Hard to believe it is September !!
Continuing our study of Romans, Chapter 5..
Therefore, since we are justified by faith, we have peace with God through our Lord Jesus Christ. [2]Through him we have obtained access to this grace in which we stand, and we rejoice in our hope of sharing the glory of God. [3]More than that, we rejoice in our sufferings, knowing that suffering produces endurance, [4]and endurance produces character, and character produces hope, [5]and hope does not disappoint us, because God's love has been poured into our hearts through the Holy Spirit which has been given to us. [6]While we were yet helpless, at the right time Christ died for the ungodly. [7]Why, one will hardly die for a righteous man - though perhaps for a good man one will dare even die. [8]But God shows his love for us in that while we were yet sinners Christ died for us. [9]Since, therefore, we are now justified by his blood, much more shall we be saved by him from the wrath of God. [10] For if while we were enemies we were reconciled to God by the death of his Son, much more, now that we are reconciled, shall we be saved by his life. [11]Not only so, but we also rejoice in God through our Lord Jesus Christ, through whom we have now received our reconciliation.

In these verses the Apostle Paul describes the results of one having faith in God's promises. First we are justified, or made righteous before God. This means that God no longer considers our sin, but through a gift (his grace) he makes us righteous. A pratical example is the forgiving of a debt owed you by another. The fact is the debt was never paid, but if you chose to forgive it, it is as if the debt was never owed in the first place. Jesus was the one who enabled our debt of sin to be forgiven through the grace of God the Father. Verse 8 eight describes the enormity of God's love for us in that he sent his only and perfect son to suffer and die for sinful men.

Not only did God's grace justify us before him, but it reconciled God and man back together. The original sin of Adam and Eve separated man from God through the act of disobedience (all sin is a form of disobedience to what God has told us). God only gave Adam and Eve one rule and they broke it. God and sin can not coexist, so Eve from their perfect life in the Garden of Eden. However, through Jesus Christ, God has offered us total forgiveness and we can now be reconciled back to him. God is there, just waiting for you to accept this free gift of forgiveness - won't you reach out and take it ?
God bless you all.

N I A D   -   A CHRISTIAN RUN BUSINESS

NIAD NEWS/ UPDATES

Hard to believe it is September already. The children are back in school and we're moving in to our fall/ winter routines. Oh well, I guess we need these occasional changes in our lives to keep us hopping !

Several of you have vistited our new retail store, COMPUKINGDOM, here in Lisle and expressed your positive reactions. We've had some non-NIAD members come in and go in to "shock" when they see the number of products we have on display for the ADAM. If you haven't dropped by please do so. We have altered our hours: Monday thru Wednesday 11:00 to 6:00; Thursday/ Friday 11:00 to 7:00; Saturday 9:00 to 5:00. We sent out directions in a separate flyer - if you did not get one, please call and request one.

This month we have an interesting article on interfacing ADAM to IBM PC compatibles; some great tips/suggestions; a "back to school" program; a LOGO program, reviews of FONTPOWER, MICROTALK, STAGE FRIGHT, TURBODISK and a new NIAD GOLD product, as well as a new ADAM book from Tab. Wayne explains "arrays" in our SMARTBasic Workshop and Sharon McFarlane describes some more of our CP/M 2.2 PD programs.
Hope you enjoy it and learn something.

. ANNOUNCEMENTS
- Sorry, but after my explanation of RLE files and how to have pictures converted last month I forgot to include the address of L.O.F. Communications who provides this service (see last issue for prices, etc.) - P.O. Box 587; York, PA 17405-0587.
- We continue to expand our Public Domain library. Beginning with SMARTBasic volume #BNDV21, the volumes will be self booting and contain an automatically run MENU program for selecting programs. We are including an enhanced version of SMARTBasic V 1.0, developed by our Sharon McFarlane. Many enhancements are included which you will find very helpful. See the documentation file in this months PD WORKSHOP.
We have also added our third LOGO volume (it also contains a MENU program for running all programs).
- Speaking of LOGO, I think this is a much underused language on the ADAM (see this months LOGO workshop) and would like to put more emphasis on it, so please start sending in your LOGO programs/ articles. Would anyone like to be our LOGO librarian,to help in organizing our programs? If so, please write to us.
- We are actively working on our ADAM educational course series and should be ready by early October to begin classes here at the store. There will be three courses offered: Introduction to the ADAM;

ADAM SMARTWriter and ADAM SMARTBasic. Each course will be 2 hours in length, include lecture, demonstration, questions/ answers and a book that you can keep for a cost of $25. We plan to hold the classes from 7:30 to 9:30 PM during the week. Please send in your course payment, indicate which class(es) you want to attend and your first and second choice for which nights of the week you can attend so we can begin scheduling the dates.
- Wayne is working on an enhancement for the popular SIGNSHOP program for those of you who have dot matrix printers. As stated last month, the Okimate 20 printer has no backspace feature so ti can not be used to print a SIGNSHOP picture. Wayne's fix will allow the Oki 20 to work as well as improve the quality of the printing for any dot matrix printer. We'll report next month.
- We now have a NIAD PRODUCT REVIEW BOOK which contains detailed reviews of over 100 ADAM products. This book was compiled by NIAD's Eileen Muir from all our newsletters. The reviews are in alphabetical order for quick indexing.
- Chicago local chapter meetings are held the second Thursday of each month at 7:30 PM here at the store in Lisle. The next meeting will be October 8th. If you don't have directions to the store please call or write for them. We will send you a reminder the week before the meeting if you write and request to be on our Local Meeting special mailing list.
- Note that our Technical Call In time is Tuesday evening from 7 - 10PM Chicago time.
- If 0987 are the first 4 letters of your membership number, then this is your last issue. Send in your renewal of $18 ($24 Ist class/ Canada) to not miss any issues.
- We have some great new SEGA games in the SEGA UPDATES section.

. HARDWARE
- Disk drives are still going strong and we have plenty available. Note that all of our drives have undergone extensive pre-testing by us and are guaranteed for 90 days. New drives are $225 each or two for $399.95.
- ADAMLink modems are also readily available and are on sale for $49.95. The ADAMLink modem is an inexpensive way to communicate to other computers and expand the usefulness of your ADAM - see this months and previous TELECOMMUNICATIONS workshops for details.
- Many of you have asked about purchasing USED ADAM components. We have a small supply of the following for sale with a 30 day guarantee:
. STANDALONE ADAM MEMORY CONSOLE (NO TAPE DRIVE) - $79.95
. ADAM PRINTER - $79.95
. ADAM DISK DRIVE - $179.95
. KEYBOARD - $9.95

. HAND CONTROLLERS - $5.00
- We're running a special on the 64K memory
expander and Walter's Basic Ram Disk software:
both for only $59.95. With these two products you
will have a 64K internal memory RAM disk
accessible from either SMARTBasic v 1.0 or 2.0
(specify which one). This is an inexpensive way
to add a speedy way to store and retrieve Basic
programs AND reduce wear and tear on your tape and
disk drives. See our software review in the Dec
86 issue.
- Prices have dropped on our dot matrix printers.
Cost of a Panasonic 1080i printer, ADAM interface
and cable is now only $249.95 !! If you want high
speed printing and graphics from your ADAM, now is
the time !
- We're now carrying Magnavox color monitors that
are compatible with the ADAM as well as all other
computers. You will need to also purchase an ADAM
monitor cable to attach the monitor to your
standalone ADAM memory console using the "Aux
Video" jack on the back of the unit. (NOTE: If you
have the ADAM Expansion Module #3 that attaches to
the Colecovision unit there is no jack to attach a
monitor - you will need to purchase the Expansion
Mod Monitor kit and have it installed in the
Colecovision unit.

. SOFTWARE
- See our reviews of some exciting new software
items in this issue.
- Next month we'll review FILEWRITER, by Terry
Fowler, an advanced document generator for dot
matrix printer owners.
- John Lingrel reports that they have perfected a
patch for ADAMCalc that will allow spreadsheets to
be printed out on a dot matrix printer ! Many of
you have been waiting for this one and it is
finally here. We'll review in the next issue.
Retail will be $9.95 on tape/disk.
- Walter's Software has just completed a new
version of their BASIC RAM DISK product for
Orphanware's 256K memory expander. We can now
have access to 256K of RAM file space from
SMARTBasic !!
- Orphanware states that other software engineers
are also working on advanced programs for their
256K memory board.

ITEMS OF INTEREST

- Larry Taylor offers the following tips for dot
matrix printer owners who use the Custom Printer
software program:
I called you about a problem with the Panasonic
printer when using SP-1 Custom Printer. I was
having a problem when I started a line with carat
I Italics then on the same line, did a carat J and
printed the rest of it in normal print. The normal
print went back to the margin and printed over the
italics. I discovered that if you enter a carat F
and then the carat J it works out fine.
There is another problem--if you do a carat O for
expanded print and leave it in that mode for
succeeding lines, two things happen. The 2nd and
succeeding lines start in at twice the amount of
spaces your margin is set for. For example if
your margin is set at 10 spaces, each succeeding
line of expanded print will start printing at a
margin of twenty. Also it will do double spaces
between lines. To correct the margin problem, do
a cP at the end of each line and start the next
line with a fresh cO. This does not correct the
double space problem however. To do this, type a
'cPcVcW' at the end of each expanded line.
Contrawise, in compressed mode, each line after
the initial line will cut the margin in half.
This however only requires a cN at the end of each
line. The VW doesn't seem to be necessaray here.
Perhaps you have already discovered this but if
not I hope this has been helpful.

- Ellis Taff has this to add to last months tips
on adjusting the ADAM printer ribbon:
The article on page 4 of the July/August issue is
a great idea, but has a problem.
I have used at least 20 ribbons with the problem
described, - after the ribbon is about 1/4 used it
STOPS ADVANCING. I have licked this by opening
the cassette and removing the used tape while I
spliced the remainder to the take-up spool. But
the new suggestion sounded even better. However, I
"over-eased" the tension on the little spring
clip, and then I couldn't get the spring to stay
in the slot at the edge of the housing.
Maybe you should emphasize the warning not to
"overflex" that spring. Perhaps many readers are
not as mechanically minded as the author of your
article and need some of these reminders:
1. Remove the rubber band drive belt from the top
of the cassette to start.
2. Pry up the top of the cassette with a very
thin thing such as a knife. The top is held down
by 6 pins which are molded onto the top cover and
fit into holes in the sides of the base. One is in
the tip near where the ribbon comes out on each
side, one is on the edge about half way down each
side, and one about the center of the two parallel

sides at top and bottom.

3. As the cover comes off, the white drive spool which has two prongs on top and crossed slots on the bottom probably will fall out. When you are done that has to go back in so it will come out the mounting holes, so try to observe where it was and how the ribbon went between it and the white curved piece next to it.

4. Lift out the supply (right hand) spool being careful not to let it unwind more than you need. The spring you are looking for is under that spool, and is shaped like a hairpin. The end of it toward the edge sits in a slot molded in the side of the cassette base, and the other end has a small white plastic spool on it. MOST IMPORTANT, the spring sits around a ridge on the bottom of the supply spool which keeps it in place. If the hub on the supply spool gets wound on it, the spring won't stay in place when the cassette is reassembled.

5. After you ease the tension of the spring slightly you reassemble the spring on the bottom of the supply spool, both of them in the cassette and the little white spool on the one end of the spring with the other end in the slot at the edge of the housing.

6. If you ease the spring tension too much or fail to hook one end of the hairpin spring into its slot, or don't have the spring around the ridge on the bottom of the supply spool, the ribbon will be so slack that it will be able to jump over the print wheel. ... Ellis Taff

- Philip Kosowsky, 52 Carlisle Ave, York, PA 17404 writes:
I was working in the electrical lab a t Coleco during ADAM's rise and fall. I would like to see the ADAM stay alive. In order to help the cause I'm willing to repair ADAM for what the parts cost. I have purchased parts and boards and have a number of repaired boards on hand. When I fix an ADAM I will switch a good board (with the same revision level) for their bad board. Cost will be $50 (please send cashiers check/ money order) which includes shippping back. If anyone has questions, they may call me at (717) 854-4647 after 5 PM or on weekends (any call backs will be collect). I will return any overpayments and will contact the person prior to doing any work which will result in a charge of more then $50. No repairs of mechanical parts or disk drives, tape drives can be done at this time.
- Tim Nunes informed us that there is a new CP/M 2.2 PD word processor in the CLUB forum of Compuserve. It is called VDE26.LBR. It utilizes a split window editor and has other great features.
- There have been many letters requesting information on how to start a local ADAM user's

group. First, you as the organizer must be willing to spend the time it takes to organize and manage such a group. Second, you must locate other ADAM owners in your area by either advertising in local papers or getting names from NIAD or other national user groups. Write to these people and suggest they come to a meeting to learn how to better use their system and meet other ADAM owners. The first meeting is critical to the groups success, hopefully you can find some people who are well versed in particular areas - SMARTBasic, SMARTWriter, etc. to answer questions and demonstrate program use (this is a must). We have found that most people just need a little bit of instruction to get them off the ground to better using their ADAMs.

INTERFACING ADAM TO A PC
By Don Zimmerman

You recently purchased an IBM clone computer. You still are amazed by it's speed and power. Time to toss old faithful ADAM in some dark corner of your closet along with your TI-99s, TRS-80s, and perhaps a few other "They were good in their time computers". Right? WRONG WRONG WRONG!!!! What in the world could ADAM possibly be good for now besides possibility playing a few old games and perhaps drawing and printing a few neat pictures with some of the latest excellent PRINTSHOP type programs. Anyone who has used QUESTIONS and ANSWERS, LOTUS 123, dBASE III+, NEWSROOM, SIDEKICK, WORD STAR 4.0, or any of the THOUSANDS of other high quality MS- DOS programs available for the IBM surely could not have any use for ADAM could they? WRONG WRONG WRONG!!!!

CP/M is one factor that separates ADAM from the rest of the "obsolete" computers. CP/M still is the recognized "standard" of the SERIOUS eight bit processor computer users. THOUSANDS and THOUSANDS of small to medium size business' are still using their eight bit KayPro, Televidio, and Osborn computers to run their business. Their standard response to the question of why they do not "upgrade" to an IBM XT or IBM AT is "My system WORKS, is TROUBLE FREE, and INEXPENSIVE -- WHY SHOULD I ???." A very good point. If you have a computer that does what YOU want it to do why spend time and money on another system? It does not take a new computer user very long to realize that computers are very ADDITIVE in the sense that you will always want more than you now have. What good is ADAM now that you have purchased another computer? Modem Training. Why spend a lot of money on long distance when all you have to do is connect one ADAM with a modem to either another ADAM or the clone. Experiment with all the

advanced modem software features until you feel comfortable with the software package. Then go on line as a pro and you will change your settings on the fly with confidence. Find out how the debug, remote triggers and macros work.

Why buy a letter quality printer for your new machine when you have one with ADAM? Near letter quality is still not letter quality. There is NO machine better than ADAM for short notes and letters. Coupled with the modems ADAM letters can be composed and transferred back and forth between the clone. When my wife is using the clone for business applications I will use ADAM and Word Star 3.3 OR SmartWriter to compose the text. Print it out with ADAM using either the dot matrix or ADAM printer. If the text is long and may require a lot of "cleaning up" I will dump the file (either Smart Writer or Word Star) to the clone via two modems. I then pull it up UNTOUCHED with Word Star 4.0 and run it through the spelling checker and thesaurus. Change margins, justifications, boiler plate, mail merge, or use any of the other features of this excellent program. Those of you who have used Word Star 4.0 know what I mean. Sometimes I will run the ADAM generated text file through a grammar and style checker that offers suggestions on how to write a more professional letter. Then I may dump the refined text file back to ADAMs Smart Writer for a daisy wheel printout. I may compose the letter on the clone run it through various programs and dump it over to ADAM. After 10 months of using the clone's AT style keyboard I still love ADAM's keyboard much better.

ADAM should be able to be used as an inexpensive terminal in certain circumstances. A short time ago I had ADAM connected to and controlling my clone. I was using CP/M, ADAM's 300 baud modem, and OrphanWares 80 column card. With the clones screen turned off I ran the clone from ADAMs keyboard and screen. A CHKDSK command told me I had 640K RAM to work with. A DIR of drive C: (The clones hard drive) told me I had 32 Megabytes storage. Each floppy drive has 360K storage. I booted LOTUS 1-2-3, dBASE III+, and just about any other IBM program and they all ran. At 300 baud they ran so slow as to make this application not practical. Many times ADAM had to re-paint its screen with blank spaces whenever the clone changed its screen. You can imagine how long this takes as you step through the many levels of LOTUS's commands. We hope to speed up ADAMs screen by discovering more of the screen and cursor control codes that Coleco used when they designed ADAM. Can you imagine what this can mean? With the new 1200 baud ADAM modems we could call up the office IBM machine using the ADAM we have at home and actually run the IBM. Why buy an expensive terminal when we have ADAM? We have a group of people working on refining this and it looks good so far.

What about games? Is ADAM dead? ADAM still is alive thanks to the dedication and hard work of many excellent people who sacrifice much time work and even money. What possible other uses can we find for ADAM? Controlling external home devices? I have a gut feeling ADAM will be around for a long long time.

DIRECT WIRING OF TWO COMPUTER MODEMS

Why direct wire two modems together? Why not? The supply of ADAM 300 baud modems are both plentiful and inexpensive. The day of the stand alone computer is fast becoming a thing of the past. Networking of computers in the office is cost effective and increases productivity. IBM really started supporting Local Area Networks (L.A.N.s) with the IBM-AT and is one of the main features of the new Personal System/2 line. The concept of passing data between two or more devices is very similar whether on a network or over a modem. The more knowledgeable you are on using a modem the more knowledgeable you will be with networking. This raises the question of how does one learn how to use modems and the software modem programs. Those who do not have access to free phone costs either paid for by the place of work or live in a large city where direct dialing to another system is available will soon have a problem with large phone bills. This is where direct wiring of two modems will help.

The hardware requirements are two computers of any type each with a modem connected to each computer. Simply purchase an extra phone wire of sufficient length. I use about a 30 foot line. Plug one end of the extension wire into the modem of one computer and the other end into the other. Because the ADAM modem has a phone wire with a male end I use a phone line adapter that has one male end and two female plugs. This type of adapter would normally be plugged into the modular phone plug and allows two phones to be plugged into one line. I plug the ADAM line into one of the female slots and the second computer line into the second. The male end that is normally plugged into the phone line is left hanging. I used this type of adapter because I could not locate a straight through connector that simply has two female ends. This was done after checking with authoritative sources and was assured that no harm would come to either machine. I was told that the worst thing that could happen was if the line was too long the signal could be too weak to operate properly.

Operating the setup is just very easy. Boot

each computer system as normal and run the modem program that you use on each. Set the parameters of each modem program so they match. Set half duplex on both so the characters will appear on each screen. Have one of the systems ORIGINATE and dial an imaginary phone number of "1". This will initiate the modem and send out the carrier. Set the second computer to ANSWER or in the case of a simple modem program like ADAMLINK that does not autoanswer select ANSWER and then ON LINE. This will connect both computers in the TERMINAL mode. This mode is where the information typed on one keyboard appears on both screens at the same time. One problem I have with ADAMLINK II is that I have to enter a Control J after I hit the carriage return on ADAM in order to get both screens to issue a line feed. If I do not do this the cursors moves to the left hand side of the screen and writes over the old line. I suspect this is a bug in my version of ADAMLINK II because MADAM7 and any other CP/M program does not require this.

Once you get both computers connected properly in the TERMINAL mode you can now get to the real purpose of hard wiring two computers together. That is to practice using each modem program WITHOUT large phone bills. Switch over to the COMMAND mode and change each modems setup and see what happens. Practice sending files back and forth between each computer using different protocols (see this months TELECOMMUNICATIONS WORKSHOP for information on sending/ receiving files via the ADAMLink modem). Practice using the advanced features of each modem program. Play with the debug, filters, remote triggers, macros, start/stop triggers or whatever, and see what they do. Spend as much time as you feel is necessary to learn a feature. Many users are afraid to experiment with these setting when on line and counting the phone costs and consequently never really learn how to properly use modems.

MODEM FILE TRANSFER

One of the reasons for using a modem to transfer information from one computer to another is the ability to transfer information to and from different computer systems. The more advanced modem programs also allow one computer (the REMOTE computer) to control the other (the HOST computer). You have already controlled the HOST if you have ever downloaded a file from a BBS. When you pressed the final key to download a file you actually sent a message to the host's BBS software program telling it to get the file from the host computer's disk and send it to you. What if one system is using ADAM EOS like ADAMLINK II and the other is using IBM-DOS or CP/M 86? What if ADAM is using CP/M and is connected to a PRODOS Apple? The machines do not care so why should you. The modem program knows how to properly read and write to its own operating system. If it did not it would not work on the computer. What we are concerned with is setting up each modem program so each computer knows how to interpret the incoming signals. A collection of organized data (files) are stored on the disk in various sectors (blocks or clusters). Each file on the disk has a unique name that is stored in a special place on the disk (directory). When the file's name is typed in, each computer will follow it's own rules (operating system) and looks to see if the typed in name is in the directory. If it is then the computer will look up where the file is actually located on the disk (file allocation table). When you set up a modem program to send or receive a file you are telling the modem program how to the incoming/outgoing signals are going to be handled by each system. This has nothing to do with what you are going to send/receive. All information stored or used by any computer consists of a long stream of "zeros" and "ones". When a file is sent out it sends a certain number of zeros and ones that represents that file.

It would be senseless to send a machine language program (file) that will only operate a Z-80 machine to a machine that uses the 8088 microprocessor and expect the received program (file) to actually run on the 8088 machine. It would make sense to direct wire and dump many of your important programs to ADAM for backup purposes. ADAM tapes hold 255K and that translates into a lot of IBM or Apple programs safely stored. It also makes sense to transfer ASCII files from one computer to another. American Standard Code for Information Interchange (ASCII) is the nearest thing we have to a computer standard. Any computer that can read ASCII files (sometimes called TEXT files) can actually use the ASCII file created on a different computer. How the computers software looks at the continuous stream of zeros and ones determines whether the information is in ASCII, Hexadecimal, Octal, Binary, EBCDIC, or whatever "format". Generally speaking the software looks at a "machine language" file as a continuous stream of zeros and ones with no special control characters embedded in the stream. This is why the modem software program must be set up to know how to "look" at the incoming signals.

The ASCII format looks at eight bits (byte) at a time and tells the computer that these eight bits are to be interpreted as a letter or number that we see on a keyboard. Quality programs will give the user the option to store work on the disk

in ASCII form. There are more efficient ways to store information but then only the computer that stored the file can use it without special conversion programs. All computers and printers can accept ASCII without problems. The transferring of ASCII files between different computers can allow the second computer to actually "use" the file. Using information sent in other formats can be done but using the information is much more complicated.

There are two basic ways to send a file over a modem. START/STOP implies the information will be in ASCII format and the computers are looking for the control-Q and control-S to tell them when to start and stop the transmission to allow the program to do its thing. The ERROR FREE method implies machine language (binary format) and the loss of ONE bit in the transfer can render the file useless. When transferring information using the ERROR FREE protocol some sort of error checking is done while the information is transferred. This can be the Checksum, Cyclic Redundancy Check (CRC), methods. The modem software package will determine which of these protocols are available to the computer. Just about all modem programs support the ERROR FREE protocol and will transfer ASCII files so the transferring of ASCII files would be the most logical files for the beginner to start. The ASCII files can be pulled up and used by the second computer. Those of you that have a second ADAM as a "spare" buy that second modem. Pull that old TI-99 out of the closet if it has a modem program. Direct wire ADAM to that other computer and have fun learning how to use modems!!

TELECOMMUNICATIONS WORKSHOP

Several of you have asked about the procedure for transferring files via the ADAMLink modem. First, you must have the ADAMLink II software to transfer or receive files. The software that comes with the ADAMLink modem performs all functions except transferring files. ADAMLink II is a Public Domain program available from NIAD ($5.00 disk, $7.00 ddp).

Many file transfer programs use special protocols for sending/ receiving files (this is true of our CP/M 2.2 modem programs), but ADAMLink II does not use any special protocols.

TO RECEIVE A FILE - Load up ADAMLink II, then dial the number of the bulletin board you want. Get to the point on the bulletin board where you have found the file you want, then hit the wildcard key on the ADAM and select FILE, then RECEIVE, you then indicate tape or disk and name the file you

want to be created for the program. Hit WILDCARD again to go back to the bulletin board and enter whatever command is required to display the program you want on the screen. Usually this command is READ or something similar. ADAMLink II uses a capture buffer concept that saves any data displayed on the screen in a file until you hit the UNDO key which closes the file. This is a very simple method of receiving a file, but limits the types of files to ASCII data files, such as normal BASIC programs and other text files. Any Basic programs saved using BSAVE or other "fastrun" programs can not be captured or sent via ADAMLink II (MEDIA AID + does have a program that converts such files to ASCII format for file transfer). Also, CP/M "COM" files can not be received using ADAMLink II because they are not text, but binary files.

I selected the following out of the recent issue of ONLINE TODAY, which is supplied to COMPUSERVE subscribers:
"NewsNet links you to the world's largest database of business newsletters - more then 300 - and wire services - 10, including Associated Press, United Press and Rueters. INFOWORLD said it best: 'NewsNet's ability to provide almost immediate, specific news makes it a good by for people whose livelihood depends on being well-informed.' Receive and monitor customized news on more then 30 different industries and professions via your personal computer.
Read entire articles. Scan headlines. Electronically save clippings for later referral. NewsNet will waive connect fees on October 20th so you can try it out. Type GO NN at any prompt.

Safeware, a pioneer resource for cmnputer insurance, acts as your own security force by assuring you full replacement coverage of hardware, media and purchased software. As little as $39 a year protects you from the financial pitfalls of fire, theft, power surges, earthquakes, water damage and auto accidents. Makes a world of sense, don't you think ? GO SAF for more information."

BEGINNER'S BASIC WORKSHOP

Since it's back to school time, we've have program that will help your school age children get more out of the ADAM then games !
This program is called MISSLE MATH and was adapted for the ADAM by Wayne Motel. This is a multiplication math tutor program, utilizing sound and shape table graphics to add interest for the student (very important in these types of

programs). You select the digit 1-9 that you want to work with, have the option of printing a multiplication table and are presented with 10 problems. Each problem is shown along with 3 "missles", 1 with the correct answer, 2 with the incorrect answer. If you select the correct answer, a tune is played. An incorrect answer plays a different tune and then displays the correct answer. At the end of the round, your percentage of correct answers is shown as well as the problems missed (for study). This program was adapted from the Home Computer magazine a few years a go and has examples of sound routines, use of shape tables with the DRAW/XDRAW commands, PDL commands and some Basic routines I hope you find useful and informative...Wayne Motel

```
100 REM   ***************
110 REM   * MISSLE MATH *
120 REM   ***************
130 REM   FROM HOME COMPUTER
140 REM   ADAPTED BY W. MOTEL
150 REM   FOR COLECO ADAM
155 REM
156 REM   following data for sound and tunes
160 DATA   58,102,109,211,255,201
162 DATA   263,16,263,8,263,8,263,16,263,16,349,32
163 DATA   263,16,263,8,263,8,263,16,263,16,175,32
165 DATA   263,32,175,64
175 LOMEM :30000
176 GOSUB 16700: REM   initialize sound
180 HOME
190 VTAB 10
200 INVERSE: PRINT "

"
210 NORMAL: PRINT "  M I S S L E    M A T H"
220 INVERSE: PRINT "
": NORMAL
230 PRINT "  PLEASE WAIT": PRINT "  WHILE I GET MY
MISSLES.."
240 POKE 16766, 72: POKE 16767, 113: REM  SHAPES ST
ART AT   29000
260 FOR k = 0 TO 568: READ z: POKE (29000+k), z: NE
XT k
270 REM  ** 280,375 is SHAPE TABLE DATA **
280 DATA   14,0,30,0,51,0,71,0,91,0,112,0,133,0,154,
0,174,0,194,0,215,0,247,0,1
2,1,32,1,51,1,41,109,26,31,27,110,41,21,59,59
285 DATA   51,109,41,26,31,27,14,45,13,2,0,9,77,26,2
7,63,74,77,26,27,31
290 DATA   74,77,26,27,31,10,45,13,2,0,41,109,26,31,
27,78,9,21,27,63,83,77
295 DATA   17,27,27,51,45,45,21,0,45,45,21,59,27,83,
9,13,26,59,31,74,9,21,59,27
,115,45,13,2,0
296 DATA   73,13,26,59,31,10,13,13,26,59
300 DATA   27,46,45,45,26,59,27,74,105,2,0,45,45,21,
27,27,51,45,109,26,31,27,74
,9,21,59,27,115,45
305 DATA   13,2,0,41,109,26,31,27,110,73,26,59,63,11
0,9,21,59,27,115,45,13,2,0,
45,45,21,59,27,83,9,13,26
310 DATA   27,31,10,77,17,27,27,87,77,17,0,41,109,26
,31,27,110,9,21,27,63,23,77
,41,26,31,27,14,45,13,2,0
315 DATA   41,109,26,31,27,110,9,21,59,63,87,73,21,5
9,27,115,45,13,2,0,59,63,87
,73,21,59,27,115,45
320 DATA   13,2,0,9,77,26,59,59,106,9,21,59,27,51,45
,45,21,59,27,51,77,41,2,0,4
5,109,26,31,59,10,77,21
325 DATA   27,63,87,77,21,59,27,23,45,109,2,0,9,109,
26,31,59,106,73,26,27,27,11
0,73,26,31,59,74,109
330 DATA   2,0,63,63,63,63,63,63,60,60,60,60,60,60,4
4,44,44,44,44,44,44,45,45,4
5,45,45,45,54,54,54,54,54,54
335 DATA   46,45,45,45,45,45,45,45,45,45,45,45,45,45
,45,37,36,36,36,36,36,36,63
,63,63,63,63,63
340 DATA   63,63,63,63,63,63,63,63,63,63,63,47,45,45
,45,45,45,45,45,44,37,45,44
,37,45,44,37,37,37,37,37,45,45
345 DATA   45,45,45,61,55,62,54,55,62,54,62,63,63,63
,63,63,63,63,63,44,45,45,45
,45,45,45,45,37
350 DATA   63,63,63,63,63,63,44,45,45,45,45,45,45,60
,63,63,63,63,39,45,45,45,45
,45,60,63,63,63,44,45,45,45,45
355 DATA   62,36,61,63,63,191,146,146,210,219,219,21
9,219,155,146,146,146,146
360 DATA   202,48,45,46,53,45,46,53,45,46,46,46,46,4
6,45,45,45,45,45,63,36,39,6
0,36,39,60,36,62,63,63,63,63,63
365 DATA   63,63,63,46,45,45,45,45,45,45,45,45,62,63
,63,63,63,63
370 DATA   63,46,45,45,45,45,45,45,53,61,63,63,63,63
,63,53,45,45,45,45,45,53,63
,63,63,63,63,46,45,45,45,45,45
375 DATA   62,63,63,63,63,7,0
380 GOSUB 1570
390 HGR: a = 179: b = 72: HCOLOR = 5
395 VTAB 23: PRINT "  PRESS ANY KEYPAD NUMBER"
396 VTAB 24: PRINT "   TO CONTINUE";
400 SCALE = 1: ROT = 12: DRAW 14 AT a, b
405 rn = rn+1
410 kypd = PDL(10): IF kypd <> 0 THEN  GOTO 480
415 kypd = PDL(11): IF kypd <> 0 THEN  GOTO 480
420 XDRAW 14 AT a, b
430 a = a-2: b = b-1
440 IF a <= 5 THEN  GOTO 390
460 IF b <= 35 THEN  GOTO 390
470 GOTO 400
480 REM
```

```
490 HOME: TEXT
500 PRINT "  HELLO"
510 PRINT "   MY NAME IS ADAM"
515 INPUT "   WHAT IS YOUR NAME "; name$
530 PRINT " GLAD TO MEET YOU  "; name$
540 PRINT
550 PRINT " LET'S GET STARTED."
560 FOR dly = 1 TO 2500: NEXT dly
570 HOME: PRINT " WANT INSTRUCTIONS (Y/N)"; : GET
yn$: IF yn$ = "y" THEN GOT
O 1350
580 IF yn$ <> "n" GOTO 570
590 HOME: PRINT " WHICH NUMBER WOULD YOU LIKE": PR
INT " TO PRACTICE   MULTIP
LYING?": PRINT "  (1-9)";
600 x1 = 200: y1 = 40: x2 = 200: y2 = 80: x3 = 200:
y3 = 120: win = 0: lp = 0:
rn = RND(-rn)
610 GET ff$
620 IF VAL(ff$) < 1 GOTO 590
630 ff = VAL(ff$): HOME
640 IF ff = 0 THEN GOTO 590
650 REM
660 PRINT: PRINT: PRINT: PRINT
670 lp = 0
680 PRINT " DO YOU  WANT A TIMES TABLE,": PRINT "
"; name$; "          (Y/N)";
690 GET yn$: IF yn$ = "n" THEN 775
700 IF yn$ <> "y" THEN 690
704 PRINT
705 PRINT " PRINT IT (Y/N) ": GET yn$: IF yn$ = "n
" GOTO 710
706 PR #1
710 HOME: PRINT " === T I M E S  T A B L E ==="
720 PRINT: PRINT
730 FOR i = 1 TO 9
740 PRINT "  "; i; ". "; i; " * "; ff; " = "; i*ff
750 PRINT
760 NEXT i
765 PR #0
770 PRINT " PRESS ANY KEY WHEN READY": PRINT " TO
START"; : GET anykey$
775 GOSUB 1700
780 REM  ** MAIN LOOP **
790 ROT = 0
800 lp = lp+1
810 HGR
820 GOSUB 1490
830 b = lp-1
850 c = d(b)
860 HOME: VTAB 21: PRINT " "; lp; ". "; : PRINT "
"; ff; " * "; d(b); " =":
PRINT " YOUR CHOICE: ";
870 cr = INT(RND(rn)*3)+1
880 IF cr = 1 THEN cx = x1: cy = y1
890 IF cr = 2 THEN cx = x2: cy = y2
900 IF cr = 3 THEN cx = x3: cy = y3
910 r1 = INT(RND(rn)*10)*ff: r2 = INT((RND(rn)*10)*
(RND(rn)*10))
920 ca = ff*d(b)
930 IF r1 = ca OR r1 < 2 THEN GOTO 910
940 IF r2 = (ca) OR r2 < 2 THEN GOTO 910
950 ca$ = STR$(ca): c1$ = LEFT$(ca$, 1): c2$ = RIGH
T$(ca$, 1)
960 c1 = VAL(c1$): c2 = VAL(c2$)
970 IF c1 = c2 THEN GOTO 990
980 DRAW (c1+1) AT cx+10, cy-10
990 DRAW (c2+1) AT cx+17, cy-10
1000 r1$ = STR$(r1): r2$ = STR$(r2): rx$ = LEFT$(r1$
, 1): ry$ = RIGHT$(r1$, 1):
ra$ = LEFT$(r2$, 1): rb$ = RIGHT$(r2$, 1)
1010 ra = VAL(ra$): rb = VAL(rb$): rx = VAL(rx$): ry
= VAL(ry$)
1020 IF cr = 1 THEN xb = x2: yb = y2
1030 IF cr = 1 THEN xc = x3: yc = y3
1040 IF cr = 2 THEN xc = x3: yc = y3
1050 IF cr = 2 THEN xb = x1: yb = y1
1060 IF cr = 3 THEN xb = x2: yb = y2
1070 IF cr = 3 THEN xc = x1: yc = y1
1080 DRAW (rx+1) AT xb+10, yb-10
1090 DRAW ry+1 AT xb+17, yb-10
1100 DRAW ra+1 AT xc+10, yc-10
1110 DRAW rb+1 AT xc+17, yc-10
1120 ans = 0
1130 REM
1140 GET an$
1150 IF an$ = "a" THEN ans = 1
1160 IF an$ = "b" THEN ans = 2
1170 IF an$ = "c" THEN ans = 3
1180 IF ans = 0 THEN GOTO 1140
1190 PRINT an$
1200 IF ans = cr THEN GOSUB 1570
1210 IF ans = cr THEN win = win+1
1220 IF ans = cr THEN PRINT " CORRECT!!"
1225 IF ans <> cr THEN e(b) = 1
1230 IF ans <> cr THEN GOSUB 1630
1240 IF ans <> cr THEN PRINT " NO "; name$; ", ";
CHR$(64+cr); "   IS CORRECT
"
1242 IF ans <> cr THEN PRINT " "; ff; " * "; d(b);
" = "; ff*d(b): PRINT " P
RESS ANY KEY"; : GET anykey$: GOTO 1270
1250 FOR de = 1 TO 1000: NEXT de
1260 GOSUB 1450
1270 IF lp < 10 THEN 780
1280 TEXT: HOME
1290 PRINT " "; name$; ", ": PRINT " YOU GOT "; wi
n; " RIGHT": PRINT "   OUT
OF 10 TRIES"
1295 PRINT: PRINT " THIS IS "; win*10; "% RIGHT"
1296 IF win*10 < 99 GOTO 1298
1297 tempo = 5: GOSUB 1570: tempo = 20: INVERSE: PRI
NT " EXCELLENT     ": NORM
AL: GOTO 1300
```

```
1298 PRINT: PRINT "  MISSED WERE ": FOR b = 0 TO 9:
IF e(b) = 1 THEN  PRINT "
"; ff; " * "; d(b)
1299 NEXT b
1300 PRINT: PRINT " PLAY AGAIN (Y/N) "; : GET yn$
1305 rn = RND(rn)
1310 IF yn$ = "y" THEN  GOTO 590
1320 HOME: END
1330 IF a = 11 THEN  GOTO 790
1340 END
1350 REM  **  INSTRUCTIONS  **
1360 HOME: PRINT " INSTRUCTIONS:"
1370 PRINT "  "; name$; ","
1380 PRINT "  YOU ARE GIVEN A MULTIPLY"
1390 PRINT "  PROBLEM AT THE BOTTOM"
1400 PRINT "  YOU WILL ANSWER BY CHOOSING"
1410 PRINT "  THE MISSLE WITH THE CORRECT"
1420 PRINT "  ANSWER IN IT"
1430 PRINT
1440 PRINT "  PRESS A KEY WHEN READY"; : GET anykey$
: GOTO 590
1450 REM  ** MOVE ROUTINE **
1460 x1 = x1-14
1470 x2 = x2-14
1480 x3 = x3-14: RETURN
1490 HCOLOR  = 5
1500 DRAW 14 AT x1, y1: DRAW 14 AT x2, y2: DRAW 14 A
T x3, y3
1510 HCOLOR  = 3
1520 DRAW 11 AT (x1-8), (y1-10)
1530 DRAW 12 AT (x2-8), (y2-10)
1540 DRAW 13 AT (x3-8), (y3-10)
1550 HCOLOR  = 7
1560 RETURN
1570 REM  RIGHT ANSWER TUNE
1580 FOR ad = 1 TO 12
1590 pitch% = gs(ad): duration = gd(ad)
1600 GOSUB 6000
1610 NEXT ad
1620 RETURN
1630 REM  WRONG ANSWER TUNE
1640 FOR ad = 1 TO 2
1650 pitch% = bs(ad): duration = bd(ad)
1660 GOSUB 6000
1670 NEXT ad
1680 RETURN
1700 REM  **  RANDOM SELECTION OF 10 MULTIPLIERS **
1710 a1 = INT(RND(rn)*10)
1720 IF a1 = 0 THEN  a1 = ff
1725 IF a1 = 5 THEN  a1 = 6
1727 a2 = a1
1730 FOR dc = 0 TO 9
1740 d(dc) = a2
1745 e(dc) = 0
1750 IF a2 <> 0 THEN 1760
1755 a2 = a2+1: GOTO 1770
1760 a2 = a2+a1
1770 IF a2 > 9 THEN  a2 = a2-10
```

```
1780 NEXT dc
1790 RETURN
6000 REM  PLAY NOTE OR SOUND
6005 pitch% = mhertz/(32*pitch%)
6010 second% = pitch%/16
6020 first% = 128+register%+(pitch%-second%*16)
6030 POKE chip%, first%: CALL sound%
6040 POKE chip%, second%: CALL sound%
6050 POKE chip%, loud%: CALL sound%
6100 FOR delay = 1 TO duration*tempo: NEXT delay
6120 POKE chip%, quiet%: CALL sound%
6300 RETURN
6750 mhertz = 3597000
16700 REM  INITIALIZE SOUND VALUES
16710 REM  data is at 160
16720 loud% = 144: quiet% = 159
16730 sound% = 28000
16740 chip% = 28006
16750 mhertz = 3597000
16760 tempo = 20
16800 REM  LOAD Z-80 MICRO CODE
16810 FOR address = sound% TO sound%+5
16820 READ byte%
16830 POKE address, byte%
16840 NEXT address
16850 DIM gs(12), gd(12), bs(2), bd(2)
16860 REM  data for good tune at 162/163
16870 REM  data for bad  tune at 165
16890 FOR ad = 1 TO 12: READ gs(ad), gd(ad): NEXT ad
16900 FOR ad = 1 TO 2: READ bs(ad), bd(ad): NEXT ad
16990 RETURN
```

SMARTBASIC WORKSHOP

Using ARRAYS
By W. Motel

Recently we had a question from one of our members concerning the use of arrays. Reading in a series of X and Y values, he wanted to calculate for each X and Y, X squared, Y squared, and the product of X and Y. In addition, they needed a sum of all X, all Y, all X squared, al Y squared, and X times Y. The following is some notes on how to do this.

Assuming a max of 100 values to be read in (you can change for more or less), we set up an array as follows:

DIM X(100), Y(100), X2(100), Y2(100), P(100)

X and Y elements are for the data read in
X2 and Y2 are the respective squared X and Y
P   is the product of that X and Y

There are 2 ways to "read" the X and Y values in.

1. As DATA values in your program.
2. Your program prompts you, and you "input" them

1.
DATA # of pairs, 1st x, 1st y, 2nd x, 2nd y, etc
    (1 or more data lines, as needed, only the
    first has the # of pairs value on it)
READ N: rem first value is the counter
FOR C = 1 TO N
READ X(C), Y(C)
NEXT C

    I.E. DATA 3,10,9,15,8,20,7 means loop 3 times
        the 3 X Y pairs are 10,9 15,8 20,7

2. Using an input prompt
    N=0
20 INPUT " Enter X,Y ";X,Y
    IF X=9999 then 100:rem 9999 is stop value
    N=N+1:   rem counter value
    X(N)=X:Y(N)=Y: rem store into array
    GOTO 20
100 rem start calculation

    The above method also works, it is more
flexible as you can enter the data values in and
they can be different each time the program is
run. With the DATA statements, you have to
actually edit and change the values on the DATA
statement.

FOR CALCULATION:
    Once you've gotten all your values read into
the X and Y array and N contains the total number
of entries, we can calculate

FOR C = 1 to N
    X2(C) = X(C): Rem square X
    Y2(C) = Y(C): Rem square Y
    P(C) = X(C)*Y(C): Rem product of X and Y
    Rem: Do the sums
    XS = XS + X(C)
    YS = YS + Y(C)
    XT = XT + X2(C)
    YT = YT + Y2(C)
    PS = PS + P(C)
NEXT C

    Printing with would accomplished in a
similiar fashion. Go thru a loop, printing out the
elements for X, Y, X2, Y2, and P. When done, then
print the 5 respective totals, XS, YS, XT, YT, and
PS.
    Hope this helps you with working with arrays.

PUBLIC DOMAIN WORKSHOP

Beginning with volume BNDV21, all or our BASIC
Public Domain volumes will be self booting (from
either tape or disk) and menu driven. Thanks to
Bob Tarnowski's fine efforts, these Basic PD
volumes will be easier to use for all of you.
Bob has chosen to use Sharon McFarlane's enhanced
version of SMARTBasic 1.0 on this and future Basic
PD volumes. Sharon has done a super job in
applying the many corrections and enhancements
available to SB and adding some nice routines
using available special purpose keys (Undo,
Insert, etc.). Sharon has also contributed the
great program FILEMANAGER to this volume. This is
the most comprehensive and fully functional Public
Domain utility program available. Sharon uses
this one herself, so I know it's good !
Dale Metcalf has provided his FOOTBALL program for
this volume as well. I would venture to say this
is the best qualtiy PD game available. Dale has
spent untold hours adding color graphics and sound
to this fine program. You will enjoy it for sure
(unless you hate football).

Here is the documentation for volume BNDV21:

```
***    ***  NIAD PUBLIC DOMAIN  ***    ***
    *** ***     BASIC VOLUME #21    *** ***
     *****    PROGRAM DESCRIPTIONS    *****
      ***        by Bob Tarnowski      ***
.................................................
```

NOTE: This volume contains a revised version of
SmartBASIC. SEE DOCFILE FOR DETAILS. To use,
pull the <RESET>. After a moment, a program menu
will allow you to select your program choice. Only
files that can be RUN (A files) or BRUN (H files)
appear on the menu. A CATALOG will reveal other
files which include non-runnable machine code and
data files used by primary programs.

*** MENU - Used to select and RUN the programs on
this media. RUN HELLO or BRUN MENU or reboot
system by pulling the <RESET>.
*** ANNOUNCE - Clever program for printing text
page centered or left/right justified.
*** ARCADE - Arcade type shooting game in hi-res.
*** CARDGAMES - Poker and Blackjack very well done
using terrific hi-res techniques.
*** DIRsizer - For INITing disks and tapes with
multiple directories for storing over 200 files.
*** FILEMGR - Revised version of FILEMANAGE. Great
utility for copying and directory editing.
*** FOOTBALL - One of finest P.D. contributions
amongst the NIAD library. This is the creation of

Dale Metcalf and contains excellent sound and
graphics. Play ball!
*** SCRUNCH - Good utility removes deleted files
and repositions good files to free media space.
*** SLOTMACH - Well done version of the famous Las
Vegas dream machines.
*** THREEK - Challenging text adventure with
cleverly coded messages.
*** 5SOUNDdemo - Interesting and useful
demonstration of ADAM's sound effects capability.

Enjoy!!!

**** SmartBASIC V1.79 Rev.5 ****
By Sharon McFarlane

When you boot this media by pulling the <RESET>,
SmartBASIC V1.79 is automatically loaded with the
following enhancements and fixes:
---- The bootstrap features a sound and video
display, default to any
        drive and error routines.
---- The DATA / REM space bump is fixed.
---- The correction is made to allow BRUNing a
file from any drive.
---- Spaces are allowed in filenames.
(WARNING...allow no spaces at
        the end of your filename when SAVEing - ADAM
will recognize these
        spaces as characters in the filename.)
---- The number of program lines is changed from
128 to 216.
---- The program prompt includes a bell sound.
---- "h" files can now be RECOVERed.
---- The poke limit is automatically reset to the
maximum - 65535.
---- <UNDO> = (Halts program processing)
---- <WILDCARD> =control S (Pauses program
processing)
---- <CLEAR> = control X (Disregards last line
typed)
---- <INSERT> =   (Inserts a space within text)
---- <DELETE> = control O (Deletes a character
within text)
---- <PRINT> = control P (Dumps screen to printer)
---- Color values for the TEXT/GR/HGR2 MODES ARE
CHANGED>
**** THIS BOOTSTRAP MAY NOT BE COMPATIBLE WITH
SOME PROGRAMS!
++

NIAD CP/M PUBLIC DOMAIN DISK #30
By S. McFarlane

AUTOBOOT.COM - As the name implies, this
utility will configure a disk/ddp to automatically
boot any .COM file.

CATALOG.COM - Similar to DIR.COM, this utility
is especially useful for users with the VD-MB or
Orphanware 80 Column Units, as the directory is
formatted in 4-columns rather than the normal ADAM
2-column display. The length of the files is also
noted along with remaining space on the disk.
CLEARSCR.COM - Clears the screen instantly!
CLONE.COM/IMAGE.COM - IMAGE is a utility used
to convert any EOS file stored in a binary format
(ie. Calc files/Games etc.) for transmission via
Modem. The location of the file on the media, as
well as the length (blocks used), must be
determined prior to execution. The companion file
CLONE restores the file to an EOS format. Both
programs are self-prompting & quite easy to use.
IMG/CLNE.DOC file included.
COMLINE.COM - A CCP command line utility which
will: 1> Create a command line 2> Clear a command
line & 3> Display a command line.
COMPARE.COM - Compares 2 ASCII or Binary files
to ensure that the data is identical. If an error
is found, results are displayed on the console or
can be directed to the printer.
CROWECPM.COM/DOC - An Assembler that provides
all the features of Zilog's Assembler except for
Macros, conditional assembly & lower case. The
output is sent to files except the error listing
which is sent to the console. For each pass, the
source is re-read & the appropriate output
generated. Pass #1 builds the symbol table, Pass
#2 outputs the assembly listing, Pass #3 writes
Intel-format Hex object code & Pass #4 displays an
assembly listing of those lines containing errors.
This version of the assembler has been modified to
perform Pass #4 before writing the disk files
(Passes #2 & #3), allowing errors to be viewed on
the console & corrected before the time consuming
output is done. The linkage routines are written
so that the assembler can be run as a standard
CP/M .COM file with the following command syntax:
CROWECPM <Filename.Ext>. Adequate DOC file.
GAMEMENU.COM - I modified this simple program
specifically for ADAM, to use with Cart Game files
transferred to CP/M with GAMESAVE. I suggest that
a games disk be configured to auto-boot this file.
The "Games Menu" will then automatically display
all games on the media in a 2-column format, more
suitable for the ADAM screen display, with a
number assigned to each game. Simply enter the
appropriate number & then press <RETURN>. Makes
it much easier for the kids!
MUSICFUN.COM - Just sit back & listen to this
one! Musical excerpts from various ADAM Cartridge
& Super Games (20 in all) are run from a main menu
using the hand controller. Win/Lose routines as
well as themes from Super Buck Rogers, Slither,
Pepper II & Rocky are just some of the music fun!
SCAN12.COM/DOC - SCAN is a buffered
bi-directional text file utility adapted from

BISHOW Version 3.01. Normal ASCII files (squeezed
or unsqueezed), LBR members & directories can all
be viewed and/or printed. Most control characters
are also displayed, which is a useful feature when
viewing WordStar or similar files with imbedded
print & format control characters. SCAN replaces
TYPE, LDIR, TYPEL etc. for most applications. The
file scroll commands, screen display width &
numbers of lines per scroll may all be customized.
An informative DOC file is provided. SCAN is a
very useful addition to a collector's library!
TRIVIA.LBR - TRIVIA is a entertaining game,
similar in concept to the well-known board game
"TRIVIAL PURSUIT". There are several data files
(Q & A Sets) in the Library to get you started &
the DOC file outlines how to create your own
question & answer sets. Hours of fun!
NOTE: The following "PIC" (picture) files can
be used with the ADAM -OR- a Dot-Matrix printer.
No special software is required. Simply input
"TYPE <Filename.Ext>" & ensure that the printer is
on-line with a good supply of fan-fold paper!
```
        1>  CHARLIE .PIC
        2>  SNOOPY  .PIC
        3>  SPOCK   .PIC
        4>  TWEETY  .PIC
```

===

LOGO WORKSHOP

Thanks to Andrew Heckert for submitting the
following program for creating a MENU on a
tape/disk full of LOGO programs.
LOGO is a great language and the version of LOGO
implemented for the ADAM was rated one of the best
for any computer. I want to do more with LOGO in
future issues, but need the help of you LOGO
fanatics ! So, send in your programs and
articles.

This program creates a file called STARTUP on your
LOGO tape/disk. You can run this program to
activate the menu (or LOGO will automatically run
it for you if you have it on the same tape/disk.
Note that some LOGO programs do not automatically
run when loaded, but may require you to enter the
name of an initial procedure.

I WAS EXPLORING HERE USING A MACHINE LANGUAGE
ROUTINE IN A LOGO PROCEDURE AND THEN I GOT INTO
SOMETHING ELSE NEW TO ME : USING PROCEDURES TO
MODIFY PROCEDURES.
THIS WAS THE SOLUTION I FOUND FOR HAVING THE MENU
PROGRAM ERASE ITSELF WITHOUT FORGETTING THE USER
INPUT.

ANDREW HECKERT
60 WYNEVA ST.

PHILA. PA. 19144.
The following is the LOGOMENU program:

```
TO CHECK
PR [IF YOU CONTINUE,]
PR [THE STARTUP FILE ALREADY]
PR [ON THE MEDIUM WILL BE]
TYPE [ERASED] TYPE [\ ]
PR [CONTINUE?]
IF NOT EQUALP RC "Y [INSTALL]
ERF "STARTUP
END


TO RET? :RC
IF EQUALP ASCII :RC 13 [STOP]
RET? RC
END


TO MENU%
ERALL
SETTEXT 0
LOAD "DOG
END


TO QWOTE :WORD
OP WORD "" :WORD
END


TO SUB :NEWITEM :OLDITEM :LIST
IF EMPTYP :LIST [OP []]
IF LISTP FIRST :LIST [OP FPUT SUB :NEWITEM
:OLDITEM FIRST :LIST SUB :NEWITEM :OLDITEM BF
:LIST]
IF EQUALP :OLDITEM FIRST :LIST [OP FPUT :NEWITEM
SUB :NEWITEM :OLDITEM BF :LIST]
OP FPUT FIRST :LIST SUB :NEWITEM :OLDITEM BF :LIST
END

TO CHOOSE :CHOICE
IF EMPTYP :CHOICE [CHOOSE RL]
IF NOT NUMBERP FIRST :CHOICE [CHOOSE RL]
IF ( FIRST :CHOICE ) < 1 [CHOOSE RL]
IF ( FIRST :CHOICE ) > COUNT :DIRECTORY [CHOOSE
RL]
DEFINE "MENU% SUB ( QWOTE BL ITEM FIRST :CHOICE
:DIRECTORY ) ""DOG TEXT "MENU%
MENU%
END


TO PRETTYPRINT :LIST :NUM
IF EMPTYP :LIST [SETCURSOR [2 23] STOP]
IF :NUM > 16 [SETCURSOR SE 15 ( :NUM - 16 )]
IF :NUM < 17 [SETCURSOR SE 2 :NUM]
TYPE :NUM TYPE [\ ]
PR BL FIRST :LIST
PRETTYPRINT BF :LIST SUM :NUM 1
END
```

```
TO ENTRY :ADDRESS
IF EQUALP 3 .EXAMINE :ADDRESS [OP "]
OP WORD LETTER .EXAMINE :ADDRESS ENTRY SUM
:ADDRESS 1
END


TO LETTER :NUM
IF AND ( :NUM > 64 ) ( :NUM < 91 ) [OP ITEM ( :NUM
- 64 ) :ALPHA]
IF AND ( :NUM > 96 ) ( :NUM < 123 ) [OP ITEM (
:NUM - 96 ) :ALPHA]
IF AND ( :NUM > 32 ) ( :NUM < 65 ) [OP ITEM ( :NUM
- 32 ) :SYMBOL]
IF AND ( :NUM > 90 ) ( :NUM < 97 ) [OP ITEM ( :NUM
- 90 ) :SYMBOL2]
OP "
END


TO .INSTALL :BASEADR :BYTELIST
IF EMPTYP :BYTELIST [STOP]
.DEPOSIT :BASEADR FIRST :BYTELIST
.INSTALL SUM :BASEADR 1 BF :BYTELIST
END


TO VIEW :ENTRY
IF :ENTRY > 31740 [STOP]
IF EQUALP .EXAMINE ( :ENTRY + 12 ) 16 [MAKE
"DIRECTORY LPUT ENTRY :ENTRY :DIRECTORY]
VIEW SUM :ENTRY 26
END


TO SETUP
.ALLOCATE 255
.INSTALL 31726 [1 0 0 17 0 0 62 4 33 238 119 205
243 252 201]
END


TO READ
.DEPOSIT 31733 8
.DEPOSIT 31730 1
.DEPOSIT 31738 243
.CALL 31726
END


TO READ_DIRECTORY
MAKE "DIRECTORY []
SETUP
READ
VIEW :BUFFERSTART + 78
END


TO CHOOSEMEDIUM
MAKE "CHOICE RC
IF NOT MEMBERP :CHOICE [1 2] [CHOOSEMEDIUM]
IF EQUALP :CHOICE 1 [TAPE] [DISK]
END
```

```
TO DISK
DEFINE "READ ( SUB 4 8 TEXT "READ )
END


TO TAPE
DEFINE "READ ( SUB 8 4 TEXT "READ )
END


TO MENU
CS HT
SETTEXT 23
PRETTYPRINT :DIRECTORY 1
IF ( COUNT :DIRECTORY ) < 10 [CHOOSE RC]
CHOOSE RL
END


TO INSTALL
CS HT
PR []
PR [INSTALL MENU ON]
PR []
PR [1 TAPE]
PR []
PR [2 DISK]
CHOOSEMEDIUM
CS
PR []
TYPE [PUT] TYPE [\ ]
IF EQUALP :CHOICE 1 [TYPE "TAPE] [TYPE "DISK] TYPE
[\ ]
PR [IN DRIVE 1]
PR [AND PRESS RETURN]
RET? RC
IF EQUALP :CHOICE 1 [SETDEVICE 0] [SETDEVICE 4]
READ_DIRECTORY
IF MEMBERP "STARTUPA :DIRECTORY [CHECK]
MAKE "STARTUP [MENU]
ERASE "INSTALL ERASE "DISK ERASE "TAPE ERASE
"CHOOSEMEDIUM ERASE "READ_DIRECTORY ERASE "READ
ERASE "SETUP ERASE "VIEW ERASE ".INSTALL ERASE
"LETTER ERASE "ENTRY ERASE "RET? ERASE "CHECK
SAVE "STARTUP
LOAD "STARTUP
END


MAKE "STARTUP [INSTALL]
MAKE "SYMBOL2 [\[ \\ \] _ ']
MAKE "SYMBOL [! " # $ % & ' ( ) * + , - . / 0 1 2
3 4 5 6 7 8 9 : ; < = > ? @]
MAKE "ALPHA [A B C D E F G H I J K L M N O P Q R S
T U V W X Y Z]
MAKE "BUFFERSTART 30702
```

REVIEWS

MICROTALK By L. Marschand

This new program from ADAMZap Software is for us
Eve SS-CC Speech Synthesizer owners.
MICROTALK is a collection of several well done
programs that use the Speech Synthesizer is some
new ways, specifically to provide information,
sing songs and be generally entertaining.
MT is a self loading program, utilizing menus and
bsaved SMARTBasic programs for ease of use and
speedy operation. Some nice graphics are also
employed that add to the programs features.
1. A test program option is provided which
"speaks" the alphabet to test out whether the Eve
SS-CC is correctly installed and your sound
adjusted.
2. STORY ONE - A spoken story of interest.
3. BIRTHDAY - ADAM "sings" happy birthday to you.
4. JINGLEBELL - ADAM "sings" this old time
Christmas favorite.
5. POEM - ADAM recites a poem.
6. STORY TWO - A thought provoking story is
recited with a graphical display.
7. BORN IN THE USA - Hard to believe, but ADAM
does a good job of singing this popular song to
you !
8. CLOCK - Displays the correct time and day and
tells you as well.
9. LIBRARY - A list of 230 words with the codes to
create speech via the SS-CC, using the SMARTBasic
routines supplied with the SS-CC. This dictionary
employs the coding to make these words sound more
realistic. The key to creating good speech on the
SS-CC (or any other speech synthesizer) is to
correctly construct the coding of the allophones
(parts of a word). You just can't put letters
together, via the codes, and expect the word to
sound right.

ADAMZap has put a lot of work into these programs,
using special techniques to not only create good
speech, but even singing. MICROTALK is a great
example of what can be done with the Eve SS-CC and
will hopefully spur some of you on to make better
use of your speech synthesizers.
ADAMZAP is working on more programs, combining
graphics and speech that promise to be even
better. I personally feel the speech synthesizer
can be a great aid in children's educational
programs.

RATING - B

STAGE FRIGHT By L. Marschand

This is a new text adventure game, written by Mike
McCauley and distributed by Reedy Software.
First off, this is a full featured, sophisticated
text adventure game. The program itself uses all
of the ADAMs available memory PLUS reads in
different files during the course of the game.
Sooo, it is a BIG game. There are actually 3
rounds to the game:
I You are trapped in an empty theater building and
must find your way out using clues and tools to
overcome 12 traps.
II Sends you back in the theater to get rich,
overcome another 6 traps and find another way out.
There is an added twist on how to get the treasure
out.
III Is where it gets hard. You are sealed back in
the theater. You must perform a rescue (but
your'e the only one in the place), retrieve a
special object (that is in a non-existent room)
and finally you must find a way out when all the
exits are sealed !!
The cleverly done instructions are complete and
explain all options. There is even a sealed "hint
book" if you really get in trouble!
STAGE FRIGHT makes use of the ADAM SMARTKeys and
most of the special function keys as well. A real
nice feature is the ability to use the arrow keys
for choosing directions rather then entering
N,S,E,W,U,P.
You must keep a good map as you go because there
are several floors and many, many rooms. This is
a tuff game, but a very well done one.

RATING - A

NIAD GOLD - TEXT ADVENTURE GAMES

This is the second in the NIAD GOLD series (see
last months issue).
This is a self booting program using an advanced
version of SMARTBasic V 1.0. A menu is
automatically loaded that displays the available
programs which can be selected and run just be
hitting the enter key.
Six top flight text adventure games are included -

LIGHTHOUSE - a super adventure that has gone
through several revisions and enhancements. You
have the chance to find the gold left by a band of
smugglers, but many challenges await you. This
sophisticated program takes two word commands and
allows you to save a game in progress.
JEWELHUNT - you can choose from several tools to
take with you on this classic adventure to find
the various treasures available in the caverns.

There are many enemies awaiting you.
ADVENTURE - a simpler game that kids can play.
TRUCKER - actually a simulation game where you are
a long haul truck driver. You choose your cargo,
speed, when you stop, when to buy fuel and must
deliver your cargo in a specified time to make a
profit. A very interesting game.
GOLDEN - you search for the elusive golden flute
in a mysterious land.
WILDWEST - this is a great graphics version of the
famous Clue board game in a wild west setting.
You must find out who committed a recent murder,
where, the weapon and the victim in the fewest
turns. Great color graphics are used and the game
is complete with hints and penalties. This is a
real fun one.

These are the best non-commercial text adventure
games you'll find. They are all full featured and
not easy to conquer. If you want a challenge,
these are for you.

RATING - A

FONTPOWER By W. Motel

FontPOWER, from Digital Express, is a
utility for designing your own font sets for use
with SmartBASIC or machine language programs. It
is similiar in "concept" to the original font
design techniques created by Ben and Peter Hinkle,
but the program utilizes high resolution graphics
and sound effects to make the program very user
friendly.
Also included are 8 custom created font
files, 3 public domain files that allow you to
insert text on HGR or HGR2 screens, using these
shape tables. Additional programs include fntDEMO,
shape DEMOs using the small, medium, and large
shape tables for HGR/HGR2 screen text, and 32 to
40 column TEXT screen program. A 17 page manual
comes with the programs explaining FontPOWER and
the other programs.
FontPOWER is all smart key driven, with
screens similiar to regualr Coleco software.
Initial options let you change the screen color,
Reset the current loaded font, View the current
font set, draw fonts, display the current drive
directory, and exit.
The view font screen shows all characters in
the current font set, with there ascii value. The
draw font, which is the main screen to use in
creating or changing your characters, shows you an
8 by 8 square grid. You can control the ascii
value of the character you want to work on with
the up/down arrow keys. The actual character for
that va lue is also displayed. You can send the 8

by 8 bit design for the character to the grid and
modify it or simply design the 8 by 8 bit grid
design from scratch. When completed, you transfer
the grid design into the actual font character.
The "drawing" is similiar to sprite design or
lo-res drawing programs, in that you control your
"pen" up/down and the mode as draw/erase as you
move around the 8 by 8 design grid.
The directory screen lets you see the current
drive directory (or reselect the drive). The
directory is displayed on an index card with 40
column graphics. It is very professional looking.
From this directory you can point to the font
files to get, rename, change status, delete, lock,
or unlock. You can also init a directory, rename a
volume, and store a file.
The manual explains how to use your "font"
sets in your own Basic V1.0 or V2.0 or machine
language programs. Basically you BRUN the font
file, which contains the font set and a loader
program.
If you're looking for a very user friendly
font creation program, this one fits the bill.
Another professional program from Digital Express.
NOTE: This creates font sets for text
screens, not custom printer fonts.

RATING - A

TURBODISK By W. Motel

TurboDISK allows you access to your 64K
memory expansion card, as if it were another
device such as a tape of disk. Specifically, it
treats it as a ramdisk, a very fat I/O device. You
can use all the I/O file commands to it, such as
Save, Load, Bsave, Brun, Bload, and Catalog. The
64K card is accessiable as device number d7. They
claim a save takes about 1 sec per one 'K' block
and a load about 3 sec per one 'K' block.
After Smartbasic is loaded, you simply run
the turbodisk program, which installs the needed
changes into Basic and the operating system. This
is also compatiable with their IntelBEST 3.3
basic.
Other improvements made to SmartBasic are:
- Poke limit set to 65535
- Recover "H" file bug is fixed
- Init now does Disk as 160 and Ramdisk as 63K
- Fixes "Control Buffer Overflow" problem with
   BSAVE, BRUN, BLOAD
They've include 2 versions of Turbodisk. One
automatically init's the 64K catalog, the other
doesn't. Therefore, you can run some BASIC
programs and put files to the 64K. You can run
some other Coleco software that doesn't use the
64K, reload Basic and reinstall turbodisk (the
version without the INIT), and your information is
still on the 64K from the first Basic session (as

long as you don't power off).

Also included with the package are two other programs. EZKEYS II will install some nice functions into Basic. Different keyclick sounds are created, giving you audible key press response. Capital letters have a higher tone then the lower case. The return has it's own unique sound. Shifted I thru IV are auto set for tape or disk drives. Shift V does CATALOG for the current set device. Shift VI sets device to ramdisk. Clear does a text command, Escape is the same as CNT-C. Insert/Delete are the CTL-N/CTL-O. PRINT key does the CTL-P and WILDCARD does the CTL-S.

The third program is TurboCOPY, a 62K copy buffer program that utilizes the 64K expansion card. It has very nice professional looking graphics and is very user friendly. Since you can load TurboCOPY onto the ramdisk (64K memory) and keep it there, you have instant access to the copy program during your BASIC session. All the options are available, such as full media or selected block copy. It will calculate and only copy the actually used blocks when doing a full media copy. You can rename files or volumes, delete files, and check the status of blocks on tape/disk. You also have the option to run files from the directory shown, by simply pointing to the desired file. It will determine whether it needs to RUN or BRUN it. The directory display utilizes some of the new fonts (see review on FontPOWER) they,ve created, so that more than 32 characters can be displayed on a normal television line). In doing a test, a 90K disk copy (to the same drive) took about 2 1/2 minutes, including 2 disk swaps).

This seems like a very good package and contains many useful tools for the owners of the 64K memory card. Another fine package from Digital Express.

RATING - A+

SEGA UPDATES

GHOSTBUSTERS By W. Motel

This is Sega's version of the Activision licensed game, based on the movie. You start with $10,000 to buy a vehicle and equip it with ghost hunting devices, such as traps, bait, ion beams, etc. The game actually consists of 4 phases or mini games. The first has you looking at a map of the city showing various city blocks and ghosts going to Zule. As a block becomes attacked, you race to that block and enter it. The view now shifts to the street, where you drive your vehicle avoiding traffic and picking up stray ghosts. When you reach the building, the scene again shifts to the front of the building, where you must capture

the ghosts, slimeres, and roameres and put them into the trap. Depending on the equipement you've purchased, the task can be hard or fairly easy. It also will determine how many times you must return back to headquarters to empty your traps and replenish your men. As you capture the ghosts, you are rewarded with money. As you lose a city block or buy more equipement, your money supply goes down. Eventually, the psychokinetic energy in the city goes from blue, thru yellow, to red and the ghosts all enter Zule, as does the gatekeeper and the keymaster. This is the end of phase 1. If you have more than $10,000, you will proceed to phase 2. Here you must get 2 of your 3 Ghostbusters past the gigantic moving Marshmallow man to the entrance of the building. This phase goes very quick. Either you dodge the guy or you don't.

Phase 3 has you trying to get at least one of the ghostbusters up the stairs to the top. You have an ion gun to shoot. The roamers will try to stop you by getting in the way and throwing dishes. If you succeed, the final stage has you trying to destroy Gorza. Failure at the end of any of the phases results in the end of game. This is a one player game.

A unique feature in the game is the ability to save the accumulated money to use to start your next game. For example, you have $20,000 and go to phase 2 to fight the marshmallow man, but lose. You are given a 10 digit account number, which you can enter at the start of a new game and you will start with that amount ($20,000 in this case), instead of the normal $10,000. This allows you to purchase better and faster equipement in you ghostbusting attempts. The exciting thing, and SEGA doesn't really push this, is that the accounts are saved AFTER THE UNIT IS TURNED OFF. They have either put in a small RAM chip into the cartridge to save/retrieve this info or use a longlife battery in the cartridge, similiar the the idea Nintendo plans to use with Legend of Zelda adventure game. I had about 8 different accounts in my testing and all were available. I don't know what the maximum is.

All in all, the game is very well done with very nice graphics. The SEGA version supposedly has more options than the original Activision computer version. Fun for the whole family, with a variety of game play.

RATING — A+

We've just received MISSLE DEFENSE 3D and the 3D Glasses set from Sega. We can't get a review in for this issue, but they are fantastic. Sega has really come out with something new that will furthur catapult them ahead in the advanced home video arcade market. The realism of this game is undescribable. The 3D glasses are a precise piece of liquid crystal display electronics, not a toy with red and green lenses. We'll have a complete review next month.

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NIAD (Non LORAN) DDP	10 for	$ 19.00
BOX of 10 TDK DS/DD Diskettes		$ 9.95 SPECIAL
5 Boxes 50 Diskettes		$ 34.95 SPECIAL

PINFEED PAPER/LABELS

9 1/2 x 11 20# MICROPERF PAPER	$ 9.95 /500
	$ 18.95 /1000
9 1/2 x 11 OKI 20 THERMAL PAPER	$ 9.95 /250
3 1/2 x 15/16 PIN FEED ADDR LABEL	$ 6.95 /1000

HARDWARE & ACCESSORIES

NOTE: SEE SPECIALS ON NEXT PAGE AS WELL

ADAM DISK DRIVE 7817 $225.00
***** TWO FOR $399.95
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.

ADAM LINK MODEM 7818 $ 49.95
ADAM phone modem which provides capability, with included
software, to interface with other ADAM computers or large
bulletin board systems such as Compuserve.
NOTE: Order ADAMLink II software from Public Domain list
which will allow upload/download of programs.

COMPUSERVE STARTER KIT $ 25.95
Includes account number, password and five free hours of
connect time to the popular compuserve information system.

DIGITAL DATA DRIVE # 2409 $ 29.95
NEW (but not boxed) digital data drive which can be used
as a replacement or as a second drive.

64K MEMORY EXPANDER ME-64 $ 49.95
Provides additional 64K of memory for SMARTwriter, CPM
programs. Provides print buffer spooling for ADAMCalc.

256K MEMORY EXPANDER $159.95
Provides 256K ram disk under CP/M 2.2
Requires addresser car (add'l $17) if
you don't have PIA2 interface. Must
send in PIA2 for modification if you
have it.

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, SMARTfiler,
BASIC, CPM programs.

EVE SP-1 PARALLEL INTERFACE ONLY $ 79.95*

ORPHANWARE PIA2 PARALLEL INTERFACE $ 39.95*
(Parallel cable required - see next item)

PARALLEL OR SERIAL CABLE SP-1C $ 15.95
Cable required to attach SP-1 or PIA2 interface
to other printers.

SHIELDED PARALLEL CABLE $ 24.95
Parallel cable containing extra shielding to prevent
interference with TV sets.

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.

ORPHANWARE 80 COL VIDEO UNIT $199.95
. Standalone unit
. Unit to attach to Eve Serial Port$179.95
Provides 80 column video output for CP/M
software. Emulates various terminals.

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 plastic 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 colecovision unit to allow it to be connected
to a monitor via 7830 cable above. Requires soldering
skill - see review in 2/85 issue.

SPECIALS/ NEW PRODUCTS

64K MEMORY EXPANDER & BASIC RAMDISK $ 59.95
Provides full ability to use 64k expander from SMART-
Basic as a ram disk. Specify whether you want the
BASIC Ramdisk program or Basic V1.0 or 2.0

POWER SUPPLY FOR COLECO DISK DRIVE $ 19.95
POWER SUPPLY FOR COLECOVISON $ 9.95
* SPECIFY DDP OR DISK FOR SOFTWARE PROVIDED

MAGNAVOX CM8505 COLOR MONITOR $249.95
Use with the ADAM for better color. Also
compatible with all other computers as well.
Gives 40 column color in RGB mode.

MAGNAVOX 8CM8515 COLOR MONITOR $369.95
Same as CM8505 above, but will display 80
columns on RGB computers (not the ADAM).

3 OUTLET SURGE PROTECTOR $ 14.95
Protect your hardware from power surges.

COMBO MONITOR TILT/SWIVEL STAND & $ 69.95
5 OUTLET SURGE PROTECTOR W/ MASTER SWITCH
Integrated small unit organizes your computer
wires and gives surge protection. Turn on
all components with one switch or individually.

NIAD PRODUCT REVIEW BOOK $ 19.95
Contains detail reviews of 100 ADAM products,
organized alphabetically for quick reference.

PRINTERS

PANASONIC 1080I $199.95
. TYPE: 9x9 DOT MATRIX
. SPEED: DRAFT MODE - 120 CPS
NEAR LTR QUALITY - 24 CPS
. PRINT CHR: COMPATIBLE W/ EPSON RX80,
IBM, FULL GRAPHICS
. MEDIA HNDL: ADJ TRACTOR FEED
. INTERFACE: CENTRONICS PARALLEL
. FEATURES: 2 YEAR LIMITED WARRANTY

PANASONIC 1090I $249.95
. TYPE: 9x9 DOT MATRIX
. SPEED: DRAFT MODE - 160 CPS
NEAR LTR QUALITY - 32 CPS
. PRINT CHR: COMPATIBLE W/ EPSON RX80,
IBM, FULL GRAPHICS
. MEDIA HNDL: ADJ TRACTOR FEED
. INTERFACE: CENTRONICS PARALLEL
. FEATURES: 2 YEAR LIMITED WARRANTY

OKIMATE 20 COLOR PRINTER $199.95
. TYPE: 24 PIN THERMAL
. SPEED DRAFT MODE - 80 CPS
NEAR LTR QUALITY - 40CPS
. MEDIA HNDL: LIMITED ADJ TRACTOR FEED
. INTERFACE: MORE STD - PARALLEL PLUG N
PRINT MODULE SUPPLIED THAT
ATTACHES TO EVE OR ORPHANWARE
PARALLEL INTERFACE
. FEATURES BLACK & WHITE OR COLOR PRINTING
8K BUFFER; SPECIAL PAPER REQ'D

PANASONIC RIBBONS - $9.95
OKIMATE 20 RIBBONS- $4.95 BLACK
- $5.95 COLOR

TRAINING MANUALS/ BOOKS

. NIAD PRODUCT REVIEW BOOK $ 19.95
. LEARNING EXPRESS AUDIO TRAINER $ 19.95
. CP/M USER'S GUIDE BY T. HOGAN $ 15.95
. WORD PROCESSING WITH YOUR ADAM $ 8.95
. THE COLECO ADAM USER'S HANDBOOK $ 8.95
. FIRST BOOK OF ADAM, THE COMPUTER
TAB BOOKS $ 8.95
. BASIC BASIC PROGRAMS FOR THE ADAM
BY KNIGHT, TIMOTHY ORR $ 8.25
. DISCOVERING SCIENCE ON YOUR ADAM,
WITH 25 PROGRAMS BY TAL MOUNTAIN
SCIENCE CENTER $ 9.95

SEGA GAME SYSTEM
NOT COMPATIBLE WITH ADAM

BASE GAME SYSTEM $79.95
. 2 HAND CONTROLLERS
. COMBO MEGA CARTRIDGE
- HANG ON GAME
- ASTRO WARRIORS

MASTER GAME SYSTEM $ 99.95
. 2 HAND CONTROLLERS
. LIGHT PHASER GUN
. COMBO MEGA CARTRIDGE
- HANG ON GAME
- SAFARI HUNT GAME

SEGA SPORTS PAD CONTROLLER $49.95
SEGA CONTROL STICK $14.95 NEW
SEGA 3D GLASSES $49.95 NEW

SEGA CARD SOFTWARE (256K) $24.95
. F-16 FIGHTING FALCON
. MY HERO
. TEDDY BOY
. TRANSBOT
. SUPER TENNIS (sports pad not req'd)

SEGA MEGA CARTRIDGES (1048K) $29.95
. CHOPLIFTER . FOOTBALL NEW
. ACTION FIGHTER . VOLLEYBALL NEW
. BLACK BELT . ALEX IN MIRACLE WRLD NEW
. FANTASY ZONE
. WORLD GP
. PRO WRESTLING
. MARKSMAN/ TRAP SHOOTING
. GREAT HOCKEY (SPORTS PAD REQ'D)
. RAMBO
. BASEBALL (SPORTS PAD NOT REQ'D)
. QUARTET
. SHOOTING GALLERY (FOR USE WITH GUN)
. MISSLE DEFENSE 3D (REQ'S 3D GLASSES & GUN)

SPACE HARRIER (TWO MEGA) >>>>> $ 34.95
ROCKY BOXING (TWO MEGA) >>>>> $ 34.95

. THE COLECO ADAM ENTERTAINER BY
BRIAN SAWYER $ 12.95
. HACKER'S GUIDE TO ADAM VOL I $ 11.95
. HACKER'S GUIDE TO ADAM VOL II $ 11.95

PROGRAMS FOR BOTH VOL I & II OF
HACKER'S GUIDE ON I TAPE OR DISK $ 3.00 DISK
$ 5.00 DDP

. 2ND EDITION ADAM RESOURCE DIRECTORY$ 13.95
. USING & PROGRAMMING ADAM BY KNIGHT $ 7.95

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NAME	SHIPPING ADDRESS (IF DIFFERENT)
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	ADDRESS
PHONE ( )- -	

QTY.	ITEM NAME / NUMBER	DDP/DISK	PRICE EA.	TOTAL PRICE

SUB TOTAL _____

ILLINOIS RESIDENTS ADD 6.75% SALES TAX TO

HARDWARE ACCESSORIES AND CARTRIDGE SOFTWARE ONLY   ---> $ _____

ALL MEMBERS PLEASE DO NOT FORGET SHIPPING/INSURANCE

	[]US UPS	[]US MAIL	[]CANADA	
$ 1.00- 50.00 -	$ 2.50	$ 4.00	$ 6.00	
$ 50.01-100.00 -	$ 4.50	$ 7.00	$10.00	---> $ _____
$100.01-200.00 -	$ 7.50	$10.00	$16.00	
$200.01-and up -	$10.50	$15.00	$22.00	

INITIAL ANNUAL MEMBERSHIP FEE REQ'D FOR BUYING SERVICE ---> $ _____

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