deposits at given interest rate, periods per year, for no. of years.
#4 calculates annual compound ibnterest rate on savings of present value, desired future value, and no. of year to keep account undisturbed. #5 calculates initial investment needed to make regular withdrawls of a given amount over a given time period, assuming compound interest and $0 end balance. Useful for retirement calculations.

LOAN CALCULATIONS
1. Term of an Installment Loan
2. Actual Interest Rate on Loan with Points
3. Installment Loan Interest Rate
4. Principal remaining on Loan
5. Loan Table

#1 calulates payment required to pay off a loan for amount borrowed at annual interest rate for

payment period.
#2 calculates actual financing costs
#3 calulate annual interest rate.
#4 calculate remaining principal based on monthly payments, remaining payments, interest rate and payments/year.
#5 Based on principal, interest rate, and no. of years, caclulates monthly payment, interest paid, and total amount paid on a loan.

Overall the programs all seemed to work, they.re easy to use, and the documentation is adequate. As you can see, there is a variety of options and calculations that you can do. You will have to decide if your need for them and how often you'll need them warrents your purchasing this. If it does, I don't think you'll be dissatisfied.

RATING - A

ADAMTALK By L. Marschand

Bob Lennes has finished this excellent program for those of us who have the Eve SS-CC speech synthesizer. As those of you know who have the SS-CC, it is difficult and time consuming to construct the phonemes and allophones required to drive the speech synthesizer.
ADAMTALK does this all for you. You can type in a word and the decimal value of the allophones are displayed. This alone is great. Bob has added a complete dictionary feature that can store about 1300 words. ADAMTALK will (if selected) automatically look up any word from the dictionary and display the allophones.
The best feature is the sentence mode which allows you to enter a word or multiple words and have ADAM "speak" them back to you, rather then writing a program to generate the speech ! This is nice just to play with.
ADAMTALK is a complete system, written in Basic and contained on a self booting disk with SMARTBasic 2.0. The command level has the following functions -
S - sentence mode. Everything you type is interpreted and spoken back to you with the allophones.
U - same as sentence mode, except the dictionary is checked first and the word retrieved if it is there, if not, standard interpretation is used.
I - input (load) into the dictionary a file of pre-done words.
O - outputs from the dictionary to a file.
D - define an additional word and store it in the dictionary.
L - list the words in the dictionary, either by letter or all.
H - lists commands

The print key is used to toggle the printer on and off to print what you need.

As you may know, allophones can be used to speak the same word in different ways, some clearer then others. Bob has put about 50 words in a sample dictionary file that have been defined to sound very clear. By constructing your own words and saving them in the dictionary, you are assured of the best speech for them.

Bob has also included some advanced features for constructing better sounding words and using the dictionary to its fullest.

Most importantly, instructions are provided for placing routines in your programs to generate speech. This offers great possibilities, especially for childrens educational programs, where the speech output can stimulate the child's participation.

This is a must for all SS-CC owners.

RATING - A

Wizard Pinball Arcade
By W. Motel

This is a collection of 17 pinball games created with Electronic Art's Pinball Construction Set. The nice thing about them is YOU CAN RUN THEM WITHOUT HAVING TO OWN P.C.S. The 2 volumes contain the game run logic on them, however, You CANNOT "edit" the games to change parameters, you can only run them. To do edits, you do need to have Pinball Construction Set.

It's hard to explain the EXCELLENT graphics quaility the designer has put into these games. They are all a fabulous showcase for the capabilities of PCS and the ADAM computer. Much detail has been put into the designs with use of both backround board graphics and designs over the actual game parts. For example, one of the games has an excellent drawing of a WW 1 type plane. The plane itself is drawn over various bumpers and lites, plus the wheel itself is the ball catch. Besides being fun to play, they give you great ideas and techniques to use in your own designs.

Some of the games are:

AVALANCE: 3 to 5 balls are in play at one time.

SLICK: 2 plungers and balls

GRANDSLAM: A baseball diamond you have to see to believe. There is no visiable borders, just the base paths, bases, and outfield fence area. The ball comes off of the pitchers mound. You flipper is, what else, the batter.

There are 14 more games all equally well done, with their own unique features. If you like Pinball, this is the best.

RATING - A+

WORLD GEOGRAPHY By L. Marschand

This and the next two programs (SOLAR SYSTEM, AMERICA AT WAR) are educational programs from A-WARE Educational software. They are written in SMARTBasic and offer a common method of use, with menus and printing available.

There are six categories included:
. Oceans/ Seas
. Continents
. Mountains/ Valleys/ Deserts
. Rivers/ Lakes
. Islands/ Peninsulas
. Weather/ Climates

There are 20 questions in each category and the student has the options of viewing the questions in sequence or at random. All questions are multiple choice. Your score is tallied and displayed at the end. There is also a study mode in which the questions and answers are displayed in a drilling method. The print out mode allows the printing of just the questions, questions and answers or questions with multiple choice answers.

SOLAR SYSTEM By W. Motel

This is a BASIC quiz program covering various topics relating to the solar system. 5 catagories exist; SUN, STARS, MOON, PLANET/ASTEROIDS, COMET/METEORS. Each of the catagories contain 20 multiple choice questions. Within each, you can Play in sequence, Play at random, Study mode, or Printout mode. A sixth catagory lets you get a PLANET printout showing the
  - Planet name
  - Distance from the sun
  - Diameter
  - Time per revolution
  - Period of rotation.

Overall, this is not a bad quiz program for the money. I would estimate the questions could be for anybody, but probably cover school ages through 8th grade.

AMERICA AT WAR

This is the third in a series of educational studying programs from A-Ware software.
There are six categories -
Revolutionary War
Civil War
W. W. I
W. W. II
Korean War
Vietnam War
Each category has 20 questions with options as described for the other programs above.

These are very well done educational programs designed for studying and quizing. Anyone interested in these subjects or needing some tutoring will find them valuable and the price is right.

RATING - A

CP/M 2.2 WORKSHOP

NIAD CP/M PUBLIC DOMAIN DISK #19
By S. McFarlane

ADAMDIR.LBR - Although stored in a CP/M Library, prior to use this Menu driven Data Base must be transferred to an EOS disk using CPMADAM. This data base is a SmartBASIC program using the sequential file system & makes good use of color & sound.

ALLOCATE.COM - Prints Bit Map of disk usage for Drives A, B, C, D or M. Using the command 'ALLOC 22' will temporarily write-protect 22K of the Map. Useful tool for programmers.

BARCODE.LBR - A program written for all Epson compatible printers - eg. the Panasonic KX Series. It will print a standard 3 of 9 barcode for a string of no more than 15 characters. DOC file included.

BLKJACK.COM - With on-line instructions, a lone player can play a simple version of BlackJack. Neither splitting nor modification of the bet after the hand has been dealt is allowed.

CHECKBK.LBR - This program enables you to list all checks written to a specific mnemonic name, list a monthly balance sheet, compute check balances, compute bank balance at month end after returned checks are entered, list outstanding checks as well as listing checks, deposits or withdrawals from your account for any month or year. Erroneous entries for any check, deposit or withdrawal can be changed as well as mnemonic names or full check names. A comprehensive program which includes an extensive DOC file.

CKBOOK20.LBR - Requires C BASIC to run. As configured, the program will only allow up to 80 records to be stored. However, this can be easily changed by altering the Variable MT% in each program to the new maximum transaction number required. If this value is changed, the programs must then be re-compiled. The program is Menu driven using the CHAIN command. Adequate DOC file included.

GUESSIT.COM - You against the computer! A simple number guessing game - ADAM picks a number & you have 3 chances to guessit!

SCROLL.LBR - Yet another 30 Column utility with one difference. You can toggle between 30/80 columns which could prove useful in certain circumstances. The drives are not reset & Upper/Lowercase input is accepted.

SDSKCOPY.LBR - A file transfer utility for single drive systems. This program will copy only 1 file at a time, and the filename must be specified when the SDSKCOPY command is entered - ie. SDSKCOPY <Filename>.<Ext>. Error messages displayed if file to be copied cannot be located or wrong disk is inserted. DOC file included.

SWAPCOPY.COM/SWAPCOPY.DOC - Similar to SDSKCOPY.COM, but features several additional options with no restrictions on the number or size of the files to be transferred. The program allows ambiguous file specifications, the transfer of files larger than available memory as well as the transfer of multiple files in a single pass. Other options include <P>rint, <Q>uery & <R>eport. The Print option displays an 'O' each time a source file is opened, a 'C' when a destination file is closed, an 'M' each time a new file is created & an 'r' or 'w' for each sector read or write. Very useful when debugging and/or verifying. Query displays the name of each file specified in the command line, requesting user confirmation of the copy command. The Report option displays the name of each file successfully transferred.

TYPESQZ.COM - is used to print files to the screen or printer that have been squeezed by SQ.COM. Simply input 'TYPESQZ <filename.Ext>'.

WSTXTSVE.LBR - This program allows you to save partially edited files from memory after one of those famous 'BDOS Error on B' messages or a WordStar crash of similar nature. For ADAM's equipped with a 64K Memory Expander, this COM file should be stored in the RAM Disk for emergency use. Otherwise, this utility should be stored on a blank disk & loaded into memory WITHOUT EXITING from WordStar. A very useful tool that can save hours of work! DOC file included.

NIAD CP/M PUBLIC DOMAIN DISK #20
By S. McFarlane

This entire Library Disk/DDP contains a well-known CP/M Text Editor/Wordprocessor - SECRETARY Rel 9. Originally written for North Star Disk Systems, this modified CP/M version is a full featured program with most of the functions that one would expect to find in commercial software. As ADAM comes complete with SmartWriter, most users are reasonably familiar with the benefits of word processing. SECRETARY does provide for some additional features such as Right Justification & Centering.

A comprehensive User's Manual is included with the program which was actually written with SECRETARY and must be printed out using the program. Section I <Training Manual> outlines the start-up procedures, simple file manipulation & explanation of some of the basic commands. Section II <Reference Manual> provides a list of commands, EDIT command control characters, features of the program & a list of Error messages. Section III <Command Reference Manual> provides a thorough explanation of all program commands/functions. The source listing is also included.

For those who have been looking for a good CP/M word processor without the expense of WordStar - this software may be what your looking for!

NIAD CP/M PUBLIC DOMAIN DISK #21
By S. McFarlane

ARTILLRY.COM - A Text War Game that places you in the middle a war zone with 1000's of soldiers attacking you from all sides! You must destroy your enemy's outposts! You have a cannon that can shoot at any angle but ammunition is in very short supply. You only have 10 tries per target - can you survive?

CRC50.LBR - This program will compute the CRC values of a specified file or a group of files. The values will be displayed on your screen & the program will then check the values against those stored in the file CRCKLIST.CRC -or- will create a disk file by the same name. Every file is checked for a match & the total Matches/No Matches are indicated at the end of the program.

PATCHZ80.LBR - A File/Memory utility that enables you to easily access individual records within a file, pages within memory or individual sectors on the disk. Operates in Two modes, accessing 128 byte records from within the selected file or 256 byte pages of processor memory (up to 64K). Regardless of which mode you are in, only 256 bytes of information will be displayed on the screen at one time. Patch works like a full screen editor when changing HEX data. In addition, it has search capabilities with any combination of HEX, DECIMAL or ASCII fields that are separated by commas. Patch's many features make modifications quick & easy! This utility must be configured for ADAM & I would suggest, in addition to the normal terminal installation requirements, that the CONFIG program found on the CP/M System Disk be used to utilize the Arrow Keys for rapid cursor movement when in the Edit mode. CAUTION: As many of the values printed in the ADAM CP/M Manual (pgs. D29-D31) are incorrect, please check Terminal Installation values carefully. The following values will install the Arrow Keys FOR THIS PROGRAM ONLY!

<1> UP   Arrow = 09 Hex/ 9 Dec (Cntl I)
<2> DOWN Arrow = 0D Hex/13 Dec (Cntl M)
<3> LEFT Arrow = 0A Hex/10 Dec (Cntl J)
<4> RIGHT Arrow = 0B Hex/11 Dec (Cntl K)

**TIP: I have also changed the following values on all my CP/M Disks which some Users might find helpful:
<1> UNDO   = 03 Hex/   Dec (Cntl C)
<2> PRINT   = 10 Hex/   Dec (Cntl P)
<3> Shift/WILD = 03 Hex/   Dec (Cntl C)
<4> Shift/PRINT = 10 Hex/   Dec (Cntl P)

Far easier to simply press PRINT to toggle the Printer ON/OFF and/or press UNDO for a warm boot!

PROLIN.LBR - PROLINK is a powerful small-application linkage editor. Also included in this Library is a handy REL-File display utility. It is suggested by the authors that a good companion to these files would be the ZASM Macro Assembler which produces Microsoft & ProLink compatible, relocatable output modules. ProLink is an advanced linkage editor for assembly language programs. Highlights include: * Command driven operation; commands can be read from a disk file to simplify complex linkages. * Allows REL & HEX modules to be intermixed. * Built-in expression evaluator allows full access to symbols during linkage. * Patch command allows loaded program to be modified before being written to disk. * User controlled location counter. Allows custom modules etc. * Define, re-define & purge symbols. * Load/Save symbol files. * Simplified disassembly of REL files when used with DASM (a PD disassembler). * Resolve command to force resolution of undefined symbols which permits a fully modular design when constructing programs designed for more than 1 application. * A comprehensive 32 Page DOC file/User's Guide is included.

NOTE: The ZASM Macro Assembler LBR. is a Public Domain program & will be available on a future NIAD Library Disk along with the DASM.LBR files.

RCPM.LST - The most recent list of RCPM systems in Canada & the U.S.

SUPRSCAN.COM - SuperScanner is a utility designed to manipulate the RCPM list files. The program allows the search of all RCPM numbers residing in certain Area Codes. Up to 10 Area Codes can be searched for in one sweep. Printout to the screen and/or printer.

SPOOL.COM - A Print spooler for Z80 CP/M systems.