

# ***EXPANDABLE COMPUTER NEWS***

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**ANOTHER  
LONG HOT  
SUMMER**

**ISSUE 15**

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## Ramblings From The Ridge by D. Sage

I am hot and tired. This has been a very hot June for Missouri. When the overnight low starts out at 80 you know it isn't going to get any better. This has also been one of my busiest Junes ever. Between a full-time consulting job, ADAM and Amstrad, I have been forced to build my own garage. I had a contractor, but he was behind schedule and my building permit was on the verge of expiring. That left me with little choice but to begin building a 24 x 60 garage with little prior experience on free standing structures. Well, it's not done yet, but it is getting there. The building inspectors were out last week and did not say anything about it not being finished, so I guess we're okay. Because of all of this ECN is running a little late again. I hope that you will bear with us, but it looks like deadlines will only be a general guide. ECN will get published, but you may not get an issue until well into the month that it would normally be due. We will try to get it out as quickly as possible, but there is only so much time.

This brings me to another subject. I try very hard to answer all of the mail I receive from you as quickly as possible. Letters containing a self-addressed stamped envelope are always answered first. Letters with general questions, I try to cover in the newsletter, the rest gets answered when I can get to it. Sometimes all I can do is scribble a quick note (those of you who have received one, probably understand what I mean by scribble). If you really need an answer you must enclose a SASE or I cannot guarantee that I will be able to get back to you soon.

We also make every effort to fill orders promptly, but this is not always within our control. Recently while working on orders and renewals, I encountered a disk drive failure on my Zenith. This problem resulted in the destruction of active data files and a loss of a great deal of time, which I happen to have so much of. The files were easily restored using backups, but the most recent backups also turned out to be damaged. This required reentering previous information that should have been okay. In any event, most orders are filled within a week of their receipt and few take longer than two weeks. If your order was accompanied by questions, your answer will probably come separately. Also, different parts of your order may be shipped separately.

Earlier I mentioned Amstrad. We are currently in the process of organizing the North American Amstrad User Support Group (NAAUSG). This

organization will be somewhat different from ECN, but in some ways will be similar. We will be selling the new Amstrad WPC 8256 and carrying supplies and software for it and the CPC 6128. Members of NAAUSG will be entitled to discounts where possible.

I have included some comments on the WPC 8256 in this issue and you should recognize that while I have tried to be impartial in discussing the



product, it should not be considered to be an unbiased review. I am also including information on NAAUSG and our products and services. This does not imply in any way that we will be dumping the ADAM. The ADAM is still a good system and as long as you support us, we will continue to publish ECN and support ADAM owners.

This brings me to some comments on some of the proported support for the ADAM. I have received some inquiries about products that have been alleged to be in existence for the ADAM.

These include an Apple emulator and a



Commodore emulator. Some products are available for the ADAM. These include an 80 column card, a variety of printer interfaces, and memory expanders.

The Apple and Commodore emulators, however, would require the manufacturer to obtain a license from those companies or to spend a lot of time and

money developing operating systems that don't violate these companies' copyrights yet still allow software to work properly. If these emulators exist at all they are probably the result of work by some hardware hackers, who have not bothered to get the rights to the operating systems. It is unlikely that these products would be of production quality and are unlikely to ever be available in any volume at a reasonable price. If I am wrong, I will be more than happy to review one of these products and to print full details on how they may be obtained.

As far as I am concerned, if you want to run Commodore programs, then buy a Commodore, it's probably going to be a cheaper and more reliable solution. If you want to run Apple programs, buy one of the less expensive Apple clones.

ADAM doesn't need emulators to be a good system. Many people use its word processor regularly and many others have found it to be a functional system with current software and its CP/M capabilities. If the ADAM doesn't meet your needs, then you are probably going to have to move up to another system.

The advantages of expanding ADAM should be weighed carefully to determine if the end result will do what you want. We will not unrealistically sit here and wave the ADAM forever flag. As we have said before the ADAM has its shortcomings as well as its good points. With the decline in software sales that has recovered only slightly, there undoubtedly will be a decline in new products. If you want flight simulator or other sophisticated graphics software that is not available for the ADAM, then you are not likely to get it, no matter how long you wait. No one is going to produce more software if their last product sold less than 50 copies.

I have been advised by Alpha-1 that they now have disk drives available.

Someone inquired about the availability of Power Print 2. I am assuming they were referring to MultiWrite which is now available. We were supposed to be supplied with a review copy but have not received one.

Eve's 80 Column Card is now available. I have not seen one and do not have any plans to obtain one. If anyone has one of these, how about reviewing it.

A British company has indicated that they will be releasing two Colecovision cartridges in the U.S. These are Skiing and Amazing Bumpman. They also will be making available Soccer and a number of previously released games. The company's U.S. address is Telegames USA, Box 901, Lancaster, TX 75146.

Keith Burrows has informed me that the second edition of the ADAM RESOURCE has been delayed,

but will be available soon.

Many of our regular columns continue in this issue along with a few reviews. In addition Jim Guenzel has submitted some Basic programs which he has asked us to share. We hope that you will enjoy them.

Our supply of back issues remains #1, 2, 8, 9, 10, 11, 12, 13, 14. These are still three dollars each.

Remember we only send out renewal notices once and that is after you have received your last issue. The number on the top right of your mailing label indicates the last issue of your subscription. We hope you will stick around with us, but if you don't, thanks for your past support.

## Industry Observations by D. Sage

Well another Consumer Electronics Show has come and passed. It used to be that the press couldn't wait for this event. Everyone wanted to run stories on the latest developments in the home electronic game and computer market. Now, the show hardly gets a mention. If it does the subject is generally the latest in audio or video technology. Computers and electronic games are generally ignored. After all, the home computer industry is dead so why bother to beat a dead horse.



Unfortunately, some of the companies involved in the home computer market appear to be doing what they can to finish themselves off.

Commodore appears to be little more than a ship adrift at sea. They can't seem to figure out where to go. This spring they announced that their PC compatibles would be available for U.S. distribution and would be shown at CES. Later they decided that only one model of the PC compatible would be shown. Just before CES they decided not to show any PC compatibles, but instead brought out the Commodore 64C. Another earthshaking development from Commodore. Commodore also seemed to have some difficulty deciding whether or not to show at CES at all. Originally they had obtained CES space. Later they decided to show their wares away from CES at another site. At the last minute, they reclaimed their CES space.



What is the 64C? Well it's a more expensive Commodore 64 with bundled software. It's priced around what the 128 is selling for. Now isn't that

exciting.

In the meantime, some analysts have indicated that they feel Commodore would like to drop the Amiga, but can't. The reason is that their lenders feel that the Amiga is the company's only long term hope for solvency. Commodore dropped the price of the Amiga by \$500 and it began selling more briskly. Sales were so good they raised the price back up and sales declined. Can't follow this logic. Who can?

In spite of the negative attitude held by many concerning the home computer market, recent market surveys indicate that a market does exist and that the price break is somewhere under \$800 for a complete system. A complete system is the computer, at least one disk drive, a monitor, and a printer. As the price of such a system declines towards \$600, the demand goes up. When ADAM came out it was selling for \$599 and a color monitor could be purchased for as low as \$250.

Following this logic, Amstrad has introduced their WPC8256 and 8512 systems that come with the computer, monochrome monitor, one disk drive and a letter-quality dot matrix printer, all with a suggested retail price of \$799 (see later in this issue for more info). They are obviously paying attention to the research on the home market.



Meanwhile, Nintendo is moving towards nationwide distribution of their game system. Based on early success in the east, the product is now available essentially nationwide.

The Intellivision system's rejuvenation has also been somewhat successful and they are planning the introduction of some new games. Atari has finally begun selling their 7800. It is reported to be available at Toys R Us for \$79 and includes Pole Position II. Cartridges are priced at \$9.97 each.

Remember if you here of any interesting news, pass it on and we will share it with everyone.

## Beginning Basic by D. Sage

In the last issue I covered the Basic commands: PR#1, PR#0, CATALOG, LIST, RUN and LOAD. These commands allowed you to load and run programs and list the catalog and program contents and print them.

This time we will cover writing a short Basic program. You will learn a little about the structure Basic needs and some of the other commands that are available.

SmartBasic requires that you start each line with a number. The numbers are important because they determine the order of execution of the statements. The numbers also allow you to make corrections and changes in your program. After the line number you should leave a space before any commands or statements. Let's use the REM statement. This is a

```
10 REM This does nothing!!  
15 PR#1  
20 PRINT "      It works      "  
30 PR#0  
40 END  
_
```

non-executing statement that allows you to include notes in your program. When Basic encounters a REM statement it does nothing but go on to the next statement. Let's try it. Load SmartBasic and type in the following line on your ADAM:

```
10 REM This does nothing!!
```

Make sure the line is typed correctly. There should be a space after the number ten and a space after REM and a carriage return (RETURN) at the end of the line. Now type RUN and see what happens. Well nothing happened. Now type LIST and you will see your line #10 on the screen.

Let's add another line to the program to see if we can make ADAM do something. It's a good idea to use line numbers in multiples of 5 or 10 so that if you want to add something later it will be easier. Now type in the following:

```
20 PRINT "      IT WORKS      "
```

Make sure you leave a space after the 20 and after PRINT. It doesn't matter how many spaces are after the first quotation mark. If the line looks okay then type in RUN. Your message was printed on the screen just as it appeared between the quotation marks. If you wanted to print this message on your printer, you would have to use the PR#1 command you learned last time. Let's do that and we will also demonstrate how the line numbering will help to put the PR#1 in the right place. First type LIST and lines 10 and 20 will be listed on the screen. Now type in the following two lines:

15 PR#1  
30 PR#0

Now type LIST again and you will see that PR#1 is after line 10 and before line 20. You need the PR#0 to turn your printer off after you print the message, so it's a good practice to include it unless you want to keep the printer on. Now type RUN. The message "IT WORKS" was printed on the screen and on your printer. By using the PRINT statement you can print anything you want as long as you enclose it in quotation marks.

One good practice to learn is to always end your programs with an END statement. Add the following line to the program:

40 END

This statement simply stops program execution. With some programs the effect will not be apparent, but with others its use will become more important. Try experimenting with these statements and those that you learned last time. Next time we will introduce you to more Basic statements that will allow you to do even more.

## Telecommunications by Joe Blenkle

In this month's column I thought I'd take the opportunity to review some of the telecommunications software available for Adam. While the list isn't exactly growing by leaps and bounds, there are still several worthwhile packages out there.

To date, the best telecommunications software comes in the CP/M format, I have had experience using four of these: ASCOM, MADAM 7 (modem 7), MEX and MITE.



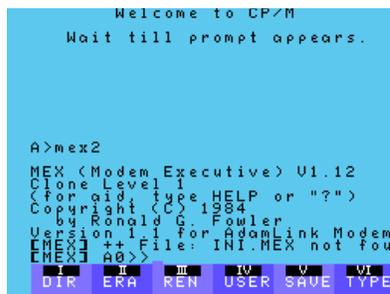
I would have to rate MADAM 7 and MEX the best for all around use. They both have very similar command structures, both allow the use of a phone directory and both allow XMODEM

transfers as well as text and ASCII transfers.

Both MADAM 7 and MEX have been configured for use with ADAM's internal modem. In my opinion, MADAM 7 is the easier of the two to use. The ADAM version of MEX, ADAMex, has a few quirks in it that make it a little less desirable, but it has some advantages in its ADAM configuration that make up for this -- full use of ADAM's SmartKeys to make its

many functions and changeable parameters easier to manage. It's only annoying quirk is that it locks up if you fail to hang up via a ESCAPE-N before the other computer hangs up on you.

The only other disadvantage with these programs is their 80-column display format. If used with a



screen chop program (the fully configured MEX program has one built in), this becomes manageable. If not, it can be very frustrating trying to read text scrolling all over the place.

ADAM's own ADAMLink I & II are, of course, configured for use with ADAM. For anyone still stuck with ADAMLink I, as you well know, it's not possible to do anything other than call up BBS' and read messages. ADAMLink II, however, features an ASCII up/download feature so you can at least send and receive some files. It can't handle binary files though (this is where XMODEM transfers come in).

I have heard very strong rumors that an ADAMLink III exists somewhere out in the ADAM never-never land. It is said to feature a phone directory and the ability to do XMODEM type transfers. Whether this will ever actually surface, I don't know, but it's entirely possible considering the amount of other software that has found its way out of Coleco.



ASCOM and MITE come last on my list of choices for ADAM telecommunication software. Despite being jam packed full of special features, their very nature makes them difficult to use. My ASCOM manual looks more like a small telephone book. I have not yet even begun to explore all the features of it.

Both MITE and ASCOM are CP/M programs. Again, the same old problem of 80-column programs on a 30-column screen comes into play here. Both are very expensive as well and for the general user they offer no advantage over either MADAM 7 or MEX which are public domain and a lot easier to use.

On a different side of the telecommunications front, several BBS programs are beginning to surface. Alan Neeley who created a fine BASIC BBS has done some more work on it and now has more message and password space. It's also possible to

build an auto-answer device for his BBS which truly makes it a functional program. He's still expect-ing to add more features to it in coming months and has promised to keep me up to date on his progress.

I've also heard of several other BBS programs that have been or are being developed in both BASIC and CP/M formats. Hopefully I will be able to obtain copies of these for review in the future.

For anyone interested in obtaining a copy of MEX or BBS Version 1.3, I have them on disk for \$5 each (DDP \$10 or \$7.50 each for both). I also have a variety of other programs available including BASIC UTILITIES & DEMOS, GAMES, MORE BASIC I, MORE BASIC II, LOGO PROGRAMS and CP/M PROGRAMS. All are available on disk or DDP for the above stated price. I'm always adding new things so send for a list to: Joe Blenkle, P.O. Box 41746, Sacramento, CA 95841.

If anyone is developing any kind of telecommunications programs, I would appreciate receiving copies for review. Please send them to the address above.

NOTE: It has come to my attention recently that several ADAMites have tried to reach me by phone. I appreciate the interest in my column, but the J. Blenkle listed in the Sacramento phone book and by directory assistance is not me! If you have any questions or comments, please write. I will be more than happy to answer your letters.

### Using SmartLogo by Mike Degner

In the last issue we learned how to draw a square with variable side lengths. At the end of the article, I asked you to try experimenting with a procedure that has two inputs and would draw any shape and any size. Well if you haven't succeeded yet here it is.

```
TO POLY :SIZE :SIDES
PD (pendown)
HT (hide turtle, not necessary)
REPEAT :SIDES [FD :SIZE RT 360/ :SIDES] (draws
the shape)
END
```

This procedure will draw a :SIDES sided polygon with each side :SIZE in length. You can use this procedure to draw neat spirals and lower designs. To do this you can use another procedure or just type in a line like the following.

```
REPEAT 72 [POLY 40 6 RT 5]
```

(the number of times to repeat can be found by dividing 360 by the number after the RT)

If you used this in a procedure you could repeatedly draw different designs in different locations by changing the location of the turtle, and the numbers after POLY. To make the procedure more exciting you can add some more variables that can set the pencolor, turtle number, or whether to fill the shape or not. Before proceeding, try designing this by yourself. If you don't succeed you can copy the following procedure taking note of the comments in parenthesis. Do not copy anything in parenthesis.

```
TO SHAPE 2 :SIZE :SIDES :C :T :F (:C will be
used to set the pencolor, :T will be used to set the
turtle number, and :F will be used to see if shape
should be filled) TELL :T (tell turtle number :T to do
the follow-ing commands)
```

```
PD
SETPC :C (sets the pencolor of the current turtle to
:C)
HT
REPEAT :SIDES [FD :SIZE RT 360/ :SIDES]
IF :F=1 [PU SETH 45 FD 2 PD FILL]
(if :F=1 then the turtle will move away from the shape
and towards the center and fill it in)
END
```

You can use this procedure to draw a shape any color, solid or hollow. This procedure sometimes might not fill in the polygon or fill in the area around it.

This is caused by the location of the turtle in respect to the shape, if the turtle is on the line it won't fill it in, if the turtle is outside the shape it won't fill the shape in, and if there is a line going through the shape it will stop at that line.

You can fix this problem by changing the numbers after the IF :F=1. You can also use this procedure in another procedure, which will call it over and over again to draw a picture. When you draw shapes with these two procedures you should keep in mind that the turtle turns by degrees so there are a total of 360 degrees to any unbroken shape.

So the total of all of your turns should equal 360 and if you draw spirals they should also total 360. If you draw a circle you do not have to make a 360 sided shape you can experi-ment with smaller numbers of sides and the length of sides to get the best circle. The fewer sides the circle has the faster it will be drawn, an example of this is a 40 sided shape with sides of length 4.

In the next issue, I will supply you with some very powerful graphic procedures that draw very interesting designs. Before I go, I will leave you with two of them to play with.

```
TO INSPI :SIZE :ANGLE
FD :SIZE
RT :ANGLE
INSPI :SIZE (:ANGLE+10)
END
```

```
TO POLYSPI :SIZE :ANGLE
FD :SIZE
RT :ANGLE
POLYSPI ( :SIZE+1) :ANGLE
END
```

To stop either of these two, you must press the escape key. To use the polyspi procedure the best inputs are a small first number and an angle that is a couple degrees short of a standard shape like a 88 for a square, or 118 for a triangle. To draw regular spirals with it, use 90 for a square, and 120 for a triangle. That is all for now, if you have any questions, comments, or a neat procedure you want to exchange, send a SASE to Mike Degner, Rt. 2 Box 293, Shell Lake, WI 54871.

## ADAM System Calls

### by D. Sage

This is the fifth in a series of articles covering ADAM's system calls.

**CALL FCA8\$ (64680)** - Start-up a keyboard byte read.

**CALL FCAB\$ (64683)** - Start up a write for a block device. Register A=device ID (low nibble is device address, high nibble is secondary device ID). HL register contains the source address in RAM of the data to transfer. BC and DE registers contain the sector number on the device. The error code if any is returned in the A register.

**CALL FCAE\$ (64686)** - Start up a write for a byte (character) device. Register A = device ID, BC = number of bytes to write, HL = source of data, return error code in A.

**CALL FCB1\$ (64689)** - Init bump. Start of a larger I/O routine. Carries out synchronization.

**CALL FCB4\$ (64692)** - writes one block to a block driver. Register A = device id, HL = source address in RAM, BCDE = sector number on device, return error code in A.

**CALL FCB7\$ (64695)** - Write byte (character) device. Register A = device ID, BC = number of bytes, HL = source of data, return error in A.

**CALL FCBA\$ (64698)** - File Manager Init. Register DE = address of FCB buffers, HL address to place FCB headers.

**CALL FCBD\$ (64701)** - Initialize tape directory. Register A = device ID, C = number of sectors in directory, DE = number of sectors in Device, HL =

pointer to ASCII ETX terminated string (volume ID of 12 characters), return error in A.

**CALL FCCO\$ (64704)** - Open file. Register A = device ID, HL = address of file name string, B = mode (sub-type), error returned in A.

**CALL FCC3\$ (64707)** - Close a file. Register A = file number (1 or 2), return error in A.

## CP/M And You - Part 3

### by John Moore

We've learned the parts of CP/M and how they relate to each other. The Console Command Processor (CCP) accepts input from the console. First, CCP checks the input against its list of built-in commands. If the command is NOT DIR, ERA, REN, USER, SAVE, or TYPE, CCP checks the directory of your disk to see if you are calling for a .COM file.

Let's say you type EXAMPLE(ret). CCP sees that you do not want a built-in function, so it looks to your disc for a program called EXAMPLE.COM. If it is found, CCP performs what is probably its most important function: it loads the file EXAMPLE.COM into memory starting at 100H. As soon as the file is completely loaded, CCP goes to memory location 100 and executes the instruction there. This starts the program EXAMPLE.COM running!

Let's try an experiment to demonstrate. First, we need to create a file with nothing in it. This is a "zero-length" file. We do this with the command SAVE 0 TEST.COM (ret). ADAM'S drive whirs, and the file is created.

Now, run any program. I will use DIRA.COM, so I type DIRA(ret). Since this is not a built-in function, CCP finds DIRA.COM in the directory, loads it into memory, and then executes the first instruction at 100H.

When the program terminates, type TEST(RET). Just as before, CCP finds TEST.COM and loads it, but what happens on your computer? The last program you ran RE-STARTS! Now how could that happen?

Here's how. When CCP finds and loads TEST.COM, there is nothing in the file. Since there is nothing there, the file does not change anything in memory! Then when CCP goes to location 100 to execute the first instruction of the "new" program TEST.COM, what it really does is execute the first instruction of the last program that was in memory.

Incidentally, this is the origin of what's often called the "Zero-file Trick". Put a zero-length file called CONTINUE.COM or CONT.COM on your program disc. Then, if you want to re-run a program that is in memory, just type CONTINUE(ret) or CONT(ret). The advantage is the CP/M does not have to re-load the (possible lengthy) program in memory. All it has to do

is load a file of zero-length. That's generally much faster.

Since we have program in memory and our handy TEST.COM, we can demonstrate another part of CP/M. Type DIR(ret). You got a directory, right? Now, type TEST (ret). Notice that again you have re-started the original program. Built-in functions are a part of CCP. They do not affect a program in the TPA (Transient Program Area)!

We have also used the SAVE command in today's work. I would like to point out another use of SAVE that can be valuable - especially to those with single-drive systems. When a program is in memory, SAVE will write it to disc (or tape). The only trick is to know how many pages of memory to save.

There are 256 bytes in a page. So if you know the length of the program in K, multiply by 4 (A 4K file has 16 max pages). Another way is to use DDT. This program also loads your program into memory for copying purposes.

When DDT loads, it will print 4 digits under the word "NEXT". Write those down. Since they are hex, we must convert. Do this, multiply the left digit by 16 and add the next digit to that. If you aren't familiar with hex, remember A=10, B=11, C=12, D=13, E=14, and F=15.

Now look at the last two digits in the original number. If either of them is other than zero, the total you just calculated is the number of pages to save. If both are zero, subtract 1 from the number you calculated.

Now you have the number of pages, so you type GO(ret). This takes you out of DDT, but leaves the program in memory. If you calculated the number to be, say 15, you would command SAVE 15 MYPROG.TYP (pick your own name). Remember, SAVE is a built-in function, so it doesn't disturb the program in memory.

Now, if you want to make multiple copies, put in another disk, warmboot with Control-C and use the SAVE command again! You can make as many copies as you want this way, but remember to hit Control-C each time you put in a new disk.

## **CP/M And You - Part 4**

**by John Moore**

One of the reasons that CP/M remains a mystery to so many computer users is they lack a correct understanding of what CP/M is and just what it does! We have already established that CP/M is an "Operating System" - a system that actually manages the operation of the computer's resources for you.

The ONLY functions CP/M will perform for you directly are DIR (get a directory listing), ERA (delete a file), REN (change the name of a file), USER

(switch USER area), and TYPE (list a file's content). The Control-P key permits you to switch screen output to the printer (known to CP/M as the LST: device).

The only other function CP/M will perform for you is to load and then run a program file. All the other "functions" of CP/M are really RUNABLE PROGRAMS! Here's where the confusion comes in. The great advantage of CP/M is its portability among differing computer systems. This has led to a great number of programmers creating a great number of programs - many of which are free for the using!

Do you see the disadvantage yet? All those different programmers are creating programs, but each one has his or her own idea of what works best. So if you COPY a file, you will copy from oldfile to newfile, but if you PIP it, you always PIP from newfile to oldfile! Things like this are hard to remember, and it is always frustrating to be told that newfile doesn't exist when you're trying to CREATE it, but got the command backwards! Fortunately, these errors are seldom fatal.

This time, let's look at the ubiquitous PIP.COM. PIP, the Peripheral Interchange Program, has been around almost as long as CP/M. Most people refer to PIP as a "file copy utility." It is, but it's a whole lot more.

As an example, PIP's normal command is PIP drive:newfile.typ=Drive:oldfile.typ, but did you know that PIP does not have to use a file for a destination. If you command PIP CON:=filename.-typ, that file will be listed on the console. If you type PIP LST:=filename.typ, PIP will print the file on ADAM's printer!

Turn it around, if you type PIP filename.typ=CON:, everything you type on the console will be placed directly in a file on disk or tape. I don't suggest you use this to create text files, though, since there's no editor built-in, there's no easy way to correct errors. If you wish to try it, be my guest. A Control-Z will get you out of PIP.

There are some functions of PIP you may not have thought of. You don't need SmartWriter to create an electric typewriter, either! Just type PIP LST:=CON:. That command tells PIP to take all console output and print it on ADAM's printer. Use a Control-Z to exit!

But what else can PIP do? Plenty! Suppose you are editing a newsletter and have a bunch of small files that you wish to splice together to make one long file. If you type something like PIP longfile.typ=shortfile3.typ, (etc.), PIP will join the files together for you.

We still haven't scratched the surface of what this one utility can do for you. After the basic command

PIP newfile.typ=oldfile.typ, you can enclose a set of OPTIONS in square brackets ([ ]). These options will let you switch on verification to make sure the copied file is correct.

In addition, you can transfer HEX files, ASCII files, or binary (.COM) files with appropriate options.

PIP will transfer files and add line numbers automatically to the output file. It will include automatic form feeds (page ejects) if desired. It will translate all lower-case letters to UPPER case if you wish.

It will even search a file for a string you specify and start or stop a copy operation whenever it finds the string. This allows you to use PIP to copy the "middle" out of a longer file.

The Coleco manual is quite thorough on the options available to you with PIP. You will find them on Pages C28 and C29. Get to know this "copy utility" a little better. At one time it was one of the few program utilities around! That's why it packs such a punch!

### Glitches, Bugs, Errata, Etc.

- In our last issue, I listed the wrong address for John Bonavita in the Bulletin Board. His address should have been: P.O. Box 320, St. Bonaventure, NY 14778.

- Roger Fraser wants to know if anybody knows how to load a second program into a program while it is running and not lose the first program. This would be helpful for loading subroutines into a main program.

- Philip Cassady indicates that he has had various problems with data packs, including the inability to read files. He found that by cleaning the tapes, the problem usually went away. He does this by carefully lifting the tape away from the white pad. He uses Radio Shack Head Cleaner to clean the pad. I would recommend that you not get cleaner on the tape itself and allow the pad to dry before using the tape.

- Owen McNulty sends in the following about the 2010: Text Game. The game that was saved on his data pack is actually in the last stages of the game. All one has to do is press the "use equipment" key, press the key to start the generator, press the "use equipment" key again, then press the key to activate the engines. A congratulatory message then comes on the screen followed by the colorful launch of the Discovery and picture of IO, and finally some nice music. Remember to be sure and load the data pack in drive 1. For some reason when the pack is in drive 2 and one tries to retrieve the saved game a chorus of "Here we go into the wild blue yonder" is heard and then the game is ended by a return to the electronic typewriter mode.

- Ann Pratt is seeking help with Asphai game. She wants to know how to use wand and cross and other level 6, 7, 8 spells and weapons. HELP!

### Bulletin Board

- **WANTED:** Tim Ferdinand, 917 S. Conkling St., Baltimore, MD 21224, is looking for an ADAM Technical Manual and books on the ADAM.

- **FOR SALE:** Mint ADAM DDP software with all instructions, price includes postage: SmartLetters & Forms, Electronic Flashcard Maker, and SmartBASIC Bonanza - \$15 each. Flashfacts: Flashbacks, Vocabulater, and Trivia - \$7 each. Bounty Hunter - \$10. Cartridges: Omega Race, Pepper II and Zaxxon - \$5 each. Book: The programming Guide to the Z80 Chip - \$7. Contact Kyle Alons, RR 1, Box 17, Boyden, IA 51234.

- **WANTED:** Tournament Tennis Cartridge - Contact: Joseph E. Peppers, 4109 - 1st St., Des Moines, IA 50313.

- **FOR SALE:** Complete ADAM computer system (1 yr old), dual data drives, dual disk drives and more (too numerous to list) - contact: Tom Lewis, 2216 No. College Ave., Bethany, OK 73008. Include SASE for fast service.

- **WANTED:** Spy Hunter cartridge. Will buy or trade all of the following (Dragon's Lair, Family Feud, 2010, Tapper, Tarzan) for one Spy Hunter. Contact - Randall V. Adams, 4757 #B Sunny Palm Crl., West Palm Beach, FL 33415, ph. after 6:30 pm EST - 305/689-1085.

- **FOR SALE:** Nintendo Game System, includes 4 carts (Excitebike, Gyromite, Duck Hunt, Hogan's Alley). Also includes robot, light gun and all accessories. Excellent condition - \$180 or best offer. Dragon's Lair DDP - \$10; CARTS: \$10 - Beamrider, Destruc-tor, Oil's Well, River Raid, Dr. Seuss. Contact Lee Smith, Box 159, Terre Hill, PA 17581.

- **WANTED:** Expansion module #1 for Atari cartridges. Contact T. G. Gray, 2236 Epworth Street, Victoria, BC, Canada VSR 5L1.

- **FOR SALE:** Original cartridges, data packs and disks for Colecovision or ADAM. Like NEW, in the box with instructions. Send SASE for list and prices to Stanley M. Siembor, 378 Sunningdale Drive, Inster, MI 48141.

- **WANTED:** New or used disk drive for the ADAM. Also baseball and other sports games in Basic. Contact: Hugh Farmer, 10204 S. Dinah Cir., Covington, GA 30209, ph. 404/786-9238.

- **FOR SALE:** Unopened Super Action Football for \$11.75. Send check or money order to Scott Gordon, 12503 Kingslake Dr., Reston, VA 22091.

- **FOR SALE:** I have the following public domain programs for sale for ADAM: ADAMex

(telecommunications), BASIC games (dbl sided disk), More BASIC #1, More BASIC #2, Logo Programs, CP/M Programs/Utilities. \$5 per disk, \$10 per ddp (2 or more ddp's \$7.50 each). Check or Money Order in US funds to Joe Blenkle, P.O. Box 41746, Sacramento, CA 95841. Drop me a line and I'll send you a list; more program disks/ddps are in the works.

### **User Group News**

The list of users' groups continues to grow. If there isn't one in your area to join - start one!

### **NATIONAL GROUPS**

#1 Adam User's Group - Attn: Jay Forman  
P.O. Box 3761  
Cherry Hill, NJ 08034

AUG  
P.O. Box P  
Lynbrook, NY

### **LOCAL GROUPS**

James E. Gilbert  
4608 Lakeview Dr.  
Huntsville, AL 35810

Victor L. Watford  
P.O. Box 777  
Russellville, AL 35653

Richard Bains  
7210 Bulen Drive  
Anchorage, AK 99507

Danny Levitt  
4525 S. White Pine  
Tucson, AZ 85730  
ph. 602/790-9678

Robert R. Marentes  
9425 N. 38th Ave.  
Phoenix, AZ 85021

So. California ADAM Users  
8580 Buggy Whip Rd.  
Alta Loma, CA 91701 - ph. 714/989-1394

Frank Fleisch  
13381-19 Magnolia Ave.  
Corona, CA 91719

Central Calif. Adam User's Group  
James Turner, Jr.  
20110 Ave. 19  
Madera, CA 93637 - ph. 299/ 661-8290

San Diego Adam Users Group  
Dr. Harold Alexander  
37 Catspaw Cape  
Coronado, CA 92118  
ph. 619/429-1844

AUG of San Diego County  
868 N. 2nd St. #242  
El Cajon, CA 92021  
ph. 619/445-2400

Bay Region ADAM Information Network  
550 27th St. #202  
San Francisco, CA 94131  
ph. 415/282-3056

Inland Empire Users Group  
6644 Seine Ave.  
Highland, CA 92346  
ph. 714/862-5807

Denver ADAM User's Group  
1416 Lipan St.  
Denver, CO 80204

ADAM Users Group #305  
John F. Busby, II  
6634 SW 41st St.  
Davie, FL 33314

Playground Area ADAM User's Group  
Howard Pines  
812 Pinedale Rd.  
Ft. Walton Beach, FL 32548

Robert J. Niemeyer  
292 Boca Ciega Point Blvd. N.  
St. Petersburg, FL 33708

ADAM User's Group  
Michael G. Graham  
217 Albert St.  
Winter Springs, FL 32709  
ph. 305/327-1387

ADAM Support Group  
John Moore  
1870 Fisher Tr. NE  
Atlanta, GA 30345

Hawaii AUG  
Harlan Fletcher  
2335C Apollo Ave.  
Honolulu, HI 96818  
ph. 808/422-4019

Donald R. Lager  
5415 N. 2nd St.  
Rockford, IL 61111  
ph. 815/877-7786

Kansas Adam Users Group  
David E. Carmichael  
1325 N. Meridian, Apt. 201  
Wichita, KS 67203

KC Users Group  
Joe Reardon  
1513 Tauromee  
Kansas City, KS 66102  
913/371-7491

Greater Cincinnati Adam Users Group  
c/o Keith Bowman  
P.O. Box 434  
Alexandria, KY 41001

ADAM Network  
P.O. Box 85  
East Detroit, MI 48021

Bill & Nancy Rahn  
12426-15th St. S.  
Afton, MN 55001  
ph. 612/436-6577

Downtown Minneapolis AUG  
Thomas C. Gilmore  
1424 West 33rd St.  
Minneapolis, MN 55408

Outsider's Users Group  
Donald Viltiard  
P.O. Box 771  
Starkville, MS 39759

Omaha ADAM Users Club  
Norman Castro  
809 West 33rd Ave.  
Bellevue, NE 68005  
ph. 402/291-4405

Al Roginski  
4327 Thorndale Pl.  
Las Vegas, NV 89103

Metro Adam User's Group  
Russell Williams  
414 W. 149th St.  
New York, NY 10031  
ph. 212/208-0645 - (9am-5pm M-F)

Genesee Valley Adam Users  
Donald K. Zimmermah  
5132 Jordon Road  
Silver Springs, NY 14550

ADAM-X-Change (New York & Canada)  
Wade Rowley  
12863 Washburn  
Wolcott, NY 14590

Tri-Angle Adam Users  
Gary E. Hill  
L-5 Oak Grove  
Chapel Hill, NC 27514  
ph 919/968-0299

Mutual ADAM Users Group  
Matt Esterak  
412 Bettie Street  
Akron, OH 44306

Lake Erie Adam Users  
Jonathan Fligner  
2110 W. 36th Street  
Lorain, OH 44503  
ph. 216/282-8467  
between 4:30pm & 8pm EST

Oregon Adam Users  
Craig Frerichs  
1928 W. Burnside #309  
Portland, OR 97209

The (717) Adam Users - Steve Chamberlain  
120 E. 4th ST.  
Bloomsburg, PA 17815

Midsouth ADAM Users  
Roger Burford, Lot 142 NAS MHP  
Millington, TN 38053  
ph. 901/872-7960

Adam Users of El Paso - Dick Lewin  
6308 Falling Star  
El Paso, TX 79912

Houston AAUG  
c/o Thomas Rutan  
1805 14th Ave. N  
Texas City, TX 77590

Norfolk ADAM Group  
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Norfolk, VA 23508

ADAM Users Group of Central Virginia  
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Earlsville, VA 22936

ADAM Washington D.C. Users Group - Jim Tyson  
1811 St. Roman Dr.  
Vienna, VA 22180

Puget Sound Adam Network  
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22607 SE 322nd  
Kent, WA 98042  
ph. 206/886-1167  
or Barbara Duncan  
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Dave Sandahl  
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FPO Seattle, WA 98778

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Anjou, Quebec H1K 3G6

Mr. G. Hibbert  
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Mistatim, Saskatchewan S0E 1B0

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P.O. Box 547 Victoria Station  
Westmount, Quebec H3Z 2Y6

Winnipeg Adam Users Group - David Fordyce  
729 Government Ave.  
Winnipeg, Manitoba R2K 1X5

Metro-Toronto Adam Group  
P.O. Box 123  
260 Adelaide St. East  
Toronto, Ontario M5A 1N0

### AUSTRALIA

The Bendigo Colecovision Club  
W.R. Oldacres-Dear  
C1-2 Fenton St.  
Bendigo, VIC 3550, Australia

ADAM Owner's & User's Group  
Frank Ellis  
4 Norman Street  
Deakin, ACT 2600, Australia

### High Scores

#### by Joe Blenkle

Anyone wishing to add their name to the high score list should send the game, score, and level to Joe Blenkle, P.O. Box 41746, Sacramento, CA 95841. Due to space limitations, all games may not be listed in every issue of ECN. For a complete list send a SASE to the above address.

<u>GAME</u>	<u>PLAYER</u>	<u>LEVEL</u>	<u>SCORE</u>
Beamrider	Jeff Platt	1	47,684
Buck Rogers	Jeff Platt	1	86,456
Burgertime	Jeff Platt	1	196,950
Carnival	Jeff Platt	1	137,500
Congo Bongo	Jeff Platt	1	53,140
Cosmic Avenger	Jeff Platt	1	123,870
Donkey Kong Jr.	Jeff Platt	1	540,400
Dr. Seuss	Jeff Platt	5	156,250
Fraction Fever	Jeff Platt	-	340
Frenzy	Jeff Platt	1	200,690
Galaxian	Jeff Platt	1	28,660
Grog's Rev. (c)	Jeff Platt	-	9,660
Grog's Rev. (t)	Jeff Platt	2	9,480
Jukebox	Jeff Platt	-	19
Lady Bug	Jeff Platt	4	2,324,920
Monkey Academy	Jeff Platt	4	167,560
Mr. Do	Jeff Platt	4	1,267,640
Pepper II	Alice Platt	1	9,427,140
Sammy Lightfoot	Jeff Platt	1	110,710
Sewer Sam	Jeff Platt	1	30,807
Smurf Rescue	Jeff Platt	1	1,067,700
Space Panic	Jeff Platt	1	112,840
Spectron	Jeff Platt	1	8,360
Super Cobra	Jeff Platt	-	57,890
Threshold	Jeff Platt	1	277,400
Tomarc	Jeff Platt	-	32,650
Turbo	Jeff Platt	1	220,470
2010: Text	Jeff Platt	-	12
Victory	Jeff Platt	4	2,155,600
Zaxxon	Jeff Platt	4	171,800

High Scores as of July/Aug. 1986 Issue

## **Product Review: Amstrad WPC8256 Computer**

**by D. Sage**

**Product: Computer system**

**Manufacturer: Amstrad**

**Warranty: 1 year**

**Price: suggested retail \$799**

As I indicated earlier, I will try to be objective in discussing this product. Nevertheless, you should read this review with the understanding that I am not a disinterested party, since I am selling this product. I will say that I would not consider selling the product unless I felt that it was a quality machine.

Amstrad describes the WPC8256 as "a complete word processor for a completely unbelievable price." Essentially it is a 256K RAM, Z80 computer, with one disk drive, a monochrome green monitor (with a 90 by 32 character display), a letter quality dot-matrix



printer, and software. The software includes Locascript (word processing software), DR LOGO, CPM Plus, and Mallard Locomotive Basic.

The disk drive uses three inch disks (the same as the CPC6128). For all practical purposes this system is fully compatible with the earlier Amstrad computers. The advertising stresses the word processing function of this system and the keyboard includes a number of special keys that work with Locascript. The fact that this is a full-fledged computer is played down in the advertising. I really don't understand this since the system comes with both LOGO and Basic. Even though these languages are included, the manual only includes sparse references to Basic and its presentation of LOGO is relatively brief. A separate Basic manual is available. I would guess that it is similar to the one that accompanies the 6128 since the languages appear to be the same.

The word processor is easy to start using, but includes a wide range of features. The various features can be implemented by selecting options from "pull-down menus" or entered by keyboard

command. The printer is excellent and has a variety of features that can be selected. In draft mode it prints at 90 cps, but prints at 20 cps in letter quality.

The monitor produces crisp letters and the color is quite pleasing. Persons who do a lot of writing will appreciate the 90 X 32 display. Set up is easy. From box to running Locascript took less than 15 minutes. The instructions are clear and include a small manual for first time use. The larger manual is easy to read and includes a number of examples. The greatest shortcoming is the sparse discussion of CPM Plus, Basic and LOGO. Additional manuals or books would be required to explore these more fully.

A detailed Basic reference manual is available along with printer interfaces (if you wish to use a different printer), and Supercalc II (an electronic spreadsheet). Additional software will be available in the future. Borland International has already indicated that many of its products (i.e. Turbo Pascal, etc.) are being made available for this system in Europe and I anticipate they will be available in the U.S. shortly.

As you probably can tell, I like this system. In reality it is a souped up version of the 6128. I don't like the absence of the Basic manual and really think Amstrad should have included it. Especially since this is one of the most powerful versions of Basic available on a home computer. Nevertheless, this is a good system. If you are a writer or a student, you really ought to look it over.

## **Product Review: Electronic Game Pack**

**by D. Sage**

**Product: Basic Games**

**Manufacturer: APE Software, 4756 Lalande Blvd., Pierrefonds, Quebec, Canada H8Y 1V2**

**Media: Disk**

**Warranty: 3 mo.**

**Price: \$25.50 in U.S. funds from the Manufacturer (Review copy supplied by the manufacturer)**

I received a review copy of this software some time ago, but could not get it to autoboot as per the instructions. Rather than send it back, I took some time and did a little hacking to find out what was wrong. After a little work, I was able to get the program up and running. Apparently the autoboot copy of Basic was defective. The software also has a number of copy protection features which are designed to keep you from listing the programs and files. It does include a feature that allows you to make two backup copies for regular use.

Included on the disk are Backgammon, Battleship, Master Mind, 3-D Tic-Tac-Toe, and Miners. The latter game pits your robot against a computer controlled robot on an eight-by-eight grid. The goal is to collect various deposits of ore. Once a site is visited by one



robot it cannot be revisited again by either. This allows you to blockade your opponent or be blockaded.

The other games are the old standards as their names indicate.

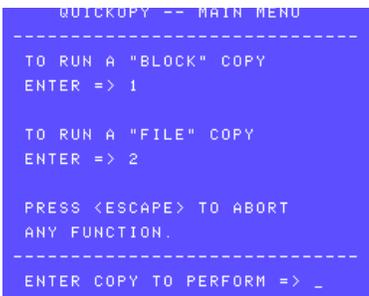
Online instructions are available for all the games and can be printed as well as viewed on the screen. The built-in backup and online instructions (without using SmartWriter) are positive aspects. Games can be played either with a joystick or the keyboard. Gameplay is similar to other versions of these games that have appeared for other computers. The games are accompanied by somewhat droning music, which I tired of quickly and simply turned the sound off. This is the only collection I have seen that includes Backgammon, so if you are a fan of that game or don't have some of the others, you may want to add this collection to your library. The only real criticism I have is the failure of the disk to autoload. Since Ape Software has a three month warranty, that should not present a problem.

**Product Review: Quickcopy 1.1**  
**by Dan Grelinger**

**Product: Software copier**  
**Manufacturer: G.J.M.G. Enterprises/Orphanware**  
**Media: Disk**  
**Warranty: 6 months**  
**Price: \$12.00 + \$1.50 shipping**  
**Rating: 9**

This software copying program is written in machine language and takes up 10K on the disk. Loading time is quick, at less than 7 seconds.

Quickcopy allows copying in two different formats between any of the digital or disk drives. Block copy allows the user to copy any string of blocks from one



drive to any location on the same drive or another drive. File copy allows the selective copying of any files in the tape or disk directory (including deleted files) to any other drive. This will copy

any commercial programs that have entries in the directory (SmartFiler, AdamCalc.etc.) to any other drive. File copy mode will also display all file entries and attributes in the directory, deleted or otherwise.

Perhaps the nicest feature of Quickcopy is the large

memory buffer used. The program uses a 40K buffer to copy programs. If a 64K memory buffer is installed, a 104K buffer is used. With a 104K buffer, a full data pack can be copied in two extra tape swaps, or a disk in one extra swap. Copying occurs rather rapidly. A block copy of all blocks (160) from one disk to another takes less than 2 and 1/2 minutes with two drives and the 64K expander. To copy 256 blocks between data packs takes less than 14 minutes with two drives. If using one drive the copy takes only slightly longer.

Overall, this is a very nice program with many nice features, all contributing to a professional product. In experimenting with Quickcopy, I only noticed one small problem. When copying data base files created by Address Book Filer using the file copy mode, the whole file was not copied. It appears that Quickcopy only copies the blocks in a file that are shown, in the directory, as being used. Whereas, this is nice when backing up basic or SmartWriter files, it doesn't work with data-base files. This is easily circumvented by using block copy mode.

If you need to back up your software purchases, this product works very well, and the price is nice too!

**New For ADAM**  
**THE REEDY ENTERTAINMENT PACK 1**  
**INCLUDES**  
**CONNECT FOUR**  
**BLOCKADE**  
**SLIDE PUZZLE**  
**ALL FOR \$18.95 DDP**  
**\$16.95 DISK**  
**Plus \$2.00 Shipping**  
**NEW LOWER PRICES ON ALL SOFTWARE**  
**SEND SASE FOR CATALOG**  
**REEDY SOFTWARE**  
**10085 60th Strret**  
**Alto, MI 49302**

## Product Review: Entertainment Pack 1

by D. Sage

Product: Game software

Manufacturer: Reedy Software, 10085 60th Street, SE, Alto, MI 49302

Media: Disk/Data Pack

Warranty: 90 days

Price: \$21.95 data pack/\$19.95 disk (review copy supplied by manufacturer)

This package of software contains three very well executed games: Connect 4, Blockade (like breakout), and slide puzzle. The software is auto-loading and menu driven. Each of the games loads quite quickly from disk. All games use graphics and sound to their advantage which makes them relatively enjoyable.

Connect 4 or Join 4 is the old standard game that is played by slipping rings over pegs. The object is to keep your opponent from lining up four rings while you try to get yours lined up. In a sense it is an elaborate version of tic-tac-toe. You can play the computer or someone else.

Blockade is played pretty much like breakout and uses the joystick to maneuver your paddle.

Slide Puzzle is like the old hand held non-electronic games where you tried to move numbers or letters until they were in the correct order. Of course, you can only move one square at a time, so you have to use some strategy in order to get the right pieces to the right places. This game is played with the joystick and is quite enjoyable.

After trying this out, I found my favorites to be Connect 4 and Slide Puzzle. The execution of these two games is excellent. While the game concepts are those of some old standbys, Reedy Software has taken them and created two very well executed computer translations. If you like playing these kinds of games, give them a try. The software is available directly from the manufacturer.

## Product Review: Strategy Strain I

by Gary Woodruff

Product: Game collection

Manufacturer: Data Doctor

Media: Datapack

Price: \$24.95

Rating: 8

This is a collection of nine computer games selected as their creator claims for their "intellectual challenge." I think that's as good a description as I can come up with. The games are as follows:

1. FIXXATOR, a reading improvement game
2. KLINGON CHALLENGE, a Star Trek game

3. LUNAR MODULE SIMULATION, a lander game
4. SCRAMBLER, a scramble game
5. TOWERS OF HANOI, the ancient game updated
6. U-GUESS, three number guessing games - High/Low, Number Series, & What?!?

This is a well put together package of games. It not only has several quality games, that are fast loading. You use the arrow keys to pick the game to run and then use the Smart Keys as directed to implement the program. The screens and games are colorful and very well detailed. They have made good use of error trapping and other user friendly features to make this a very easy program to use.

The games are all well done, but Lunar Module, Klingon Challenge, and Towers of Hanoi are especially well done. The Klingon Challenge uses the Smart Keys and number inputs to make it faster and easier than some of the older versions. These programs have a money back promise, come on name brand media, and have a hacker's challenge to break their list protections and use their techniques in your programs. This package comes across well and is worth the price.

## Programs, Programs, Programs

by Jim Guenzel

Here are two programs that you may find useful. The first ADRSLBPTR is a program to print address labels, but with a difference. This program prints the same address over and over. This is useful if you have to mail to the same address over and over. It is set up to print on standard ADDRESS LABELS for TYPEWRITERS. These are 8 1/2 x 11 sheets with 33 2 5/8 X 1 inch labels per sheet.

The second program, FORECASTER, is a sales forecasting tool. Just enter the last 12 sales amounts for whatever period and it predicts the next amount.

```
5   REM :ADDRESS LABEL PRINTER   AJ
    GUENZEL / SEPT 1984
10  HOME: CLEAR: DIM nl(35), a$(6): q=1
20  PRINT "NAME:": INPUT a$(q)
25  GOSUB 600
40  PRINT: PRINT "STREET NUMBER AND
    NAME:": INPUT a$(2)
45  GOSUB 600
60  PRINT: PRINT "APARTMENT OR SUITE IF
    NONE: ": INPUT a$(3)
62  IF a$(3) <> "" THEN a$(3) = "NUMBER:
    "+a$(3): sp = 1
65  GOSUB 600
80  PRINT: PRINT "CITY": INPUT a$(4)
85  GOSUB 600
100 PRINT: PRINT "STATE": INPUT a$(5)
```

```

105 GOSUB 600
120 PRINT: PRINT "ZIP CODE": INPUT a$(6)
125 GOSUB 600
140 a$(4) = a$(4) + ", " + a$(5)
142 q = 4: GOSUB 600
145 a$(5) = ""
150 HOME: FOR q = 1 TO 6
160 IF a$(q) = "" THEN NEXT q
170 PRINT a$(q): NEXT q
180 PRINT: PRINT "IS THIS CORRECT 'Y' or 'N'?":
  GET key$
182 IF key$ = "Y" OR key$ = "y" OR key$ = "N" OR
  key$ = "n" THEN 185
183 PRINT CHR$(7) + CHR$(7): GOTO 180
185 IF key$ = "n" OR key$ = "N" THEN 10
200 PRINT: INPUT "HOW MANY LABELS
  SHOULD I PRINT (MULTIPLES OF 3, MAX
  33)": nl
210 INVERSE: PRINT " CHECK LABELS IN
  PRINTER!! ": NORMAL
220 PRINT: PRINT "PRESS TO PRINT OR TO
  END": GET key$
225 IF key$ = CHR$(27) THEN HOME: PRINT
  "PROGRAM STOPPED": END
230 IF key$ = CHR$(149) OR key$ = CHR$(157)
  THEN 240
235 PRINT CHR$(7) + CHR$(7): GOTO 210
240 GOSUB 300
242 HOME
245 PRINT "TO PRINT MORE OF THE SAME
  LABEL PRESS , TO END PRESS ": GET key$
250 IF key$ = CHR$(27) THEN HOME: END
255 IF key$ = CHR$(149) OR key$ = CHR$(157)
  THEN 200
260 PRINT CHR$(7) + CHR$(7): GOTO 245
299 STOP
300 REM *PRINT SUB ROUT*
305 PRINT: PR #1
320 FOR i = 0 TO nl STEP 3
340 FOR q = 1 TO 6
350 IF a$(q) = "" THEN NEXT q
360 PRINT TAB(1); a$(q); :PRINT TAB(29); a$(q);
  : PRINT TAB(25); a$(q)
380 NEXT q
400 IF sp = 0 THEN PRINT: PRINT
410 IF sp = 1 THEN PRINT
420 NEXT i
430 PR #0
450 RETURN
600 REM * check for too long entry *
620 IF LEN(a$(q)) < 26 THEN q = q + 1: GOTO 640
625 PRINT a$(q) + " LONGER THAN 25 SPACES!"
627 IF q = 4 THEN 80
630 INPUT "REENTER "; a$(q): GOTO 600
640 RETURN

200 REM *next period predictor
202 HOME
205 PRINT "FORCASTER PROGRAM WILL HELP
  IN PROJECTING THE SALES FOR THE"
207 PRINT "NEXT PERIOD BASED ON A
  FORMULA THAT FINDS THE BEST LINE
  FOR"
210 PRINT "TWO OR MORE POINTS."
212 PRINT: PRINT "PRESS ANY KEY TO START":
  get key$
215 HOME: CLEAR
217 PRINT "ENTER SALES AMOUNTS FOR UP
  TO THE LAST 12 PERIODS STARTING WITH
  THE OLDEST."
219 PRINT "IF LESS THAN 12 PERIODS THEN
  ENTER '0' WHEN DONE:"
270 DIM b(25), g$(50), m(25), P$(12), p(12), x(25),
  y(25)
275 DIM q(25)
280 REM *init*
315 FOR i = 2 TO 12
320 READ p$(i)
325 NEXT i
330 DATA 2,3,4,5,6,7,8,9,0,1,A
340 n = 1: nn = 12
345 i = n
347 x(i) = i
350 PRINT nn;
355 INPUT ". AMOUNT="; y(i)
360 IF n = 12 THEN 375
362 IF y(i) = 0 THEN n = n - 1: GOTO 375
365 n = n + 1: nn = nn + 1
372 GOTO 345
375 x(n + 1) = n + 1
385 REM *BEST FIT*
390 FOR f = n TO 2 STEP -1
395 s1 = 0
400 s2 = 0
405 FOR i = (n - f + 1) TO n
410 s1 = s1 + x(i)
415 s2 = s2 + y(i)
420 NEXT i
430 x = s1 / f
435 y = s2 / f
445 s3 = 0
450 s4 = 0
455 FOR i = (n - f + 1) TO n
460 s3 = s3 + (y(i) - y) * (x(i) - x)
465 s4 = s4 + (x(i) - x) * (x(i) - x)
470 NEXT i
480 m(f) = s3 / s4
485 b(f) = y - m(f) * x
490 p(f) = m(f) * x(n + 1) + b(f)
495 NEXT f
500 PRINT: REM *PLOT THE GRAPH*

```

```

501 HOME
505 PRINT "FOR A COPY PRESS THE PRINT
KEY"
506 PRINT "PRESS ANY KEY FOR NO COPY":
GET key$
507 HOME
508 IF key$ = CHR$(149) OR key$ = CHR$(157)
THEN pf = 1: PR #1
518 f9 = n
520 PRINT "WITH A BASIS OF "; f9; " PERIODS,
THE BEST FIT IS Y ="; m(f9)
525 PRINT "X+"; b(f9)
530 PRINT
568 PRINT " ";
570 PRINT "0 20 40 60 80 100%"
578 PRINT " ";
580 PRINT "+---+---+---+---+---+Y"
600 REM *X\Y PLOT*
610 y8 = y(l): y9 = y(1)
620 FOR i8 = 2 TO n
630 IF y(i8) < y8 THEN y8 = y(i8)
640 IF y(i8) > y9 THEN y9 = y(i8)
650 NEXT i8
660 d8 = y9-y8
670 IF d8 = 0 THEN d8 = 1
680 FOR i8 = 1 TO n
690 k8 = INT((1+(y(i8)-y8)/d8*25+.5)
700 PRINT x(i8); TAB(4+k8); "*" "; y(i8)
710 NEXT i8
715 IF pf = 1 THEN 725
720 PRINT "PRESS ANY KEY TO SEE
FORCAST": GET key$
725 PRINT
760 REM *table of forcasts*
765 PRINT "PERIODS FORCAST CHARACTER"
770 FOR f = 12 TO 2 STEP -1
775 PRINT f; TAB(10); INT(p(f)+.5); TAB(23); p$(f)
780 NEXT f
800 PR #0: pf = 0
810 PRINT "TO RUN AGAIN PRESS CLEAR
KEY"; : GET key$
820 IF key$ = CHR$(158) OR key$ = CHR$(150)
THEN 215
830 TEXT: END

```

**NEW for ADAM** (Avail. August) - FLIPPY DATAPACKS. Use both sides, 128k storage on each side. Put different self-loading programs, data files and more on each side. \$4.50 each or 5 for \$19.95. Starter kit: backup & init software + 2 blank flippys. \$19.95

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The North American Amstrad User Support Group (NAAUSG) has been established to provide support to owners of Amstrad™ computers on this continent. The NAAUSG will provide a variety of services to its members which will include discounts on various products, news and reviews of software and hardware, a public domain software library, assistance in the establishment of local user groups, and other services. Interested persons should send a self-addressed, stamped envelope to AAUSG c/o Sage Enterprises, Rt. 2, Box 211, Russellville, MO 65074, for more information.

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### Keyboard

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### CPU and RAM

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U.S. and Canadian price - \$36.95 US funds.  
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Convert accesses:

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System Requirements: Adam with at least one digital data drive and at least one ADAM disk drive, CPM 2.2 and SmartBASIC.

CONVERT reads the three disk formats listed above and converts them to the ADAM format. In order for a CP/M program to run on the ADAM, it must be CP/M 80 version 2.2 compatible and must allow for configuration to the ADAM system. CP/M 80 version 2.2 software is available on the three disk formats listed above. To avoid confusion we generally recommend that such software be obtained on the Zenith format. Always make sure that the software you obtain to use on your ADAM is CP/M 80 version 2.2 or it will not run on your ADAM. Some examples of software that have been CONVERTed are Microsoft Basic, Turbo Pascal, ASCOM, and WordStar.

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