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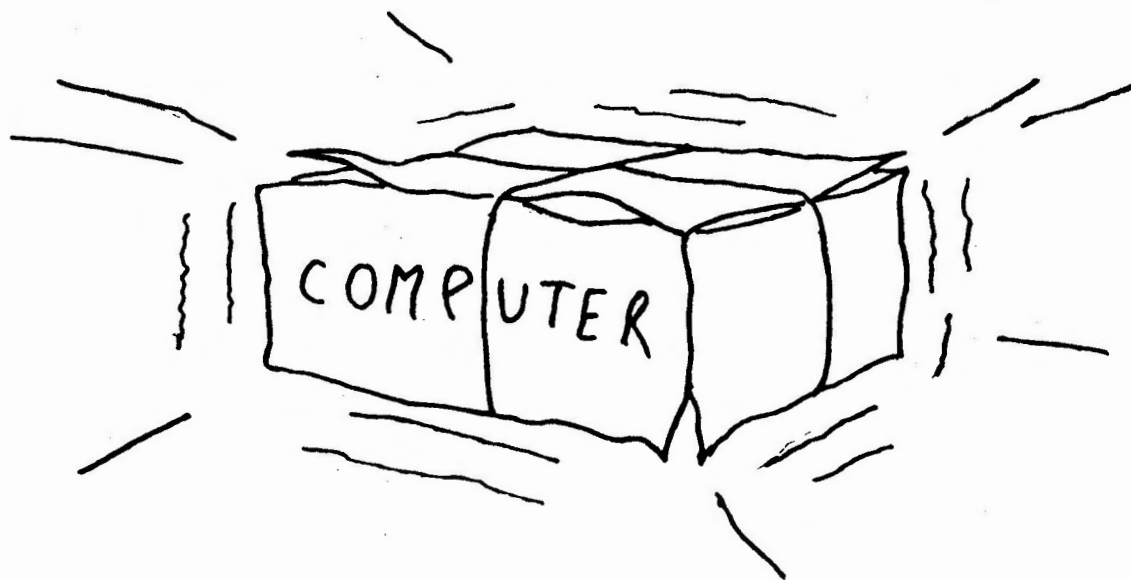
March • April 1984

EXPANDABLE

COMPUTER NEWS

An Independent Newsletter for the Adam & Other Computers
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PREMIERE ISSUE



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TABLE OF CONTENTS

Ramblings from the Ridge.....3	Glitches, Bugs, Errata, Etc....17
West Hartford Happenings.....5	Public Domain Software.....19
What About the Competition.....6	User Group News.....19
Programs-Programs-Programs.....9	Product Manufacturers.....20
Product Reviews	Submission Requirements.....21
Bringing Adam Home.....12	
WICO Joystick.....14	
SUBROC.....15	
Popeye.....16	

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RAMBLINGS FROM THE RIDGE

Darrell Sage, Editor

This is the premiere edition of your newsletter. I would like to welcome you personally to Expandable Computer News (ECN). To those of you who are our charter subscribers we would like to say thanks. We hope that you will be pleased with your newsletter. One of the things you can do to make our effort a success is to write to us. Send us your comments and suggestions. Elsewhere in this issue you will find guidelines for submitting reviews of products, programs and articles which you have written. Because of our efforts to keep this publication as inexpensive as possible, we cannot pay you for your contributions. We will however attempt to publish everything that you send in so that you will be rewarded by seeing your name in print. As our newsletter continues to grow, we will select some of you to become regular contributors. These persons will be supplied with new products for review or be given a by-line in the newsletter. At some point we hope to be able to pay a fee to our contributors.

Our goal is to serve you. We want to make you aware of new products as soon as they are available and we want to tell you whether or not they are worth your money. We recognize that different people like different things so if you like a product that we didn't, tell us.

We urge companies whose products are reviewed to respond to our comments and those of our readers. We also urge these companies to consider the reviews when designing or modifying software. The best way to sell a product and stay in business is to listen to the buying public. If we do make a mistake we will correct it but we plan on making it clear if a product is bad. After all, this newsletter is for users.

A few words about our title and subtitle are in order. We spent a good deal of time trying to develop a title for this newsletter that would accurately reflect what we are all about. Many of our early ideas focused on Adam and Eden. Most of these were too restrictive or did not convey the fact that this is a computer newsletter. Then we began thinking about Colecovision and its built in expandability. We felt that those computers that are the most adaptable and expandable are the most likely to succeed in the home market. The more we thought about it the more we liked the idea of expandability. Finally one morning around 6 A.M. it came to me just like it appears on the cover sheet. The subtitle was added to convey several things, one of which is our independence. We feel that it is important that our independence from manufacturers be stressed. While initially our focus will be on the Adam, we did not want to start off by restricting ourselves solely to that product. In this industry it is difficult to imagine what tomorrow will bring.

Since I am the editor of this newsletter it is probably appropriate that you know a little bit about me and how I got started in this business. I have been involved with one aspect or another of data processing since

1968. In some ways that makes me an old timer. Much of my experience has been in the design and programming of specific applications. My experience includes assembly language programming as well as applications languages such as Fortran, Basic and others. I have not had any formal training in data processing or programming. In many ways I feel this lack of training is an advantage. I have been able to look at specific applications more from the user's standpoint than from that of the systems analyst's or programmer's. In many ways that is what led me to become involved in publishing a newsletter for the Adam.

I have seen a lot of software that just did not take into account the needs of the user. It was inflexible. The user had to tailor his application to the software rather than being able to tailor the software to a specific need. Hackers have been much maligned in recent times. I am often unsure what some people consider to be a "hacker." Nevertheless, I have seen software that was highly structured, well documented and thoroughly explained that was totally useless. On the other hand, I have also seen programs written by hackers that were excellent. I would be the first to say document your programs, but make sure it does what is needed first. If that makes me a hacker then so be it.

My goal is to bring the mystery and wonder of computers to you in a useable fashion. I also want to make sure that you are aware of what a product does and how well it works before you buy it. We will also try to find ways to fix problems that develop with products you have bought.

We feel that the review section of the newsletter will make your subscription more than worthwhile. Company magazines and magazines supported primarily through advertising revenues are simply not as likely to give an honest review of a product that makes them a living. We feel strongly that computer users need a source of information and assistance to turn to other than the manufacturer. The inspiration for our effort came largely from a similar magazine for Commodore computers. The MIDNIGHT SOFTWARE GAZETTE is the best independent newsletter for Commodore products that I am aware of. If you also own a Commodore computer I urge you to subscribe to their magazine. You will find subscription information listed at the end of this article.

While reviews will be a major part of our effort, we intend to provide you with a good deal more. There will be articles on programming techniques, new developments, ready-to-run fully tested programs, news about other computer manufacturers and their products, news about products for the Adam including products from independent third-party companies, news about user groups and about available public domain software.

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WEST HARTFORD HAPPENINGS

In case you did not know, West Hartford, Connecticut is where Coleco is located. This article will therefore deal primarily with news from and about Coleco and its computer and video game products.

Though rumored to be in development for some time, Adam was first shown at the summer Consumer Electronics Show (CES) last June. At that point an actual working production model did not appear to exist. For some time prior to that event the company had been hyping the Colecovision unit on its expandability and a soon to be announced keyboard attachment. Subsequently Coleco announced and began advertising the super game pack expansion module. This module contained expansion memory for the Colecovision game unit and a high speed tape drive which at that point consisted of the Exatron stringy floppy. The stringy floppy or wafer tape drive consists of a continuous loop tape system. It was believed that the super game module would become a major part of the computer component. In the meantime the stringy floppy was coming under some criticism for its apparent lack of reliability. The company, Exatron, had been marketing its devices for the Commodore Vic-20 and other computer systems. All at once it seemed to disappear from the market.

Because of the problems that were developing with the stringy floppy, Coleco began to seek other solutions for its data storage device. Unfortunately this appears to have taken place right before Adam appeared at the summer CES. Shortly thereafter Coleco announced that it would delay introduction of the super game expansion module and direct its efforts to the Adam. In order for the company to take advantage of the upcoming Christmas season it had to have a working prototype in a very short time. Initially the company hoped to begin shipping the Adam in August.

The data storage problem was partly resolved by switching to the current digital data pack drive. This device uses an expensive pre-formatted tape cassette and operates with a directory in much the same manner as a disk drive. Later Coleco intends to introduce a disk drive which should help reduce the cost of developing and marketing software. Disks cost considerably less than data packs and extra data packs are nearly impossible to obtain at this time.

Coleco soon found that its problems were not solved completely. They still had to pass FCC requirements before the Adam could go into production. Rumor has it that final approval did not come until late October 1983. Such a late start had a major impact on production and delivery of the Adam in time for Christmas. Nevertheless the company did make the effort and ended up air freighting large numbers of Adams to

retailers. At the 1984 Winter Consumer Electronics Show, Coleco officials indicated that the company was only able to produce 95,000 Adams in 1983. They went on to say that they would have the capacity to produce as many as 140,000 Adams a month in 1984

It is unfortunate that there has been so much misinformation about the Adam floating around and being reported by the press and other mass media. One account I saw indicated that the expansion module version of the Adam would not be produced at all until 1984. We received ours in December 1983 as did others. There were also a number of accounts printed that indicated there were problems with the hardware. One account indicated that the word processor could only store one page of text at a time in memory. This of course is not true. We are NOT in this business to sell the Adam, but we will try to provide you with factual information. So far we think the Adam is a great little machine. I suspect many of the rumors may have been started by the competition or have been due to the press's general ignorance about computers.

Coleco is generally keeping quiet about what it is up to now. They have indicated that they obtained the rights to "Dragon's Lair". The possibility of a video disk interface or a low cost video disk player compatible with the Adam are among alternatives currently being explored. We will try to keep you posted on any developments. There is still no word on disk drives. We hope they have them out soon and go for some kind of a standard format.

WHAT ABOUT THE COMPETITION?

This column will be dedicated to covering developments in the rest of the industry. I have been watching the industry for some time and have a few introductory comments that I would like to make.

I feel that the market for home and personal computers is composed of several overlapping buying groups. These groups differ partly because of the price differences but also in how they view the product. It is this perspective that has led to the success of some products and the failure of others.

One of the first buying groups to arise was composed of lower end commercial and business buyers. Such consumers bought Apples, Pets, Radio Shack TRS-80s, IBM PCs and other computers in that price range for primarily business applications. The group immediately above them had been used to receiving data processing support from main frame computers and mini-computers. This group has turned to IBM PCs, Apple's Lisa, and a variety of other computers that are promoted for heavy business

applications. Directly below these two groups are people who could afford Apples, Radio Shack TRS-80s, and other computers for a mixture of applications including game playing. The cost of machines in this category greatly hindered general expansion into the larger home market.

Soon lower priced computers like the Atari series, Commodore 64 and Vic-20s, Texas Instrument's 99/4A, and lower priced Radio Shack computers began moving into the upper income home market. These products were used heavily for game playing and were still perceived by the general public as expensive toys even though most of them were fairly powerful machines for the price. The price cuts made by Commodore greatly broadened the base of this buying group and forced price cuts by the competition. The result of this price war led to the withdrawal of Texas Instruments from the home market with major financial losses. Atari also took it on the chin but did not withdraw.

I really think TI and Atari misjudged the buying public. Their losses were partly due to poor marketing and partly to greed. Commodore marketed a good product with low priced peripherals while the other companies charged ridiculous prices for cables, expansion boxes, peripherals and anything else while trying to compete in the broader market that Commodore was creating. Ultimately Atari had to retrench and retool developing an improved XL series. Atari also began marketing software for their competitors' machines. I still have doubts about Atari's approach to marketing and look for them to eventually get out of the hardware end of the business altogether.

How does the Adam fit into all of this? Well, I believe that although its market will certainly overlap with that of the Commodore 64 and Atari XL series it really is being focused at a new group of buyers. I really do not think that the Adam will be in major competition with Commodore. I think their markets will differ. Adam will probably be more in competition with Atari, who doesn't seem to know who its market is, the Aquarius, and computers yet to come. I really believe that the Adam is moving to a new market area and that Coleco has done an excellent job of identifying that market and following an appropriate market strategy.

If none of this makes any sense, I apologize. What I am trying to say is I think Adam will do well unless someone else goes after the same market in a better and cheaper way.

On to the news, rumor and gossip.

Rumor - the founder of Atari, Nolan Bushnell, may be trying to team up with Australian publisher Rupert Murdoch who is trying to acquire Warner the parent company of Atari.

Mattel has sold all rights to the Aquarius to Radofin Electronics.

Warning - the British invasion of computers may come before the Japanese. Some of the British products look pretty good.

Commodore's sales doubled last year. The company plans to introduce a "touch-screen" this spring and has a couple of new computers ready for introduction. If the new 264 and V364 compete directly with the C-64 I

think it will be a big mistake for the company. I think they ought to go after the IBM PC Jr.

Atari will be marketing home versions of arcade games developed by Nolan Bushnell's company as well as part of a line of robots.

Sinclair has announced the QL computer priced at about \$550. The QL is supposed to be a 128k thirty-two bit machine. The current plan is to market it by "mail order?" Even though it is supposed to compete with Adam, I will have to wait and see.

I am still not sure who the IBM PC Jr. will be competing with. I really suspect it will compete more with the IBM PC and maybe Radio Shack and Apple. Actually it doesn't look like a very good idea to me. A full fledged Jr. will cost as much as some of the IBM PC look-alikes.

Leading Edge is marketing a PC that is compatible with most PC software and peripherals. The Leading Edge PC comes with monitor, 128k, seven expansion slots, disk drives, DOS, Basic, word processor, internal clock, etc. all for \$2895.

Radio Shack has announced the Model 2000. This computer is another IBM competitor with 128k, two disk drives, 16 bit processor and more for \$2750.

As news comes in we will keep adding it on until printing time arrives.

Jack Tramiel, founder and president of Commodore, announced his resignation as president and member of the board of directors. We will try to watch the impact of his retirement and report it here.

Mattel has sold the rights to the Intellivision and has withdrawn entirely from the videogame and electronics market. 20th Century Fox has discontinued production of video game cartridges. Commodore has delayed indefinitely the introduction of the recently announced 264 and 364 computers. Timex has decided to discontinue marketing Sinclair computers. Milton Bradley had dropped production of the Vextrex video game system developed by GCE. The failure of the Vextrex appears to have been due to inadequate promotion and support for a quality product.

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PROGRAMS-PROGRAMS-PROGRAMS

Each issue of this newsletter will provide you with a number of program listings of fully tested and debugged programs ready for you to enter and run on your Adam computer. Unlike some magazines we will thoroughly proofread our program listings before they go into print.

If you have programs that you have written and would like to share them with others, just send them in. Include a little information about yourself and we will test your programs and print the best ones here. Please, do not send us any programs written by someone else or taken from a magazine or book.

In addition to our program listings we will provide a line-by-line explanation of the program so that you can use the information provided to learn more about writing your own programs. This issue's programs will demonstrate some of the graphics capabilities of the Adam.

Program 1 - Graphics Demo

```
5 HGR2
10 FOR I=1 TO 42
20 HCOLOR = 1 + INT(I/3)
30 SCALE = I
40 ROT = 0
50 DRAW 1 AT 125, 100
60 FOR J = 1 TO 1000
70 NEXT J
75 NEXT I
80 TEXT
```

Line 5 sets high resolution graphics mode. Sounds complex but it simply means that each dot on the screen can be controlled to draw pictures or whatever you want. Line 10 is the start of a loop that will be carried out 42 times. The program will run from line 10 down through line 75 at which point the program will return to line 10 and begin again until it has done that 42 times. Line 20 sets the color of the dots that will be drawn using the formula. The value of 1 is added to the integer value of I (from line 10) divided by 3. This means that the color value will range from 1 to 15.

Line 30 sets the scale value to the value of I which will range from 1 to 42. The scale value determines the size of the line or object that will be drawn. Line 40 determines the angle at which the line or object will be drawn. A line or object can be rotated over 64 different positions.

Line 50 instructs the computer to draw shape 1, a square, starting at column 125 and row 100. Line 60 starts a delay loop that ends at line 70.

Delay loops are used to slow down graphics so that you can see the changes as they occur. Line 75 is the end of the loop started at line 10. Line 80 turns off the high resolution graphics screen and returns to text format.

As this program executes a series of ever increasing squares will be drawn on the screen. In addition the color of the new squares will change.

Program 2 - Graphics Demo

```
5 HGR2
10 FOR J=1 TO 1000
15 FOR I=1 TO 64
20 K=INT(I/4) + 1
25 IF K > 15 THEN K=15
30 IF K = 4 THEN K=15
35 HCOLOR = K
40 SCALE = 20
50 ROT = 0 + I-1
60 DRAW 1 AT 125, 100
70 NEXT I
75 NEXT J
80 TEXT
```

In line 5 the high resolution graphics mode is turned on. In line 10 a loop is started that will be repeated 1000 times. In line 15 a loop is started that will be executed 64 times. This loop will start over everytime the loop at line 10 repeats. Line 20 sets the value of K to the integer value of I divided by four. Since K is used to set the color value and color values must range from 0 to 15 then line 25 is necessary to prevent K from becoming larger than 15. Line 30 is used to change K when it equals four because 4 is black and will erase the picture we are trying to draw. Any color other than 15 could have been chosen. Line 35 sets the color value to K and line 40 sets the scale value to 20.

In line 50 the object will be rotated as the value of I changes from 1 to 64. Line 60 draws the square just like in the first program. Lines 70 and 75 are the end of the loops which started at lines 15 and 10. Line 80 restores text mode.

This program draws a square of one color then draws additional squares at different rotations. The colors of the squares change gradually. Once a rotation is completed the process is started all over and repeated for a total of 1000 times.

Program 3 - Graphics Demo

```
10 HGR2
20 T = 0
30 T = T + 1
```

```

40 L = 0
50 IF T > 15 THEN 180
60 FOR J = 1 TO 4
70 M = 31 - T
80 FOR I = 1 TO 16
90 K = T
100 HCOLOR = K
110 IF I <= 8 THEN M=M-1
120 IF I > 8 THEN M=M+1
130 SCALE = M
135 L = L + 1
140 ROT = 0 + L - 1
150 DRAW 1 AT 125, 100
160 NEXT I
170 NEXT J
175 GOTO 30
180 TEXT

```

This program is a variation of program #2 only there is a lot more going on in this one. I hope you will be able to follow the discussion because this program contains a lot of tricks that will be helpful in writing your own programs.

Line 10 turns on high resolution graphics. Line 20 sets T equal to 0. Line 30 adds 1 to T. Line 40 sets L equal to 0. Line 50 checks to see if T is greater than 15. Of course right now T is only 1 but it will increase as the program runs. When T gets bigger than 15 the program skips to line 180. At line 60 a loop is started. In line 70 M is made equal to 31 minus T. On the first pass this would be a value of 30. In line 80 another loop is started. At line 90 K is made equal to T. In line 100 the color value is set to K.

In line 110 I is checked to see if it is less than or equal to 8; if it is then 1 is subtracted from M. In line 120 I is checked to see if it is greater than 8; if it is then 1 is added to M. In line 130 the scale value is made equal to M. What we are doing in lines 110 to 130 is adjusting the size of the object being drawn depending on the rotation of the object. In program #2 you will recall that the square we drew became bigger as it was rotated; in this program we are attempting to keep the square approximately the same size throughout its rotation.

In line 135 one is added to L which will be used to control the rotation in line 140. L will actually vary from one to sixty-four for each of the fifteen colors we will cycle the program through. In addition since M is being reduced at line 70 by the value of T the square will be made smaller each time a new color is selected. Lines 160 and 170 end loops starting at lines 80 and 60. Line 175 acts like a loop sending the program back to line 30 where the value of T will be increased by one again. This will go on until T is bigger than 15 (line 50). The program will then terminate at line 180 with the text mode being restored.

This program draws a square of one color rotates it while changing its size. When one rotation is completed the color is changed and a smaller square is rotated through a cycle in the center of the larger one. This

will go on until all of the 15 colors have been used. The color that has a value of 0 is not used since that is the same color as the screen, black.

Next month we will have more programs for you to try out. Experiment a little with these three and see what happens.

PRODUCT REVIEW

Bringing Adam Home

We, like the rest of you, bought our Adam and had to bring it home and put it together. For a while it looked like our Adam would not get here. If you believe everything you read in the newspapers then you would have been certain that Coleco was having trouble delivering Adams. We ordered the expansion module for our Colecovision through a catalogue. On December 17 Adam arrived only three days after the delivery date we had been given. Coleco apparently has been air freighting large numbers of Adams in order to insure delivery before Christmas.

We were naturally eager to get our Adam assembled and running, but at the same time we wanted to keep track of any problems we might encounter in the process. What follows is a discussion of those events.

The Adam we ordered was expansion module #3 for the Colecovision video game system. The first thing we did was to carefully read the "set-up manual" and the inserts and special labels included with the Adam. Because of limited space, our computer room is already overflowing, we decided that the joystick attachment for the keyboard was really more of a nuisance than anything else. The keyboard has easy to use cursor controls and the enclosed instructions never seemed to explain the purpose of the joystick. In reality the joystick can be used for cursor control and as a numeric keypad. I prefer not to use it for those purposes. If you do not touch type and need to enter a lot of numbers then you may find it to be of some value.

Overall the assembly went rather well. I really think the "system interlock tray" is an excellent idea. One thing that should be pointed out is that the instructions say to turn off the on/off switch on the Colecovision game system; they should also say the switch should never be turned on. I suggest that it be taped so that it stays off. Another thing you should do, if you have not, is to write down the serial numbers for all the components. I would also suggest that you write down each item's model number. If you ever need service for your Adam you will most certainly need to have this information easily available. I could never understand why serial numbers are always hidden.

After much checking and rechecking, Adam was assembled and ready to go.

We turned on the power and there on our television was the electronic typewriter screen. The manual says a title screen will appear first but it never did. If anyone has ever seen the title screen we would like to know what it says.

We tried out the electronic typewriter and it seemed to work fine. Next we tried the "SmartWRITER" word processor. It also worked quite well. We then turned off Adam, inserted a game cartridge in the Colecovision unit and turned on Adam. Much to our surprise the electronic typewriter appeared. After careful consideration we pressed the game cartridge reset button and that solved the problem. One word of caution is in order. ALWAYS turn off Adam before inserting or removing game cartridges.

The next test was the operation of the data drive and a "super game pack" that came with Adam. Adam was turned on, the digital data pack was inserted and the computer reset button was pressed. The game loaded and everything worked fine except that our reset button sticks and has to be released manually.

Most of the first week Adam was with us we spent working with the word processor. All generally went well. The word processor is a nice feature, so much so that Adam would be a bargain with that feature alone. The only problem that occurred while using the word processor was a locked up printer. This problem forced us to press the reset button and reload our document from the digital data drive. We have not had any printer problems since that incident. This does bring up one point, ALWAYS periodically copy your work to a data pack and ALWAYS copy it before using the printer. This is a good practice on any computer. You should probably try to get some extra data packs so you can make backup copies on separate packs. From my own experience, if it is not backed up at least twice on separate tapes it is not backed up safely. A data pack can fail or be damaged quite accidentally.

We were disappointed that Coleco did not indicate what ribbons and print wheels are compatible with Adam. Some Diablo (HyType I) print wheels seem to work well. If you are aware of other printer supplies that are compatible with Adam just let us know and we will pass the information along to everyone else.

If you ever try to replace a print wheel be extremely careful. When you tip the mechanism backwards it may catch on the roller and hang up. Before tipping the print wheel mechanism back be sure that the print wheel is all of the way on. When reinstalling the print wheel be careful to align the wheel correctly and place it on firmly. Oh yes, in case you didn't notice the printer is very loud. Don't worry its supposed to be loud.

In conclusion I would like to say that I am generally pleased with Adam. The problems encountered had more to do with the manuals than the computer itself. Coleco has done a relatively good job insofar as this review has gone. We will have more next issue. If you have had any interesting experiences setting up your Adam write them down and send them in. In order to summarize our comments, cautions and tips we have repeated them in the list below.

1. Turn off Adam before inserting or removing cartridges.
2. Start cartridges by pressing the game cartridge reset button.
3. Do not put digital data packs in the drive before it is turned on.
4. Remove digital data packs from the drive before turning the computer off.
5. Keep data packs away from Adam when not in the drive, away from televisions, speakers, magnets, and any other source of electromagnetic radiation. When in doubt don't.
6. If you have expansion module #3 tape the on/off switch on your Colecovision to off.
7. Periodically backup any files or programs on a data pack.
8. Use caution in changing print wheels.
9. You may use Diablo HyType I print wheels in place of the one supplied by Coleco.
10. If you are unable to obtain replacement ribbons, call Coleco's toll free hotline 1-800-842-1225.
11. Keep small objects, paper clips, bobbie pins, etc. away from Adam or they may be accidentally dropped into the components.
12. Keep food, drink and pets away from Adam.

PRODUCT REVIEW

WICO Command Control Joystick/Keypad for Colecovision

by D. Sage

The WICO Command Control Joystick/Keypad is manufactured by WICO Corp., Consumer Products Div., 6400 W. Gross Point Rd., Niles, Illinois 60648 and carries a one year warranty.

As most of you probably know by now the joysticks that came with your Colecovision are good for some games and terrible with others. In an attempt to resolve this we will be trying out a number of joysticks produced by other manufacturers. This month we selected the WICO Command Control Joystick/Keypad. This joystick comes ready to plug in to your

Colecovision/Adam. The joystick is arranged differently than Coleco's. The WICO has the keypad on top and a joystick rather than a disk on the end nearest you. There are two sets of "fire" buttons located on each side of the keypad with an additional fire button in the end of the joystick. The product seems to be fairly durable. The fire buttons on the side do not give any sensory feedback when pressed. They don't click and you can't tell for sure whether or not you have released them. They appear to be molded plastic that bends slightly when pressed. The only way I could tell if they were working was by the action on the screen. In order to hold onto the joystick I often found myself pressing the buttons. In games where you can have continuous fire this is not so bad, but in games where you have to release the button each time it was a problem.

I used the WICO joystick to play SUBROC, POPEYE, BUCK ROGERS, and LADYBUG. With Ladybug the response of the joystick was about the same as with the Coleco joystick. There did seem to be occasionally a delayed response to the joystick movement.

With Subroc the WICO seemed to function a great deal better than the Coleco joystick. I was able to increase my score substantially without any discomfort. Playing Buck Rogers was a real killer. Since this game requires the use of both fire buttons, not only do you have to hold on to the joystick but you also had to use those funny fire buttons. This soon caused my left hand to develop quite painful cramps. The WICO seems to be a poor choice for games that require using fire buttons other than the one on the joystick itself. With Popeye the joystick definitely is an improvement, although there still seems to be an occasional problem with response.

Overall I find it difficult to make a recommendation on this product. As with most joysticks I keep getting the impression that none of the manufacturers ever really try to play games with them. They should have a more natural feel in your hand. I have tried other WICO joysticks and have liked the feel and response. If you have tried this particular model and had different results let us know. As it stands now I would not recommend it.

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PRODUCT REVIEW

SUBROC

by D. Sage

While Coleco could not reproduce the 3-D effect provided by the arcade version of Subroc they nevertheless have done an admirable job. This cartridge is a shoot-em-up first person space and underwater game. You have crosshairs on your screen in order to sight in the oncoming enemy space ships. Flying saucers and submarines move both left and right across your line of fire. The submarines fire torpedos at you which can be evaded by taking flight. The enemy spacecraft fire at you at differing rates depending on the type of ship and the round. You also encounter mines that either have to be blasted or avoided. In addition to the attackers there are a number of other craft that float by periodically. Shooting these will gain you additional points. The graphics are relatively good. Oncoming craft get larger as they approach. Many objects may appear simultaneously on the screen giving you plenty to worry about. The colors do tend to appear a little washed out.

This game gets quite difficult in the higher rounds. Soon you find that about all you can do is deflect on-coming shots. As you approach these higher rounds it is probably best to stay in the air ignoring the submarines. You can still blast the bonus craft as they pass by. The command plane that appears at the end of each round is relatively easy to knock off if you get it early. Don't delay because if you miss it early you gain fewer points and it becomes quite difficult to hit as it moves out of your range of fire while still blasting at you.

Subroc carries Coleco's standard 90-day warranty. I have never had a Coleco cartridge fail and like most such cartridges if used properly they will last a long time. If you like first-person blasting games this cartridge is worth having. I like it and would recommend it.

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PRODUCT REVIEW

POPEYE

by D. Sage

Popeye is a video game cartridge produced by Parker Brothers for the Colecovision/Adam system. Parker Brothers cartridges carry a 180 day replacement warranty.

If you enjoyed Donkey Kong or any of the other climbing games, you will

probably like Popeye. Parker Brothers has done another excellent job in this version for Colecovision. The theme is rather simple, Olive drops hearts, notes or letters depending on the screen and Popeye must catch all the ones for that round while avoiding Brutus and objects thrown by the Sea Hag. Popeye has one can of spinach available for each round that he can use to deck Brutus. You, of course, control Popeye's movement and can make him punch the bottles using the fire button. In the third level there are also vultures to avoid.

There are three screens that repeat provided you make it through the first three rounds. The first screen shows Popeye's and Olive's houses on opposite sides at the top of the screen. The rest of the screen is composed of steps and walkways. The second screen has a building as a background with several levels. In addition there is a seesaw that Popeye can jump on. If he bounces high enough he can catch Swee'Pea and gain extra points. The third screen is a boat which makes up a series of levels. I like all the screens but the second one is really a lot of fun.

I really liked this game. The graphics are good, the music is good and the game play is a lot of fun. I recommend it very strongly. If you disagree write and tell everyone why.

Popeye is a registered trademark of and is licensed by King Features Syndicate, Inc. Parker Bros. is a registered trademark of Parker Bros., Inc.

GLITCHES, BUGS, ERRATA, ETC.

by the staff

We have been gradually going through the Basic manual for the Adam and testing several features to see if and how they work. Since the operating system for the data pack drive appeared to be very similar to the one used by Apple for its disk drives, we thought we would test the file storage capabilities of the Adam. The first problem we encountered dealt with the digital data pack drive and Basic. After loading Basic and then removing that data pack and inserting a blank data pack we would get I/O errors anytime we attempted to access the drive. This problem was solved simply by opening and closing the data pack drive door.

During our tests we also identified a problem with the version of Basic that we have. The problem is not a major one and we have already developed a fix for it. In order to find out if you have a problem it is necessary for you to write a data file to your blank digital data pack.

Enter the program below, save it and then run it.

```
10 rem *write a data file*
20 ds$=CHR$(4)
30 PRINT ds$; "OPEN TESTFL"
40 PRINT ds$; "WRITE TESTFL"
50 PRINT "Mary"
60 PRINT "had"
70 PRINT "a"
80 PRINT "little"
90 PRINT "lamb"
100 PRINT ds$;"CLOSE TESTFL"
110 PRINT "FINISHED"
```

After you have entered, saved and run this program enter the next program and save it.

```
10 rem *read a data file*
20 ds$=CHR$(4)
30 PRINT ds$;"OPEN TESTFL"
40 PRINT ds$;"READ TESTFL"
50 FOR x=1 to 5
60 INPUT n$(x)
70 NEXT x
80 PRINT
90 PRINT ds$;"CLOSE TESTFL"
100 FOR j=1 to 5
110 PRINT n$(j)
120 NEXT j
```

After this program has been entered and saved, run it. If you get any question marks (?) on the screen you have a problem. In our case there would be 5 question marks printed on one line immediately preceding the text. If you did not get any question marks everything is all right, but if you did insert the following line in the second program.

```
85 HOME
```

Now run the program again. Your screen should clear and the text, "Mary had a little lamb," should be printed without any preceding question marks.

While this is not a serious problem it nevertheless needs to be fixed. If you are interested in finding out where the question marks come from then read on.

Normally when you use an "INPUT" statement to enter data from the keyboard there will be a prompting question mark on the screen. Basic normally checks to see if the "INPUT" statement is looking for keyboard or file input. In case of keyboard input the question mark is sent to temporary storage called a buffer and then is sent to the screen for display. You would then enter whatever data is necessary. Normally if the "INPUT"

statement is looking for input from a data file there would be no question mark generated and no prompt of any kind on the screen. Instead the next data record from the data file would be read by the input statement.

In the case of our version of Basic for the Adam, the input statement is generating a question mark and placing it in the screen buffer. For every "INPUT" statement executed an additional question mark is being placed in the buffer. None of these question marks appear on the screen until the next "PRINT" statement is encountered. The buffer is then output to the screen and cleared. The "PRINT" statement at line 80 in the second program causes the question marks to be output on the screen. The new line 85 clears the screen and anything in the buffer. Our solution does not alter the actual data it simply gets rid of the excess garbage.

PUBLIC DOMAIN SOFTWARE

We here at ECN intend to establish a public domain program library. All of the programs we develop for the newsletter will be made available to you on digital data packs. In addition we will be writing longer programs specifically for the library. Other programs currently in the public domain for other computer systems may also be converted for the Adam.

Our goal is to make the programs in this library available to you at as low a cost as possible. Charges will be limited to the cost of the media (digital data packs), shipping, and staff time necessary to copy the software. Our progress will be reported in this column along with an index of the contents of the library. Unfortunately extra digital data packs are very scarce at this time. We will not be able to begin distributing public domain software until digital data packs are available at quantity prices. If you wish to contribute a program to the library, simply follow the guidelines for program submission indicated elsewhere in this issue.

USER GROUP NEWS

Do you often find yourself with lots of questions and no one to turn to for the answers? Why not start a user group? A user group is a good way to bring together other Adam owners. Even if you still can't find someone

with an answer to your question at least you will be able to share your problems with others. Often as a group you will be able to find a solution.

How do you start a user group? First find a place where you can meet. You will need some place where you can set up an Adam. Next simply run an ad in your local paper. We will also be happy to advertise your group in our newsletter. This column will include a list of such groups. We will also include any news that these groups wish to share with others. Just let us know what you have been doing and we will print it here.

PRODUCT MANUFACTURERS AND DISTRIBUTORS

The following companies are currently known to make software and other products for the Adam/Colecovision. We cannot guarantee the quality of the software or product in any way but can only report its availability. This is not intended to represent a complete list of all companies. If you are aware of others let us know.

SOFTWARE

Sirius Software, 10364 Rockingham Dr., Sacramento, CA 95827

MicroLab, Inc., 2699 Skokie Valley Road, Highland Park, Il 60035

Parker Bros., Beverly, MA 01915

Atari, Inc., P. O. Box 2943, So. San Francisco, CA 94080

CBS Software, One Fawcett Place, Greenwich, Connecticut 06836

Interphase Technologies, Inc., 6391-F Westminster Hwy, Richmond, B.C., Canada V7C4V4

Imagic, 981 University Ave., Los Gatos, CA 95030

N.A.P. Consumer Electronics Corp., P. O. Box 6950, Knoxville, TN 37914

Sierra On-Line, Sierra On-Line Bldg., Coarsegold, CA 93614

Spinnaker Software Corp., 215 First St., Cambridge, MA 02142

JOYSTICKS

Discwasher, 1407 No. Providence Rd., Columbia, MO 65205

WICO Corp., Consumer Div., 6400 W. Gross Point Rd., Niles, IL60648

SUBMISSION REQUIREMENTS

Format for Submission of Product Reviews

Product reviews submitted for use in our newsletter should include the following information:

1. Your Name
2. Your address and phone number
3. Product name
4. Manufacturer's name and address
5. System requirements (i.e. data pack drive, printer, etc.)
6. Media (cartridge, data pack, etc.)
7. Warranty details
8. Description of product
9. Discuss quality of documentation and instructions
10. Positive comments
11. Negative comments
12. Suggestions for improvement
13. How much have you used product?
14. Your experience level with computers
15. Why you bought the product
16. Where you bought the product
17. Rate on a scale of 1 to 10 where 1 is a complete waste and 10 means everyone should own it
18. Include a signed statement giving us permission to print your review in our newsletter. If you are under 21 have a parent sign the statement.

Guidelines for Submission of Programs

1. Name, address and phone number
2. Send a printed program listing
3. Send a copy of the program on a data pack if at all possible. We will copy the program and return the data pack by first class mail
4. Send a written description of the program telling what

it does and any instructions on how to use it.

5. Send us a brief biographical sketch. Tell us why you wrote the program, how long you have had a computer, etc.

6. All accompanying materials should be typed and double spaced.

7. Include on a separate sheet a statement giving us permission to print your program in our newsletter. You will retain all rights to the program. Any such submission should be signed by you or a parent if you are under 21.

8. Indicate whether or not you wish to make the program available to the public domain library.

Guidelines for Submission of Articles

1. All articles should be typed and double spaced

2. All articles should include a title

3. Each page should include your name and the title of the article in the upper right corner

4. All articles should be accompanied by a statement giving us permission to print the article in our newsletter. An adult must sign if you are under 21.

5. All articles should be accompanied by a brief biographical sketch. Make sure you include your full name, address and phone number

6. Articles should be between one and four typewritten (double spaced) pages long. Longer articles may be submitted but are likely to be edited substantially because of our space limitations.

7. If you wish your materials returned, please enclose a return envelope with sufficient postage.
