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Have a great Thanksgiving and a very Merry Christmas.

Continuing our study of Romans, Chapter 6.
What shall we say then? Are we to continue in sin that grace may abound? ²By no means! How can we who died to sin still live in it? ³Do you not know that all of us who have been baptized into Christ Jesus were baptized into his death? ⁴We were buried therefore with him by baptism into death, so that as Christ was raised from the dead by the glory of the Father, we too might walk in newness of life. ⁵For if we have been united with him in a death like his, we shall certainly be united with him in a resurrection like his. ⁶We know that our old self was crucified with him so that the sinful body might be destroyed, and we might no longer be enslaved to sin. ⁷For he who has died is freed from sin. ⁸But if we have died with Christ, we believe that we shall also live with him. ⁹For we know that Christ being raised from the dead will never die again; death no longer has dominion over him. ¹⁰The death he died he died to sin, once for all, but the life he lives he lives to God. ¹¹So you also must consider yourselves dead to sin and alive to God in Christ Jesus.

Paul is continuing his discussion of God's forgiveness of our sins. He begins in these verses by saying that just because God's grace is always present, this doesn't mean that we should continue to sin. Once one has been saved, by accepting God's grace, sins are washed away and a "new" person is born, just as Jesus was raised from the dead, a new person. Paul is reminding us of the fact that our "old" nature (of sin) was crucified with Christ because Jesus bore the sins of all mankind and received the punishment for those sins. Hence, a person doesn't have to be a slave to sin any longer once he has truly accepted the fact of Jesus' work on the cross. However, if one doesn't realize this fact, Satan can continue to deceive him into thinking sin is a natural by product of being human. This is definitely a lie. Paul is not saying that this change happens by

magic overnight. It only comes as we come to understand the truths that Paul is explaining in these verses. This process of dying to sin may take time, especially if a person has been walking in sin for many years. However, God will cleanse you of these sin "habits" if you allow him. When I was saved I had 32 years of bad habits to overcome, which God is doing. The first to go was drinking, which had become a real problem to the point that I was relying on alcohol to cope with life. This is the classic definition of an alcoholic, but through God's grace and the power of Jesus' sacrifice on the cross, I was totally off of alcohol in a matter of a few months. I can truthfully state that I am a new person (my wife says "AMEN" !).
God loves us so much that he designed the perfect plan to enable ours sins to be totally forgiven and all we have to do is reach out and accept that gift. Ask God's forgiveness and accept his son Jesus as your saviour today - your life will totally changed. This decision is the most important one you will ever make.
God bless you all.

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MERRY CHRISTMAS

NIAD NEWS/ UPDATES

HAPPY THANKSGIVING AND MERRY CHRISTMAS

We at NIAD wish you all the best at this holiday time of year. Thanksgiving and Christmas are times of family togetherness, sharing and joy. Unfortunately, it is also a hectic time. The commercialism of this time of year threatens to overshadow the real meaning. Try to not let this happen to your family. Set aside time for yourselves.

Remember the real meaning of Christmas, the celebration of the birth of Jesus Christ, the Son of God, the Saviour of mankind, the tangible evidence of God's love for us.



. ANNOUNCEMENTS

- Remember that this is the LAST NIAD issue until mid-January, at which time we publish our combined December/ January issue. We will be entering our 4th year in January '88 which is hard for me to believe, but quite true !

- We're offering our Christmas special again this year. If you renew your NIAD subscription between 12/1/87 and 1/15/88 you will get your choice of ONE of the following six items FREE with your next order of at least \$10:

1. NIAD GOLD GAMES I - 17 great color graphics arcade games
2. SUPER SUBROC arcade game
3. CABAGE PATCH ADV IN THE PARK - newly released Public Domain kids game.
4. FALL GUY & VIDEO HUSTLER - two new PD action games.
5. YOKES ON YOU & MATH WIZ - two new PD games for kids.

6. 1 Printer Ribbon

This offer also applies to new member subscriptions.

This is our way of saying Thank You to ADAMites around the world. NIAD now has members in England, Australia, Africa, Germany, Puerto Rico, as well as Canada and the US. We start our 4th year and continue our slogan -

ADAM IS ALIVE & WELL !!

- There are a number of naysayers out there who are saying that this is ADAM's last Christmas. Of course, that's what they said last year! I let the amount of new software, hardware and the general activity within the ADAM market speak for itself. The fact that both software and hardware developers are investing in new products says that ADAM is here to stay. We ADAMites have a solid system with good support, so why give it up? The answer is that most ADAMites are sticking with their ADAMs and buying more software and hardware for it. Look at the ads in Family Computing and MW Ruth's new catalog. Naysayers should practice an old adage - "If you don't have something good to say, don't say it."

- This will be our last issue before Christmas so we have a number of new items and specials in this issue.

- As ADAM goes into its 5th year, there are still many new programs coming out. We have received several previously unreleased ADAM titles, that can be put in the Public Domain so you can enjoy some fun games at a reduced price. Telegames is releasing more game titles from IMAGIC and INTERPHASE. Digital Express, Strategic and Mr. T Software have new releases as well. SCIENCE & EDUCATION is the next NIAD GOLD volume. See our SOFTWARE section for all the details.

- Orphanware has been busy on the hardware end, reducing prices and offering some new products/services - see HARDWARE.

- Note the reduction in price of the SEGA game system and the great new games that have been recently released - see our SEGA updates section.

- Regarding Christmas ordering, we must RECEIVE your orders **NO LATER** then **DECEMBER**

12TH to guarantee delivery prior to Christmas, so get those orders in NOW. In addition to mailing in your orders you may call them in on Tuesdays through Saturday from 11:00 AM to 6:00 PM Chicago time. We have stocked up for Christmas orders to reduce the occurrences of back orders. See the CHRISTMAS section in this issue for special sales prices and a summary of the new products that have just been released.

- We're finally getting around to putting up the NIAD BBS !! Yes, I have a plan that will have our initial board up by Dec 7TH at the latest and perhaps earlier. The NIAD BBS will operate from 7PM to 9AM Chicago time Monday, Wednesday, Thursday, Friday, Saturday and all day Sunday (NOTE: The BBS will not be up on Tuesday evenings due to technical call ins). at (312) 961-3529. You will be able to place orders and leave questions, information on the first version of the BBS. Uploading and downloading of programs will be added by 1/1/88.

- We're very pleased to begin a series of articles on SMARTBasic programming with this issue. This is actually a course on Basic programming that has been written by L. C. Austill and supplied to us by the Greater Houston Area ADAM UG (Terry Fowler). We have printed chapter one in this issue and hope that this will help you novices with Basic programming technics. I personally feel that everyone can learn to do at least some minor programming in Basic. This course is what we have been looking for to help you accomplish this goal.

- See our reviews of two new ADAM books in this issue. Books make great Christmas presents because they help people get more out of their ADAM.

- See the October issue for a revised list of our Public Domain librarians. Note that the SIGNS librarian is Mike Keith, not Mike Decker - the

address printed last month was correct.

- You fokes who don't attend the monthly Chicago local NIAD meetings are really missing out on some great information and sale specials. Plan to come to the December 10th meeting, here at the store, 7:30 PM. Call for instructions if you need them.

- I'd like to publish a complete list of ALL ADAM User's Groups in the US and Canada. Please send in information on any UG, small or large that is active.

- I also want to publish an updated list of all ADAM BBS' that are in operation across the country. Send in the phone numbers, hours of operations and any pertinent info on parameters required for log on, etc.

- If 1187 are the first 4 numbers of your NIAD member number, this is your last issue.

. ITEMS OF INTEREST

- The Florida ADAM BBS is up at (305) 851-8575. 24 hours everyday except Wednesday.

- I omitted the phone number of the Chatanooga ADAM BBS mentioned last month. It is (615) 344-2163.

- The Brigadoon BBS mentioned last month is temporarily down.

- There is a good BBS in the Joliet, IL are at (815) 727-4076. They support several computer systems, lets get on there and ask for an ADAM section.



. SOFTWARE

- We have many new releases to review in this issue, so many that we had to do "mini" reviews on some of them to have enough room to fit them all in.
- Digital Express has just released BEYOND TREK, SPRITEPOWER, CLIPPER and POWERPAINT. We have reviews of two of these products in this issue. POWERPAINT promises to be the most powerful drawing and graphics printing program available for the ADAM. We have added it to the Product List, since it will be available by the time you read this.
- Mr. T. Software has released AUTOWRITER, a powerful program that will actually write SMARTBasic programs - see our review in this issue !
- Telegames has released more ADAM titles on DDP and disk - TENNIS and MOONSWEeper from Imagic, AQUAATTACK, SEWER SAM, SQUISH'M SAM and BLOCKADE RUNNER from Interphase. We have reviews on some of these titles in this issue.
- Strategic Software has released NEWSMAKER which allows the combining of text and SIGNSHOP picture files in a page layout program. Printing is via the ADAM printer only. We have not seen the program yet, so can't really comment on it.
- We are very pleased to be able to release some additional, previously unreleased titles into the Public Domain. These games have minor flaws that do not really effect the overall game play. We have organized them into three separate volumes:
 1. CABBAGE PATCH ADVENTURES IN THE PARK - This is an expanded version of the original cartridge, with more graphics and options.
 2. FALL GUY & VIDEO HUSTLER - Two fun games on the same ddp/disk. See our "mini" review.
 3. YOKES ON YOU & MATH WIZ - One crazy game and a math arcade challenge.These games should be great fun at an economical price.
- A dot matrix patch for ADAMLINK has been released that will allow you to print on your dot matrix printer.
- Walter's Software has upgraded their BASIC RAM DISK program to support any size memory expander - 64K, 128K, 256K up to 1 Meg ! Additionally, they have corrected an operating system bug that occasionally causes a system lock up when using ram disk programs. Upgrade available directly from Walter's for just \$7.50.
- For you CP/M lovers out there, there are two great programs that are now available for the ADAM from Elliam Associates. PRINTMASTER is a fantastic text and graphics printing program which we reviewed in the July/ August '87 issue. WRITE HAND MAN is reviewed in this issue. Cost for each is \$49.95 plus \$2.50 shipping from Elliam at, 6101 Kentland Ave; Woodland Hills; CA 91367.

- There is a great new CP/M PD program called PRN which is for creating multiple fonts and some graphics on dot matrix printers. Sharon will have this one for our next NIAD CP/M PD volume.
- We will have some great news next month for you CP/M lovers out there who want some good commercial CP/M software for your ADAM.

. HARDWARE

- We just received a new batch of disk drives and modems, so we will have plenty for Christmas.
- Orphanware has reduced the price of their 64K memory expander. NIAD member price will be \$34.95, just in time for Christmas !!
- We also have the ADDRESS BOOK/ AUTODIALER combination software & hardware that allows you to maintain a database of addresses and phone numbers and automatically dial the phone from your ADAM !
- Please note that the popular Panasonic 1080i and 1091i printers have been upgraded to provide about 20% faster printing in all modes. The new models have a II on the box to distinguish them from the original model. We have been shipping the newer models since 10/20. The good news is that the price is the same !
- Orphanware has reduced the price of their 256K memory expander to \$115. This is not a special, but a permanent reduction. I'm sure those who purchased it at the higher price are not pleased about this and I would suggest you discuss it with Orphanware. We passed the reduced price on to those few NIAD orders we had. Also, the earlier boards had a hardware bug that results in that data getting corrupted - if you are having problems contact Orphanware. - Orphanware is now upgrading Coleco disk drives to double sided for \$125 plus \$8 shipping. An improved version of the double sided CP/M software and ROM is provided to give almost the full 320K in CP/M.
- Orphanware can also upgrade the Coleco disk drive to a 3 1/2 inch drive providing 712K of storage under CP/M. Price is \$165 plus \$8 shipping. Send your drive to Orphanware at 5665 Meyers Rd; Akron, OH 44319; (216) 882-4720.
- New data drives are now available from NIAD for \$29.95. These are the latest model of the drives in factory sealed bags (the latest model uses a black plunger in place of the silver coil spring). These are the best data drives we have gotten in so far.



. CHRISTMAS SPECIALS/ NEW ITEMS

There are so many products available for the ADAM that it is hard to make suggestions. We did not get our product review summary updated this year, the last one was published in the September '86 issue, but there have been many good products released for the ADAM since then. You may want to refer to the 9/86 issue for brief descriptions of over 75 ADAM products and then scan through the reviews published in the newsletters since then. You recent NIAD members received the review summary as part of your New Member Pack. Also, you may order the NIAD Product Review book for \$19.95 that contains detailed reviews of over 100 ADAM products. This book will be a great help in determining whether a particular product is right for you and does what you think it does.

- Our main Christmas special is the FREE GIFT with all renewals/ new memberships received between 12/1/87 and 1/15/88, upon placing an order for at least \$10. We are offering this special again this year because of the overwhelming positive response we had last year.

The following specials are valid until Christmas ONLY

- SPECIAL # 1: Buy any four of our Public Domain library volumes and receive a fifth volume of your choice FREE.
- SPECIAL # 3: Six ADAM printer ribbons for \$26.95
- SPECIAL # 4: Take 10% off of any ADAM SOFTWARE orders totally at least \$75 (this applies to DDP, DISK or CARTRIDGE software, but not hardware, supplies or blank disks/ddps).
- SPECIAL # 5: NIAD backissues for \$2.00 each.

See the product list for specials on individual products like PAINTMASTER & SIGNS; Family Feud/ Jeopardy Question Packs and many others.

Note that we have a special on the Panasonic 1080i-II printer, PIA2 interface and cable for only \$249.95. This is all you need to connect your ADAM to a dot matrix printer and have FAST printing as well as graphics.

Note that our Magnavox 8CM8505 monitor has a separate tuner that can be purchased so it can be used as a standard television.

There have been many backup copy programs developed for the ADAM, enough to confuse the buyer. I thought we could help you by reviewing the pros and cons of the major ones - First, let me emphasize the fact that you ALL need a backup copy program. The purpose of copy programs is to make duplicate tapes/ disks of all your important "masters". What if you accidentally damage your SMARTBasic tape, or it just plain wears out. If you have a backup copy program you can easily make a duplicate copy on an ADAM formatted tape to prevent such a disaster. The same goes for any other tape/ disk that is important to you. Hence, such a program is a real necessity if you use your ADAM to any extent. The simplest backup copy programs are the ones that make an "image" copy of the original tape/ disk; i.e. they duplicate what is on the original tape.

UTILCOPY is a Public Domain program written by our Wayne Motel which can be found on our PD volume #UNDV1. This Basic program will do an image copy of all programs except the Supergame tapes and any copy protected products. Main advantage is the price, cons are its slowness and the fact that it aborts if there are any problems reading or writing the tape/ disk.

BACKUP 3.0 by MMSG is an excellent image copy program. It is very fast and easy to use. However, there are only a few left since MMSG has discontinued it (most people buy BU + 3.0 described below).

More advanced copy programs do both image copying and individual file copying. The ability to transfer individual files from one tape/ disk to another is needed by ADAMites who have many Basic programs and need to move them around alot. Most of these advanced copy programs also contain various utilities for copying individual parts (blocks) of a tape, editing tape/ disk directories, etc.

QUICKOPY by G. Gabarik is a good copy program which makes image copies of all tapes/ disks including Supergames as well as provides for copying of individual files. The program is very easy to use and very fast.

MEDIA AID PLUS by Walter's Software contains image copy, file copy and various utilities. This program is more of a multipurpose program not appropriate for real novices, but designed more for the intermediate Basic programmer.

BACKUP + 3.0 by MMSG is the premiere copy and utility program. It combines ease of use with many options and extras making it a good buy for both the novice and experienced ADAMite. In summary, for the novice who only wants a copy

BEGINNER'S BASIC WORKSHOP

Some of you have asked how Bob Tarnowski set up the NIAD GOLD series and BNDV21 to self load and provide an automatic menu for selecting and running individual programs.

Firstly, we copied SMARTBasic onto the disk (or tape). Most copy programs will copy SMARTBasic from your original tape. However, be aware that if you copy SMARTBasic from tape to disk, a change will have to be made so that SB "knows" it is on disk. This can be done in a couple of ways - the enhanced version of SB (version 79 rev 5) that we are putting on these new products has been modified to automatically "adjust" to whether you are loading from tape or disk. Also, the BACKUP + 3.0 copy program automatically modifies SB depending on whether you are copying to tape or disk. The other way you can create a disk version of SB is to modify SB after you copy it to disk using a program called BASICMODIF which is on our Public Domain volume UNDV2 and BNDV4. This program allows you to modify a specific piece of data in a program. The address 16641 in SB contains the value of 8 for tape and 4 for disk, so if you use BASICMODIF to change the 8 to a 4, your disk version will work as it should. The second step is to put a HELLO program on the tape. What is a HELLO program? When SB is loaded it will automatically load and run any program on the same tape/ disk that has a name of HELLO (must be in caps). This is how we make a "self-booting" or "self-loading" tape/ disk. If we create a MENU program that will display the names of the programs on the tape/ disk and give it the name of HELLO, when we put in our tape/ disk and pull the reset button, SMARTBasic will be loaded and then our MENU program will automatically run.

Hence, the combination of putting SB on a disk/ tape and using a HELLO program gives you a self loading program.

One note, if you look at BNDV21 or any of our NIAD GOLD series you'll see that Bob has created special fastrun versions of all the Basic programs. If you want to look at any of these programs, you must use the special command BLOAD, instead of LOAD.

The next step is to use a MENU program that displays the programs on the tape/ disk. There are several good ones around but I recommend MENU1 from our Basic Public Domain library BNDV18. This program, written by Sharon McFarlane, is well documented and allows you to enter the names of the files for a particular tape/ disk i.e. you need to tailor the MENU1 program for the files on each tape/ disk you set up. For example if you had three children's games that you wanted to

include in your autoloading program, you would enter the names for each of them into the appropriate spot within the MENU1 program and then save the MENU1 program to the tape/ disk containing the programs and SMARTBasic. Bob uses another MENU program which is on BNDV21 and the GOLD series, that is a little bit more advanced which you may want to try once you get some more experience with BASIC.

In summary, you must (1) copy SMARTBasic to a blank tape/ disk (2) create a MENU program and give it the name of HELLO (3) copy the programs you want onto the tape/ disk (the names of these programs would have been entered into the MENU program).

In order to help you in creating your own self loading programs, we have set up Public Domain volume BNDV23 to contain Sharon's modified version of Basic and the MENU1 program. To set up your own self loading tapes/ disks once you get this program, print out the MENU1 program and read the REM statements that explain where to change the program to insert the names of the programs you want to put on the tape/ disk (make yourself a backup copy of BNDV23 first of course). To do these changes, load SMARTBasic and then load the MENU1 program; retype the indicated lines using the names of your programs and then save the program using the name HELLO. Finally, copy your programs onto the tape/ disk and you're all set !



BASIC PROGRAMMING By L. C. Austill

CHAPTER ONE

The computer is very fast, very accurate and very stupid. It responds when told specifically what to do in language that it understands, but it can not reason or infer meanings or intentions. This discussion, including illustrations, is designed to enhance your understanding of the language so you can communicate with ADAM and, at the same time, hopefully entertain a little. The order of introducing concepts is for convenience only in trying accomplish those goals.

Programming is not an exact endeavor with a right and a wrong answer. Obviously there must be an output consistent with the purpose of the program and that output must be correct. The method of getting there, however, will vary and all can do the job. Yes, some programs are better than others but the judgement is based on two specifics, memory used and speed of execution, and an abstract concept sometimes called "user friendliness". As long as there is sufficient memory available, friendliness may be more important to the home computer user than speed. There are two parts to programming. The first is the knowledge of commands and what the computer can do. The second is taking your time to think through what you want to do and piece by piece, how to get it done. That is the logic of the program. You can't use one without the other! The first step in this set of instructions is to load SmartBasic

into the computer. If there are questions on loading, consult the instruction manual. Let's start with the RETURN key. As you read this material, you find punctuation marks and paragraphs to help you separate thoughts. Computers do not understand that concept, it is too general. Instead, when you have completed a statement or a command, or given the computer the requested information, such as a number, press the return key. The information will then be acted upon by the computer. Sometimes, this operation is known as ENTER. The action is just the same, press the RETURN key. At first, you will be reminded to do this by the words RETURN, ENTER or the symbol <CR>.

The computer looks at the first key pressed in a series. If that key is a number, it expects the information to be a numbered statement in a program. That number can not be larger than 65535. If it is, the number will be rejected. More about that in a later session. If, however, the first key is a letter, the computer then expects a command that can be acted upon in the immediate mode. The first word following a number must be a command.

The list of commands is shown in the instruction manual and will not be repeated as such in this

document. Let's experiment just a little bit. First, however, a few words about the computer's memory. You can't physically hurt the computer, but you can sure confuse it. Sometimes, you may cause it to go off on its own looking for something that it can't find and you don't know what it is. The cursor will either quick blinking or even disappear. You may have to reboot Basic again in order to unlock the computer. In so doing, you will lose information that you have put in memory, but no other harm has been done.

Type 1234<CR> (remember our symbol for RETURN?)

Other than the cursor moving to the next line, nothing happened on the screen. Why? The computer was expecting a program statement since the entry was a number it was prepared to save the material but and no other information was given. As there was nothing to do it stored "nothing" as instruction number 1234. Actually, it just forgot the whole thing including the numbered instruction. There is nothing there!

One of the most frequently used Basic Commands is the word PRINT. Try typing the word PRINT and <CR>. Once again, other than the cursor moving down a line, nothing seemed to have happened. That is so because we gave it nothing to print -- the command needed more information.

Try PRINT 4 <CR> . Now the numeral 4 is printed on the screen. Try printing several different numbers to get a feel for the operation. Now lets try something a little different. Type PRINT 2 + 2 <CR>. You get the answer 4. Note that the equal sign (=) was not used -- it is unnecessary and will even confuse ADAM. Try it. Can the computer do anything besides add? Yes, but the symbols used in the command may be different than those you are used to seeing. They are:

- + addition
- subtraction
- * multiplication
- / division
- exponentiation

A word about exponentiation. This raises a number to a power and is entered as:

PRINT 2 <CR> for example.

The computer will return 8, or 2 raised to the third power. Try several examples of all the operations.

By now, you must be tired of typing the word PRINT. Basic provides for that by giving you a shortcut. Instead of typing the word PRINT, you can type the question mark symbol ? and the computer understands that it is to PRINT. Try several different tests of that command.

By the way, is the mess on the screen bothering you? If so, enter the word HOME. Presto, the screen is now cleared of all the work so far. Something else -- ADAM is not particular whether

you use upper or lower case letters to talk to it. While commands will frequently be shown in upper case in this text, they may be actually entered in

What happens if you type `PRINT X` . Try it and see. The computer answers with a '0'. It printed out the value of the variable X which at this point is zero. Until a variable is set to equal something, a zero will always be returned. Now type in `LET X = 100 <CR>`. Follow that with `PRINT X <CR>`. THE VALUE OF THE VARIABLE WAS PRINTED.

Probably, by this time, you have encountered ERROR MESSAGES. ADAM is quite good about returning information that an error has been encountered, about where in the statement the error is, and the nature of the error. Not all computers are this friendly -- they wait until you try to run the program and then just tell you that an error has been made and in what program step it has occurred. To illustrate an ERROR MESSAGE, try the following:

```
PRINT X <CR>
```

The computer does not recognize the word PRANT thus it returns the message. In the immediate mode, there is no choice but to retype the correct command and enter it again. The carat will usually point to the column where the computer thinks the error occurred although it is really pointing out that it expected something at that location in the statement that wasn't found.

A partial listing of ERROR MESSAGES is shown in Appendix C, pages 1-4, of the revised edition of the SmartBasic programming manual. You may wish to review these. They will help you as you debug programs that you write.

What if we wish to print a word, rather than a number or the value of a variable? That is simple -- just put the information that is to be printed inside QUOTATION MARKS. The characters may be letters, symbols, or numbers and there is no restriction as to the order. Try:

```
PRINT "John Jones" <CR>
```

Try your own name; your street and address; think up some examples of your own. Try:

```
? "2 +2" <CR>
```

The quotation marks tell the computer to print the material, don't worry about doing what it says. There is a limitation inherent in SmartBasic. ADAM can not print a quotation mark anGunusual limitation and it is geerally inherent in BASIC although some 2systems do make provisions to handle the problem.

There are some commands which will erase material from RAM (Random Access Memory). One such command is NEW . When NEW is entered, all program steps are removed from memory. Be careful when using this command so that material you wanted to keep is not lost. When starting to enter a program

in RAM, it is a good idea to execute NEW to make sure RAM is clear. If there is a program in memory and you start to enter another, you will probably make a mess of both the old and the new. Another command is CLEAR . CLEAR will erase all variables, including arrays. Arrays will have to DIMensioned again (see arrays). Once again, be sure you want to remove all variables before this command is used. In the immediate mode, ENTER the following and observe what happens:

```
B = 1000 <CR>
DIM a$(20,20) <CR>
a$(20,20) = "TESTING" <CR>
? a$(20,20)<CR>
? B <CR>
CLEAR <CR>
? B <CR>
? a$(20,20) <CR>
```

The last PRINT B command resulted in zero as the CLEAR command erased the previous value. The error message "?Bad Subscript Error" translates to the computer not having an array called a\$ with that many rows or columns. Once again CLEAR destroyed the a\$ array we had created earlier with the DIMa\$ command.

Let's now try hand at a little simple programming. Try typing in the following. (First ENTER NEW)

```
10 FOR i = 1 to 10 <CR>
20 ? "John ones" <CR>
30 NEXT i <CR>
40 END <CR>
```

Did you remembe that <CR> meant to press the RETURN KEY? When you get to the end of a complete statement, pressing the RETURN KEY informs the computer that you are done with that statement. Henceforth, the RETURN KEY prompt will be omitted.

Now, let's increase our BASIC vocabulary some . Try entering, in the immediate mode, LIST . A complete listing of your program is shown on the screen.

Now try LIST 10 . Just statement number 10 was listed.

Try LIST 20,30 . Two statements are printed other statements between those two.

The LIST commands are useful in seeing what your program contains, editing the program, or making other revisions. Had you first entered PR#1 you would have even gotten a printed copy of the program. If you have done that, do not forgot to enter PR#0 to turn the printer back off. If you wish a printed copy of just the material on the monitor screen, hold down the control key and press the letter p.

CP/M 2.2 WORKSHOP

Enjoy...

NIAD CP/M PUBLIC DOMAIN DISK #32

By S. McFarlane

Another E BASIC collection of 28 games that will provide you with hours of enjoyment! I have configured the SmartKeys for ease of use & provided on-line instructions. Simply boot the disk & then press SmartKey I for a Games Directory. After selecting a game, press SmartKey II (RUN GAME) & input the filename - without the file extension. That's all there is to it! Most of the files include a help menu.

This collection includes the following Games:

ACE	AMAZE
ANIMAL	B/FRIDAY
BIOPRINT	BLKJACK
CHASE	CIVILWAR
COMBINE	CORE
CORETEST	EUCLID
FIB	FIT
FOOTBALL	GOLF
GUNNER	KENO
LANES	LOAN
LUNAR1	PLOT
PLOT2	POKER
S/TREK	STARS

NIAD CP/M PUBLIC DOMAIN DISK #33

By S. McFarlane

This disk collection includes the excellent print utility program - BRADFORD. (A sample of just a few of the BRADFORD print fonts can be found in the July/August issue of NIAD on Page #13). This program is considered "freeware" which means that it may be freely distributed, along with a number of font files, but the Instruction Manual is NOT included. The idea is to try the program out, & should you wish to take advantage of its many more advanced features, a \$15. fee must be sent to the author for the Instruction Manual. The program is very similar to many that sell from \$50.-\$175.00 & I certainly recommend that the Manual be purchased - the program itself is worth far more!

BRADFORD.LBR - A program that will print any pure ASCII text file, WordStar or MailMerge files, as well as program listings in near letter quality print utilizing different type fonts. BRADFORD is suitable for a number of Epson/Epson compatible or Star Gemini dot-matrix printers, including the Panasonic KX Series.

Written in Turbo Pascal, BRADFORD will not only print various type styles, but also features Left,

Right or Auto-Justification options, as well as Proportional Spacing. The text can be centered, underlined, enlarged to several different widths, boldfaced & much more. Left or Right margins can be changed from within the document. Twenty-two sets of print fonts are included in this library collection!

BRADFORD will number pages and/or print multiple copies. An option is also provided to insert Page Breaks or for Continuous Printing.

NOTE: A "." must be entered as the "Command Character" (last query before printing) in order to properly execute this program!

Adequate instructions are provided to allow the immediate use & enjoyment of the BRADFORD program as is. However, the list of imbedded commands is very extensive & all of these commands cannot be used without the comprehensive manual available from the author.

The utility "BRADCON" is also included with this collection which provides for the creation of new font sets by the user.

NOTE: The utility "UNCRunch" must be used to uncrunch the squeezed BRADFORD files after they have been extracted from the Library - preferably with NULU15. This utility can be found in the CRUNCH22.LBR on this disk.

CRUNCH22.LBR - This Library contains Vers. 2.2 of the CRUNCH/UNCRunch data compression utilities. Full Drive/User support for both the source & the destination files is provided, along with improved wildcard operation. The command CRUNCH *.* will automatically crunch only those files which have not been previously squeezed. UNCR operates in a similar manner. The programs now feature improved error handling & error/usage messages. Several informative DOC files included.

REVIEWS

CLIPPER By L. Marschand

This is a new program from Digital Express in their series of graphics programs. CLIPPER is intended to design and save "clip art" pictures in high resolution graphics mode. Clip art is a term that has come to denote individual pictures of various sizes, but much less than a full page, that can be incorporated into various programs to produce signs, posters, banners, certificates, etc. that contain these clip art graphics pictures as well as text. The most popular of these type of programs are PRINTSHOP and PRINTMASTER which contain hundreds of clip art pictures which can be used in combination with various text fonts to print these items. CLIPPER is ADAM's program that allows you to draw your own clip art or make clip art by extracting sections of graphics screens from RLE picture files or

SMARTPAINT (from Digital Express) picture files. CLIPPER uses a 64 by 64 pixel area to contain the clip art. This is about 2 3/4 inches square. Let's talk about what CLIPPER isn't to make sure there is no confusion. CLIPPER is not a program like PAINTMASTER (Strategic software) or SHOWOFF 1 (Digital Express) that provides for full screen high resolution drawing of pictures, squares, etc. It also does NOT allow the printing of any clip art pictures. Digital Express' new product, POWERPAINT is intended to provide the ability to take clip art produced by CLIPPER, text and drawing and provide a full design package for producing full screen pictures that can also be printed on a dot matrix printer. POWERPAINT is the product which really makes CLIPPER useful. When CLIPPER is loaded a very nice graphics display is presented, with music playing while the main program is loaded. Your drawing area is presented in the middle of the screen. You can design in both the background and foreground. The background is colored with a "brush" that is 8 pixels wide, the foreground with a one pixel brush for detail work. A second advantage of the background drawing mode is to prevent color bleeding problems that are common in other drawing programs. The only time I had bleeding with CLIPPER is when I changed foreground pen colors and tried to draw within 8 pixels of where I had drawn with another foreground color. There are 15 colors to choose from in both background and foreground mode, options for pen up/ down and an erase mode. Text entry using 3 different fonts is also provided to add small amounts of verbage to your clip art.

Clip art can be saved to tape/disk and retrieved for later modification. Also, using CLIPPER's capture option a RLE or SMARTPAINT picture can be loaded, the foreground and/or background colors changed and a section of the picture "clipped" out for use as clip art.

CLIPPER is a very professionally done program, completely SMARTKey driven and containing plenty of options to make it a comprehensive package. To speed up your work, there is a fast save option that will save a picture to an internal ram disk (don't need the 64K memory expander). This is a temporary option within CLIPPER, you must save the final picture to a tape/disk. Several predrawn clip art pictures are contained on the CLIPPER tape/disk as well. A program (pixmgr) is provided to store and retrieve high resolution graphics screens and convert them to the SMARTPAINT format required by CLIPPER's capture option. Also included is another program, clipmgr, that is used to incorporate a clip art picture within a SMARTBasic program and provide some limited animation.

CLIPPER is an excellent program, but will require the just released POWERPAINT program to realize its full potential.

RATING - A

SPRITEPOWER By L. Marschand

This is a sprite design program from Digital Express. The program is very similar in operation to CLIPPER but for designing sprites for use in Basic programs. A very good explanation of sprites is included in the well written documentation manual and a spritedemo program is provided which gives the SMARTBasic programmer enough information to include sprite animation in their own programs.

Sprites can be simply thought of as colored objects that can be manipulated as a single object within a program. All the games use sprites to achieve animation of moving objects across the screen. SPRITEPOWER provides an easy to use design tool for creating your own sprites and using them within your basic programs. The ADAM has 32 different sprites that can be displayed. SPRITEPOWER contains three sets of 32 predesigned sprites that can be used as is or modified by the purchaser using the design tools provided. Sprite design is accomplished on a 16 by 16 grid using a full featured, SMARTKey driven set of menus to design or modify a sprite. A sprite animator option is provided which allows you to see your sprites move across the screen at various speeds. This is usefull if you have designed multiple sprites and want to see how they will interact in your final program. As in the CLIPPER program, this is a full featured, sophisticated product. Your sprites can be saved in one of three different formats depending on your planned use in your program. One format is an ASCII text file that permits the sending of the sprites via a modem.

SPRITEPOWER is very similar in function to SPRITEMASTER from Murdock games which we reviewed in the 12/86 issue of NIAD. Both programs provide for design of sprites and easy incorporation within your own programs. SPRITEPOWER is a little more sophisticated and comprehensive and hence better suited for the programmer who will be doing alot of work with sprites. One additional feature of SPRITEPOWER is the ability to capture a portion of a high res picture as a sprite. I'm not sure of the practical use of this feature, since the sprites are only 16 by 16 pixels in size. A real nice game called "puff" is also included which demonstrates the use of sprites in an arcade style game. This game is tough, especially when

you play against the ADAM (two player option also included).

In summary, this is an excellent program if you want the ability to use sprites in your basic programs.

RATING - A

AUTOWRITER By L. Marschand

AUTOWRITER is a new program by Mr. T Software. AUTOWRITER is a unique and exceptionally useful aide for the experienced programmer and a fun learning tool for the beginner. AUTOWRITER comes with a 19 page manual full of helpful information and complete instructions for using the software.

Making full use of ADAM's SmartKeys, AUTOWRITER is a menu driven utility that writes machine code routines and basic subroutines to a user designated tape or disk. The new program is stored as an "A" file which can be LOAded and LISTed. The file can be used as a base for a new program or merged with an existing program for enhancements ; full instructions for merging are included.

An added feature is a comprehensive list of POKES and CALLS. The list can be viewed, printed or searched using keywords. The listing contains many useful suggestions, tips, fixes and enhancements and the manual contains instructions on how to PEEK, POKE and CALL.

This software will take the burden out of searching newsletters and programs for routines and the tedious typing of numerical DATA statements.

Here is a list of the routines that AUTOWRITER will automatically generate for inclusion in your programs:

MACHINE CODE ROUTINES

- . Background color change
- . Text color change
- . Underscored text
- . Color inverse font
- . Cursor to solid block
- . 40 column text
- . 31 column inverse color change
- . 40 column inverse fonts
- . Print strings in HGR
- . Automatic random numbers
- . Fast clear of RAM addresses
- . Scan drive for media
- . 3 different sound routines
- . Restore specific line numbers
- . Show deleted files in a catalog
- . On screen digital clock

BASIC ROUTINES

- . Keyboard enhancements
- . Smartkey input control
- . Keyboard input control
- . Print lines from center
- . Apha sort routine
- . Error trapping
- . Correct GR/HGR color tables
- . Change string to upper case

AUTOWRITER automatically writes these subroutines for you, creating a Basic program performing the functions indicated. This is truly a programmers dream program, but also (due to the excellent manual that is provided) is a training program for the novice/ intermediate programmer. Bob's manual explains what each routine does and how to se it. All SMARTBasic programmers should have AUTOWRITER.

RATING - A+

WRITE-HAND-MAN

...a review by S. McFarlane

Write-Hand-Man brings to ADAM CP/M the convenience & power of the extremely popular Borland program "SideKick". Once installed, the WHM modules can be accessed to <1> Edit/Write Notes <2> Check/Add Telephone Numbers <3> View the 14 Day Appointment Calendar <4> Use 4 Function Calculator <5> List Directories <6> View Text Files <7> Edit the Key Macros <8> Execute User Program - by using only 2 keystrokes! WHM gives the illusion of concurrent execution.

The program loads into ADAM's high memory area, & monitors every keyboard character typed. When the special character that you choose to trigger WHM is entered, the WHM Menu is immediately displayed in the upper left hand corner of the screen, in a "window" overlaying the existing program display. After selecting one of the Menu choices, WHM will then load the file into its reserved program area, taking control until you exit to the WHM Master Menu. At that point another Menu choice may be selected, or by pressing <ESCAPE> the WHM Menu is blanked & control is returned to the interrupted applications program which then continues unaware of & undamaged by the interruption.

The WHM Modules were assembled with a relocating assembler. User applications can be added to WHM by following the simple instructions in the 36 page user's manual & using a similar assembler eg. RMAC or Microsoft's M80.

The Notepad, Calculator & View Files Modules all support Cut & Paste operations whereby data and/or calculations can be transferred from the module in use to the interrupted application program such as

WordStar, SuperCalc or dBaseII. The Cut & Paste functions utilize the Keyboard Macro capability & are fully described in the user manual for each module that supports this function.

I have found the Notepad Module to be especially useful for: 1. Maintaining on-line help menus of the various control codes used by all my programs or utilities. 2. Keeping notes or reminders which otherwise would be jotted down on a piece of paper that invariably gets lost!

The Calculator Module affords the luxury of doing quick calculations and/or Hex-Decimal conversions without exiting from the applications program.

A "SWAP" utility, included with this WHM package, allows ANY CP/M program to be executed from within WHM! SWAP writes the active program to the file - SWAP.DAT. You can now load & run any program & on completion return to WHM. The active program is then read back into memory & after exiting WHM the interrupted program is restarted as if nothing had happened!

This feature alone has saved the day for me on many occasions. How many times have you attempted to SAVE a file - only to realize that there wasn't enough room on the disk. And even more seriously, didn't have any spare formatted disks! Usually a situation like this ensures the loss of all file data (& hours of work) as the applications program must be terminated. Not with WHM - simply run the Format utility from WHM & after formatting a few new disks, return to the applications program with no loss of data! TIP: Use SWAP to run the SS-CC Clock utility to help keep track of time while on-line.

For ease of use, as well as speedier execution, I strongly recommend that all the WHM programs be stored in the Ram Disk (Drive M:), especially the SWAP application files.

WHM is a powerful program & is a "must have tool" for the active CP/M enthusiast.

WHM may be purchased from: ELLIAM ASSOCIATES, 6101 Kentland Avenue, Woodland Hills, CA 91367 at a cost of \$49.95 plus \$2.50 Shipping & Handling. When ordering from Elliam, remember to specify ADAM's 5 1/4" Disk Format!SS/DD!145K!40 Tracks.

RATING: A+

USING AND PROGRAMMING ADAM

This is another good ADAM book from Tab Books. It was written by Timothy Orr Knight, who has authored other ADAM books.

This book is written specifically for the computer novice and contains good instruction and many good illustrations and samples

The book is 119 pages long and includes a good index.

Chapter 1 Introducing ADAM - Reviews each of ADAM's components, talks about how to care for the ADAM and reviews ADAM specific and general computer terminology.

Chapter 2 Beginning with Basic - 16 pages of very good introductory information on Basic on the ADAM including sample routines. Explanations of special commands to list, edit, freeze and cancel programs are provided that I found many ADAM owners are not aware of. Examples of how to save and load Basic programs are shown as well.

Chapter 3 Understanding Basic - Explains 61 ADAM SMARTBasic commands in various levels of detail.

Chapter 4 Fundamentals of Programming - Reviews how to take an idea to the point of designing a program.

Chapter 5 Program Examples - Reviews programs for Random Lines, Square Roots, Horizontal Bars, Computer Showoff and ADAM Tricks.

Chapter 6 Advanced Basic - Reviews 21 advanced SMARTBasic including BLOAD, BRUN, CALL, FRE, INIT, PEEK, POKE, ROT, SCALE, XDRAW.

Chapter 6 SMARTWriter - A brief explanation of the word processor is provided.

Chapter 8 Exciting ADAM - Gives some ideas on how to use a computer and the future of computers.

Appendix A - SMARTBasic error messages with explanations.

Appendix B - ASCII codes with equivalencies and a glossary of computer terms.

The strong points of this book are its logical approach to teaching the basics to a novice. The sections on introducing one on how to use SMARTBasic to operate ready to run programs are especially useful.

RATING - A

Hacker's Helper Vol. 1
Z80 Machine Language Instructional
Learning to read with ADAM
By Mel Ostler
Review: W. Motel

This 175 page manual covers topics of machine language thru a complete description of the Operating System (EOS) used by the ADAM. Where Hinkle's Hacker's Guide 2 covers the complete description of the machine language routines used by SmartBASIC, this covers the machine language operating system routines (address above 55000). These are the routines used to run the ADAM. The manual not only goes into a description of the routines, but also has complete machine language listings. This has most of what Coleco covered in their technical manual that was only available to software firms.

The printing was done with a dot-matrix printer and for the most part well done and readable. There are just a few parts that the author printed in compressed print, which is readable, but a little hard on the eyes, but this is just a small complaint. As with any technical manual, this is not for everybody. If you are a hacker, interested in learning the operating system, or just curious, you won't be disappointed by the manual. The author has obviously spent a lot of time in doing research and preparing the book. Listed below are the topics covered by chapter.

1. Z-80 Microprocessor, description, tips, and instruction set description.
2. Helpful disassembly and assembly systems. How to decode Machine Language.
3. Disassembly of EDS. Complete by routine.
4. Serialized disassembly. This shows the routine and includes any called routines (in line). Complete with write-up description. This chapter alone is 60 pages.
5. Helpful notes. How to read Binary/Hex. How the LDIR instruction works (this is one of the more common, powerful data movement instructions). Map of OS7 (the original Colecovision game operating system, which is also used), Memory Tables, DCB (Data Control Block) and FCB (File Control Block) layouts and other mappings of the EDS.
6. Something Personal. Through the use of two programs, the author explains how to code and use machine language and EDS routines in your BASIC programs.

Future volumes the author says are contemplated or being worked on are:

Vol II	Learning to Write with ADAM		
III	"	Draw	"
IV	"	Make Music	"
V	"	Play Games	"
VI	"	Talk	"

Order this manual for \$18 from the author Mel Ostler, 7641 Raasaf Blvd, Las Cruces, New Mexico 88005

RATING - A (for Hackers)

BOULDERDASH By L. Marschand

This game has been out for a couple of years but is one of those great games that becomes an old standby in that people keep going back to play it again and again. First, the graphics on the ADAM are truly fantastic. The variety of colors and multiple

moving objects make the game visually appealing. Both vertical and horizontal screen scrolling are providing which can really get wild when you are moving fast. The sound effects are really nice as well.

Game play is great, full of variety and fast paced.

The object of the game is to make it through 16 caves, picking up jewels as you go, avoiding boulders which you dislodge as you pick up the jewels. Many of the caves have extra hazards such as Fireflies and Amoebas. You must make your way through the caves, maneuvering around boulders, moving them around to get at the jewels, causing avalanches to dislodge many jewels and avoid the Fireflies and Amoebas. This is a game of arcade skill but also strategy as you must get jewels, but avoid the falling boulders. You soon learn the "physics" of the boulders and how to steal the jewels without getting smashed. One of the great sights is to steal a jewel and cause a massive avalanche - the graphics and sounds are great. Each cave has a time limit (based on the difficulty level) and you must make it through the flashing "escape" door in that time. The escape door only becomes activated once you gather a certain number of jewels from the cave. There are five difficulty levels and sixteen different caves, each cave having a multitude of screens. The game has a fantastic total of 354 screens in all !! How's that for variety ?

RATING - A+

ALCAZAR By E. Jenkins

Alcazar is a graphic/adventure game. you play the role of an explorer enroute to the ancient castle of Alcazar. Along the way, you must gather implements to help you succede in your journey. Your goal is to enter Alcazar, find your way to the throne room and sit on the fabled throne. The graphics in the game are very well done, and the sound is limited to the creatures that pursue you, and related to your actions as the explorer. The first thing you will see is a large strategy map. This map displays a countryside dotted with castles connected by paths. To enter a castle, you move the joystick to choose which castle you wish to enter. Inside each castle, you explore rooms, some of which contain implements you will need to be successful in your journey. These are: guns, raw meat, a ring, oil, bleach, a raft, and water. Each object has a very important function in the game. The rope is needed to cross a broken bridge, the raft is needed to cross the lake, and a ring is required to use either of the two flying carpets. Creatures that will try to stop you are: tiger, griffen, oilmoeba, guard, genie, tarantula,

and flies. Some creatures require only one defense, others can be stopped by two different types of defense. Combining strategy with arcade action, this is one of the best graphic/adventure games I have seen for any computer.

RATING - A

ROCK'N BOLT By E. Jenkins

Rock'N Bolt is an exciting arcade/strategy game for the entire family. You are a construction worker who's job is to build a 100 story building from a puzzle of moving beams. You jump from girder to girder, bolting all of them down in the proper pattern, then return to the elevator and move on to the next floor. Some floors (up to 3 screens wide) contain a blueprint of the required floor plan. On these screens, you must bolt the girders in the correct position in order to move on to the next level. On some levels the blueprint is blank, whereas here you bolt down the girders in any arrangement you like. In any case, be sure to get back to the elevator before your time runs out. As with any real job, you earn wages for your work. As you progress to the higher levels, you receive a wage increase. Beat the clock and earn as much money as you can. As you progress in bolting down the girders, flashing gold bolts earn you bonus money if you land on them, and flashing green bolts earn you an extra man. If you have to undo a girder, you lose precious wages, so think carefully before you secure any girders. Just what I need, another addictive game from Activision.

RATING - A-

Alcazar / Rock N Bolt
Comment by W. Motel

I would just like to add a few of my own comments to Ed's reviews on these two games. This are also released under Telegames agreement with Activision. Unlike Decathlon and River Raid (as well as some others), Alcazar and Rock N Bolt were not originally game system cartridges, but real computer games. Originally out for the Commodore 64, these have that something extra in the game play. With so little available in good graphic-adventure games for the Adam, Alcazar is an excellent choice. Every game gives you a random placement of castles, There are 5 castles types in all (by color). Each contain different implements. Within each castle is 2 floors, each floor containing 16 floors, Alcazar itself has 3 floors. 4 different game levels go from beginner (start with 5 explorers and 2 guns) to expert (2 explorer

and 1 gun). In the higher levels, the creatures move faster and there are more of them, there are less guns to find, and floor plans appear only after destroying certain enemies.

Rock N Bolt is an excellent maze-strategy game. You must plan your moves ahead. Sometimes you must bolt girders in the wrong position to get to other girders and then return to unbolt and rebolt the first girders in the correct spot. Bolting the girders is only have the problem, you must also have a path back to the elevator which is not always an easy task.

All in all, both games give you plenty of variety and randomness to keep you interested for quite awhile.

DECATHALON By W. Motel

This is the older Activision cartridge, now available on DDP/Disk from Telegames. You (and an optional opponent) compete or practice in the 10 decathlon events. The 10 events are: 100-meter Dash, Long Jump, Shot Put, High Jump, 400 meter Race, 110 meter Hurdles, Discus, Pole Vault, Javelin, and 1500 meter Race. Running or approach speed is made by rapidly moving the joystick left and right. The side buttons are used for release or jumps in the field events. A real time clock shows elapsed time. Scoring is based on how well you finish in an event. In practice mode, you can select any of the 10 events.

This is one of the original games of this type. Graphics are good as is play action. How well you do in each event is based largely on how fast you get the joystick moving. A strength bar on the screen shows your relative running or approach speed. If you like this type of game, this one should be considered.

RATING - B

RIVER RAID By W. Motel

This is another one of the older games from Activision, now re-released by Telegames. This is a slide and shoot type game. You view a downward scrolling river and its banks. You are a jet fighter which you move left/right or up/down. As you look down on the action, various enemy battleships, helicopters, jets, land tanks, hot air balloons stand in your way. At various intervals are bridges which must be shot down to continue on. A fuel gauge also is shown. As you run out of fuel, you must fly over a fuel depot to refuel. As the action progresses, the enemy ships shoot back, move left/right to block you, fuel depots become scarce, the river paths narrow, etc.

Points are earned for destroying the enemy ships, each enemy having different point values. The bridge denotes the end of a section of river. You lose a plane if you crash into an enemy craft, the river bank or island, or the bridge. The game is for one or two players and has 4 levels. The level denotes what section you start at. Level 1 at the beginning of the river, Level 2 starts at bridge (section) 5, Level 3 at bridge 20, and Level 4 at bridge 50. This is an older game and the graphics are adequate, but if you like fast slide/shoot type action games, you'll find plenty of that here.

RATING - B

TENNIS By J. Goebel

Tennis is not one of my favorite sports, but playing it on a computer is fun. This game of tennis was originally released by IMAGIC on cartridge. This ddp allows you to select between novice, intermediate, and expert levels, along with one or two players. In the EXPERT version, the game is very challenging. Even I couldn't whip this guy. The two player version (I played myself) is very good.

The game begins with the black figure (you) serving to the blue guy (opponent or computer). The game allows you to move wherever on your side of the court. The left button is used to do a backswing and the right is used to do a forward swing. The graphics are pretty good, rivaling most tennis games for other computers. Ball action and bounce are realistic and the ball shadow looks good. There are even other added features such as little figures who run out on to the court to retrieve the ball when it hits the net. You can even register your name by pushing the joystick left or right and using the fire buttons to register. Overall, this is a very good game, but the only problem that I find with tennis games is that they take too long. But besides that point, I recommend it for the tennis freaks at your house.

RATING A

SEWER SAM By L. Marschand

This game, by Interphase pits little Sam against a league of enemies in the sewer system of New York, after falling in a manhole. Sam must maneuver the maze of the sewer system, fighting off attacking rats, spiders and the final attack of an underground submarine firing missiles at him! Graphics are well done with a 3D effect to the scenes. Sam even has a voice saying "Oh No" when

danger is near and "Ouch" when he gets it, which adds a real nice touch to the game.

Four different skill levels and a one/two player option are provided as well. Good basic arcade game that kids will enjoy.

RATING - B+

SEGA UPDATES

NOTE: SEGA of America has been purchased by Tonka Corporation, which will greatly improve SEGA's distribution channels and get the product in more retail chains. Both Wards and Sears now carry the products. We still feel that SEGA is the better game system over Nintendo and Atari. There may be more games for the Nintendo system, but all of the SEGA games are top notch, not so for Nintendo. The Atari 2600 still has more games available for it than other systems, this doesn't make it better. Well, Sega has been very busy coming out with several great new games.

We just received GOLF, ZILLION and WONDER BOY. FOOTBALL, VOLLEYBALL and SOCCER came in 2 weeks ago. GANGSTER TOWN, OUTFRAN and FANTASY ZONE II should be in soon. ZAXXON 3D (requires 3D glasses) should be in by Christmas. We can't get reviews done for all of these. Wayne has done complete reviews on OUTFRAN and ALEX KIDD IN MIRACLE WORLD below.

ALEX KIDD in MIRACLE WORLD By W. Motel

"Journey through the planet Aries to the beautiful city of Radactian and save it from the evil Janken the GREAT".

You play the role of Alex Kidd and travel through the eleven different locations in the Miracle World. Each location has its own special dangers and uniqueness. These include Mt. Eternal, Lake Fathom, Island of St. Nurari, Village of Namui, Mt. Kave, The Blakwoods, Bingoo Lowland, Radactian Castle, City of Radactian, Kingdom of Nibana, and Cragg Lake. Your travels require you to climb, jump, squat, swim, fly, and break through blocks. To keep Janken and his followers from taking over, you must collect the 5 treasures found along the way: Sun Stone Medallion, Moonlight Stone Medallion, Gold Crown, Hirota Stone and the Personal letter.

Along the way, boxes can also be found. The contents vary: bags of Gold coins, Powerful Bracelet, Extra Life, Ghost (lose a life if he catches you), Skull (keeps you from moving for a

short time), and a Pink Box which contains a secret. The Gold is used to make purchases in the shops you encounter. The items to buy are: Teleport Powder (makes you invisible), Extra Life, Cane of Flight, Magic Capsules (one allows you to summon your friends to help you, the other forms a barrier around you for protection), a Sukopako Motorcycle (travel fast and break thru rocks), Petricopter (helicopter with missiles), Suuisui Boat (needed to cross the river).

You also meet up with various enemies. If you defeat them, you gain game points. These include monster birds, frogs, scorpions, flying fish, bats, monkeys, bears, octopus, and Janken and his accomplices. The points vary from 200 thru 4200, with 10,000 for defeating Janken. When you meet Janken, he challenges you to a game of scissors/paper/stone. Whoever makes the stronger selection wins. You must win 2 out of 3 to beat him.

A subscreen (via the Pause) shows you your current location, a list of your possessions and money, your current score and number of lives left. You also use this screen to select the special items you want to use. You start with 3 lives and continue until you lose all of them.

Graphics and sound are excellent, very colorful, with a cartoonish quality to them in this adventure/action game. The variety of action and stragety, with varied location make this game fun to play and should keep your interest for a long time.

RATING - A+

OUTRUN By W. Motel

The long awaited home version of the Arcade Hit is finally here. It's a 2 Mega cartridge and is a pretty good duplicate of the arcade version. If you're not familiar with the arcade game, here's a brief description. It's a driving game (more a road rally type, then pure racing), where your objective is to reach one of 5 goal lines. You always start at Coconut Beach, but as you reach the end of a scene, you encounter a fork in the road, where you have the option of going to the left or right, each side it's own new unique scene. All total, there are 25 different scenes, of which you will travel through 5 of them on your trek to the goal line.

Before you start, you can select 1 of 3 songs to play on the radio. As you drive thru each scene (course), you get points for the distance traveled, the cars you pass (Outrun), and for reaching the scenes checkpoint. Each scene has it's own time limit which you must complete it in to continue. If your score is high enough, you can enter up to 3 initials on the 7 name score board.

This stays there as long as the game power is on.

The control pad allows you to move (steer) left/right and shift from low to high gear (up/down). Low gear is good thru 190 Km and for hugging the curves. High goes up to 270 Km. Button 2 is the accelerator and Button 1 is the brake. As in most race games, it's important to learn to have a featherlight touch on the accelerator and know when to brake. Downshifting also is helpful on curves.

Graphics are very good and each of the 25 scenes have a different backround. The scenes include Vineyard, Death Valley, Desolation Hill, AutoBahn, and Lakeside as the 5 goal lines. Other intermediate scenes are Gateway, Desert, Wilderness, Alps, Old Capital, Devil's Canyon, Cloudy Mountain, Seaside Town, Desolation Hill and Wheat Field. Roadside objects include various types of trees, rocks, buildings, satellite dishes, towers, and gateway arches, signs, etc. Running into any of these result in your car skidding or flipping completely over (your not hurt, but you do waste time). Signs warn you of approaching curves (the signs are readable). Besides the curves, the roadway also includes many dips and raises, which hinder your view of the upcoming roadway and traffic.

All in all, this is a fairly faithful reproduction of the arcade version, however, the car does seem to travel slower than at the arcade. Graphics are well done, the curves and road disp/raises give you a realistic driving feel. Personally I usually don't particulary like driving/racing games as they tend to become monotonous. I liked this better than I thought I would, however my 12 year old son, who was really waiting for it, doesn't like it as much as he thought it would, mostly because he doesn't think it's as fast. Anyway, if you like these type of games or the Arcade version, I don't think you'll be disappointed.

RATING - A

Note: A word pertaining to OutRun and the optional Control Stick (see my review on the Control Stick in the June, 87 issue).

The game is playable with the control pads that come with the game unit. The play is ENHANCED with the Sega Control Stick (Joystick sold separately). As with the other race type games, the steering control is much more controllable with the large joystick and inadvertant shifting is greatly decreased when you only want to go left/right.

OUTRUN vs. WORLD GRAN PRIX
A comparison by W. Motel

Since these two race/driving games are now both available for the Sega System, I thought a little comparison might be helpful, in case you are wondering which to get, or should I get both? This is simply informational and I am not going to influence you one way or the other. You decide.

BOTH use the controller the same way, Brake and Accelerator are the 2 buttons, up/down are the gears, left/right are steering. Both games play are enhanced by use of the Sega Control Stick. Both are one-player games.

BOTH games roadway include curves where running off the edge of the road slows you down. WGP is a 2 lane roadway, OR is for the most part 3 lanes (a few scenes are 5). WGP is a flat track, OR includes road dips/raises that are very realistic.

WGP seems to have more on road traffic, OR has more offroad obstacles. WGP has 12 courses plus the option to build your own tracks, OR has 25 scenes (as stated in book, yet 16 are mentioned by name) with no build track option. WGP has 3 play levels, which mainly effect the amount of competition traffic, OR has only one fixed play level. WGP allows you to start at any of the 12 tracks, OR always starts at the same beginning.

Graphics quality is equal, with WGP having more background detail, OR more offroad obstacle detail. WGP screen shows the current track layout and your current location at all times, OR does not. WGP (thru point accumulation) has an option that lets you enhance your cars performance (accelerator, handling, brakes), OR has a fixed car performance.

RAD RACER 3D Game for NINTENDO

Review by W. Motel

Well, since we are doing race/driving games, let's make it complete with the new Nintendo entry.

When Nintendo showed this at the Summer Consumer Electronic Show, it was a 3D game WITH 3D glasses similiar to the Sega type (electronic that plug into the unit). The game is still 3D, but as with WORLD RUNNER (the Nintendo version of Space Harriar), they opted for 3D via the stand alone blue/red cellophane lenses on disposable type glasses. Rad Racer, as was World Runner can be played in 3D or with a flip of the B button, played in normal mode. Unlike the cardboard glasses in World Runner, Rad Racer has a little more substanstial quality to its glasses.

Rad Racer is Nintendo's version of OutRun. The game gives you a choice of 2 vehicles, a

Ferrari where you're competition is Corvettes and Lamborghinis or the F-1 Machine where you race against Indy type cars. You control pad uses the 2 buttons for brake and accelerate. The pad steers left/right. Instead of gears, up puts the car in turbo mode (car accelerates twice as fast). Down lets you chance the backround music to one of 4 songs.

8 course locations exist. Within each course are 3 or 4 checkpoints, which must be made within the individual time limits. Successfully completing all checkpoints on the course, lets you continue to the next location course. The courses include the starting course, San Francisco at night, Rocky Mountains, Athens, Nighthtime among the skyscrapers, more Mountains, changing weather course, and the final coastal highway. Prior to the start of each location, the course map is shown along with the checkpoint locations. The roadway is 3 lanes wide and includes traffic and roadside obstacles, which if hit, cause the car to flip over.

This is an obvious attempt to counter Sega's Outrun with the additional option of 3D. I usually play the game WITHOUT the 3D option. It is 3D, but like the old comic book 3D. As a race/driving game, it's OK, but not great. Gameplay is identical to Outrun, INCLUDING the road dips/raises, car flips, courses, etc. However, I don't feel the depth of graphics is as great. For a race game, Mach Rider contains more options and action, but not as great graphics as Rad Racer. Nintendo is also coming out soon with another race game Pro-Am Racer. I don't want anyone to misconstrue this as being biased toward Sega, since Lyle sells the Sega system. I own both systems and Lyle and I usually disagree anyway on which is better. This is simply for those that might also own both and wondered how they compare.

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