Well, this is our Christmas issue !
 Merry Christmas to you and your families.
 May God bless you and help you to
 remember the real meaning of Christmas.
 We are starting a study of the book of Romans this
month. The apostle Paul wrote this book to the Roman
Christian church to teach them about the completeness of
God's plan of salvation for them.
1 Paul, a servant of Jesus Christ, called to be an
apostle, set apart for the gospel of God 2 which he
promised beforehand through his prophets in the holy
scriptures, 3 the gospel concerning his Son, who was
descended from David according to the flesh 4 and
designated Son of God in power according to the Spirit of
holiness by his resurrection form the dead, Jesus Christ
our Lord, 5 through whom we have received grace and
apostelship to bring about the obedience of faith for the
sake of his name among all the nations, 6 including
yourselves who are called to belong to Jesus Christ;
In this introduction to his letter, Paul lays out some
basic truths. He first states that he is a servant of
Jesus, doing his work, not what Paul wants to do. Paul
is "sold out" to Jesus who is his Lord and Saviour. Paul
references the fact that the Old Testament predicts the
coming of Jesus and the purpose of his sacrifice for the
forgiveness of our sins. Jesus was descended from David,
according to the flesh (Jesus' mother Mary was in Davids
line) and was empowered by God's Holy Spirit on his
"Father's side". Read the account of the Virgin Mary in
Luke Chapter 1 verse 26. Mary was Jesus' mother and God
was his father. What a wonderful miracle, God becoming man
to show his love for us. Our God is one who is personal,
who cares about each of us, who loves us so much that he
sent his only Son to save us. Hard to believe, but true.
Many people think that God is aloof from us and only wants
to punish us when we sin. This is a false impression.
Picture God as the perfect father, loving us, forgiving us,
helping us when we are in need. This is the true picture
of our God. Paul refers to Jesus' resurrection from the
dead afterwhich he was exalted and seated at the right hand
of the Father, given dominion and power over all things.
The resurrection is the triumph of life over death, good
over evil, love over sin. Christianity is the only
religion whose God was resurrected from the dead to show,
with specific evidence,that we can have life after death.
Jesus was the walking evidence of this miracle for 40 days
before he was lifted up to heaven to sit at the right hand
of the Father, where he makes constant intercession for you
and me. Many people doubt the fact of the resurrection
because our natural minds find it hard to accept. However,
there are so many historical accounts that relate this
truth that it can't be denied. Many historians have stated
that NO historical event has been more scrutinized then the
resurrection. Another evidence of the fact of the
resurrection is the growth of Christianity from nothing to
what it is today. If Jesus had died and NOT been
resurrected, Christianity would have died with him.
Accept God's love for you this Christmas. God bless you
all.

N I A D   -   A CHRISTIAN RUN BUSINESS

. NIAD is TWO !! Yes, hard to believe but we have been at this for 2 years. It is interesting to look back at our first issue, published in January/ 85 that was sent to 45 people. We have come along way since then. I would like to think that we have gotten better, and many of your letters so indicate. NIAD's objectives were to serve a wide variety of functions - to become a multi-purpose User Group designed to meet all (or most) or the needs of our members. To my knowledge we are accomplishing this. We don't just publish a newsletter or sell products, but offer a range of services most needed by ADAM owners. This does not come without alot of work. You would not believe the time it takes to do these "special" services.

. Special THANK YOU to all the NIAD staff for their dedication and hard work - Sandy, Eileen, Mary. A special appreciation thank you to my wonderful wife Julie who supports and puts up with me ! Thanks to all the NIAD contributors who spend their time unselfishly to aid all of you - Wayne Motel who has personally done more for NIAD then anyone else. His technical expertise and digging into the ADAM's internals have greatly benefitted all of us ADAM owners; Bob Lennes' programs, tips and organizing of the Basic PD library have been a great help to all us Basic lovers; Chuck Kolander's dedication as the CP/M 2.2 librarian and resident expert have filled an important role for the many of you into CP/M; Don Zimmermans SMARTWriter Tips workshop and general support have been fantastic. Thank you one and all.

. NIAD's membership is continuing to grow and our renewal rate is very high, again an indication that we are meeting your objectives. We believe there is a future for the ADAM as a home computer and will continue to support our members with the same and even expanded services in 1987 - more on this next month. As a Christmas present for all our members we are offering a special for any new/renewal memberships received from 12/1/86 through 2/1/87 - your choice of one of the following FREE with your next order of $10.00 or more:
Pinball/ Mack PD
Super Subroc PD
Jeopardy PD
1 Blank DDP
1 Printer Ribbon

MERRY CHRISTMAS ! !

In lieu of raising our annual subscription rates due to paper and printing costs we have decided to do two combined issues per year. December/January and July/August will be double issues. We picked these two times of the year because these generally are the busiest times for most people and should impact them the least. We hope you agree that this approach is preferable to a price increase. This will also allow us to move to a better schedule for the mailing of the newsletters - the Dec/Jan issue and every issue after that will be mailed early in the month so you

should receive them by the middle of the month of the issue as opposed to the beginning of the following month, which should help everyone involved.

. Dot matrix printer graphics are an exciting new adventure for us ADAM owners. Wayne Motel concludes his article this month on how to generate your own graphics under SMARTBasic, via his WAMOdriver program published in last months issue. This should let you Basic programmers loose to do some neat stuff. Even more exciting is the announcement of **GRAPHIXPAINTER (C)**, a new product for printing HiRes graphics screens on dot matrix printers. The ADAM has really come of age with this product. Now you can print sophisticated graphics pictures just like those guys with Apples and Commodores ! See our review in this issue.
Many people have questioned whether purchasing a printer for the ADAM is a wise decision. Any printer you buy can be used with any other computer. The only piece of hardware that is unique to the ADAM is the Eve or Orphanware parallel printer interface you buy to connect the ADAM to the printer.

. Christmas orders are coming in fast and furious. You MUST have your orders in by Dec 15th to guarantee delivery by Christmas - DON'T WAIT UNTIL THE LAST MINUTE. We have stocked up on quantities of most items in anticipation of the rush. We do, however, have limited quantities left of the SuperAction Controllers, Driving Modules and Atari conversion modules and these will go on a first come - first serve basis. Some of you have questioned what the Atari Expansion Module does. This unit attaches to the slot on the right side of the ADAM and allows you to play all Atari cartridges on your ADAM ! We have a good stock of modems available - see our article on modems and telecommunications.
Diskdrives are still very scarce. We should have a small supply in by the time you get this issue. Many of you still are on our waiting list in date order, however, some of you may have gotten drives elsewhere. Hence, we will need you to contact us as soon as possible if you want one of these drives at a price of $225.00.

. The Sega Ultimate Game System has gotten a positive response from many of you evidenced by your requests for fliers and a few orders. See our review update in this issue.

. Pinball Construction Set is a fantastic game. Thanks to one of our members, we now have the updated version with all bugs fixed and containing 2 demo games ! This program is probably one of the most unique ones around. A 40 page manual is also available. To receive the updated version send in your tape/disk and $3.00 PLUS $2.00 if you want the 40 page manual.

. Chicago Local Chapter meetings will now be held at the College of Dupage, Student Resource center, Room 1042A next to the cafeteria at 7:00 PM on the SECOND THURSDAY of each month. The next meeting will be on December 11th and will be an ADAM SWAP meet where people

can buy/sell and trade items. NIAD will also be selling
products there. NOTE: No copying of commercial software
will be allowed.
COD is located at the intersection of Lambert and 22nd
streets in Glen Ellyn, IL. COD is just west of 53, take Rt
56 (Butterfield Rd) and go north on Lambert to the parking
lot or take Rt 38 (Roosevelt Rd) and go south on Lambert.
Call COD at 858-2800 for more directions if you need them.

MERRY CHRISTMAS TO YOU
FROM ALL OF US AT NIAD

GOD SO
LOVED THE
WORLD HE
GAVE HIS
ONLY SON

UPDATES

. GRAPHIXPAINTER (C), an ADAM graphics utility for dot
matrix printers is here. Developed by Wayne Motel, this
new product allows you to print Hi or Low res graphics
screens to most popular brands of dot matrix printers.
Support for printing of Paintmaster designed pictures is
also provided. See our review in this issue.

. Orphanware has completed their 80 column video
unit, which provides 80 column display under the CP/M 2.2
operating system - see Don Zimmerman's review. This is
another in the line of advanced hardware products for the
ADAM.

. Spritemaster is a new program from Murdock
software that is a complete development program for making
colored sprites and using them in Basic programs. We will
have a review next issue.

. Bob Lennes is putting the finishing touchs on
ADAMTALK, which is a dictionary and decoder for use with
the Eve SS-CC speech synthesizer. This program will really
make this a more useful device and allow you to use it to
add speech to any Basic program !

. Glen Gabarik (GJMG) is near completion of a RAM
drive program that will allow the use of the 64K memory
expander as a substitute drive with all programs other then
CP/M. Hence, you can read and write files to the 64K as if
it was a data drive, but at an amazing speed. This should
be a big help to those that can't get or afford a disk
drive. More next month.

. Walter's Software is working on a program that
will allow you to make your own question rounds for the
great Jeopardy PD game.

. Mr. T Software has completed an combination
home/business pack that contains a calendar appointment
program and an address/phone book management program. Both
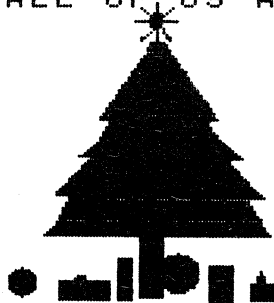these programs have wide applicability. We will review
next month.

. Jane Lingrel has completed a Holiday Recipe
Volume for you Recipe Filer owners. This one is full of
goodies for this time of year - see the Product List.

. We will be reviewing a series of disks that contain
pre-done pictures for both the Paintmaster and Signshop
programs and will probabley add them to our product list.

. Printer silencer cover is something the ADAM
printer could use ! We will have a review of one next
month.

. E & T Software has furthur improved their
Business Pack and Softpack programs. Send yours to them
with $2.50 for the upgrade.

. Tractor Feed kits are available from NIAD for no charge for those of you that have the old style TF's without the clamps and screws to hold them to the printer.

. ADAMWEST BBS is online at (604) 467-9566 in Canada.

. Color printers are an often requested item. In conjunction with the development of Graphixpainter we have tested the Okimate 20 color printer and found it to be a nice little printer. The Oki 20 is both a regular dot matrix printer that can be used as an alternative to the ADAM printer using the software that acccompanies the Eve or Orphanware interfaces as well as a color printer. The Oki prints at 80 characters per second in draft mode and 40 cps in near letter qualtity mode. The Oki uses a thermal printing head mechanism, rather then dot matrix and requires special paper. It also supports various print options as the dot matrix printers do (bold, expanded print, etc.), although it is a thermal printer, not a dot matrix. The color option, of course, makes it attractive and with the WAMOdriver published in the last issue, you can write SMARTBasic programs that will generate color printing using the instruction book that comes with the printer.
The Oki 20 can be purchased by itself, but requires a separate "Plug N Print" module in order for it to be attached to a computer. We are offering a special which includes the Oki 20, the appropriate Plug N Print module that attaches to either the Eve SP-1 or Orphanware PIA2 parallel interface, 2 ribbons and 50 sheets of paper for $199.95. If you don't already have a parallel printer interface for the ADAM, we will add the Orphanware PIA2 and appropriate cable for a total of $249.95.

. ADAM Books are a real necessity to adequately use the computer. The books that come with the ADAM are OK as reference books, but not good as teaching books for the novice. See our product list for some new books that may be a nice Christmas present for someone.

. SASE's are required for all requests for information or if you want questions answered. Please help us by addressing and stamping a return envelope. Also, if you are requesting multiple pieces of information, include extra postage.

. A Review summary of most ADAM software is sent to each new member and was last published in the Sept/86 issue. Read the review summaries to get some information on the programs before you purchase them.
NOTE: We just noticed that we missed Paintmaster when we did our Review summary. Here is the summary for it:
CATEGORY: Education/Entertainment
NAME: Paintmaster
REVIEWED: Feb 86
RATING: A++ * EDITOR'S CHOICE*
Excellent high resolution graphics drawing and design program. Provides many drawing options including cirlces, line, polygons, triangles. Various brush sizes supported. Can save and retrieve pictures. One of the best ADAM programs available for color graphics.

. Renewals are due if the first four letters of your member number as printed on your newsletter are "1186".

NIAD PRODUCT INFORMATION - SPECIALS

. Oki 20 w/ ADAM Plug N Print - $199.95
. Oki 20 w/ ADAM Plug N Print and PIA2 Parallel printer interface and cable - $249.95
. Super Action Controllers w/ Baseball - $49.95
. Expansion Module #1, Atari Conversion - $44.95
. Expansion Module #2, Driving Module w/ Turbo cartridge - $49.95
. New ADAM keyboards - $9.95
. ADAMNET 6 Ft cable for keyboard or disk - $2.95
. Royal Ambassador Education Pack; a series of 8 educational games with a Christian theme - $9.95 disk/ $11.95 DDP
. New ADAM hand controllers - 2 for $10.00
. 3 1/2 by 15/16 inch tractor feed address labels - $6.95/1000
. 9 1/2 by 11 inch 20 Lb tractor feed "clean edge" perforations paper - $9.95/500 or $16.95/1000
. Right directory tapes for backing up Supergames- $2.50
. Rconditioned data drives - $19.95
. Super Zaxxon - $12.95
. Recipe Filer - $10.95
. Fantasy Gamer - $22.95
. Basic Bonanza - $22.95
. PowerPrint - $15.95
. Number Bumper - $15.95

NEW PRODUCTS

. Graphixpainter
. Oki 20 printer
. Panasonic 1080I and 1091I printers
. Orphanware 80 CVU
. Sega game system
. Kid's Trivia
. Backup 3.0 (premiere copy utility)
. Backup + 3.0
. Spritemaster
. Family Feud Question Pack
. Updated Pinball/Mack PD and 40 page manual
. Pinball games Vol 1 PD
. 2ND Edition ADAM Resource Directory
. Pro Football
. SMARTBasic 2.0 PD with documentation
. Trivia Pack I

NIAD SERVICES

. Disk conversion of Supergames - Buck Rogers, Super Zaxxon, Dragon's Lair, 2010: Text Adventure, Donkey Kkong and DK Jr., Recipe Filer, Smart Ltrs & Forms, Family Feud - send in the card label from your data pack as proof of purchase and $4.00.
. Replacement SMARTBasic tapes - $7.00
. ADAMLink II telecommunications software for up and down

load of programs vial the ADAMLink Modem.
. Fix SmartFiler tapes to provide the ability to print
mailing labels by correcting the spacing problem and
provide the latest bug free version - $4.00.

. Updates or fixes to PD tapes - $3.00

PUBLIC DOMAIN WORKSHOP

This month we'll talk about one of our premiere PD games -
Pinball Construction Set/ Hardhat Mack. As mentioned in
the NEWS section, we just received an updated version of
this software and a detailed (40 page) instruction manual.
There were some bugs in the earlier version that would lock
up the program and it was difficult to save a Pinball game
that you constructed. All these problems are corrected in
this version. There are 2 games on this PD tape/disk -
Pinball and Hardhat Mack. Mack is a neat climbing game
along the line of Donkey Kong. It has mulitple screens and
you must do a good job as a construction worker and avoid
some nasty hazards. We won't go into this too much, since
we want to concentrate on Pinball.
Pinball Construction Set was the first in a line of "build
your own" programs that allowed the player to actually do
some game design, as opposed to just playing a game
designed by the programmer. This concept has led to more
of these interactive games, which have really caught on.
Pinball is a classic game concept that has gotten more
sophisticated through the years. Shooting and using
flippers to control the movement of a steel ball to gain
the most points have consumed untold hours in bowling
alleys and arcades. Now, you can do the same thing on you
ADAM ! Pinball effectively uses the color graphics of your
ADAM to create a realistic pinball game. When the game
first loads you are shown a blank pinball gameboard on the
left and a number of objects on the right that you can use
to design your unique games. Pinball Games Vol 1 in our PD
library is a collection of 9 games designed by NIAD members
for use with the Pinball CS. Below is a typical game
screen. The various parts perform different roles in the
game giving an endless variety to every game. You can
place these parts anywhere in the game and put in as many
as will fit. These parts provide scoring, sound, lanes,
magnets, bumpers, kickers, spinners, ball eaters, etc. for
the game. You can even design new parts and shapes
yourself using the hammer and scissors provided in the
command column. You can "paint" the game with different
colors, determine the liveliness of the ball, which sounds
go with with which parts and what scores are awarded for
striking various parts. The creativity is all yours, which
makes this much more then just a pinball game. At first
you will experiment with making a game look good, then you
get more into designing playable games that offer a
challenge. This can get pretty sophisticated due to the
variety of options available to the designer. That is why
2 demo games were put on the tape/disk. These give you an

idea of what a playable game looks like using the various
parameters available. The really nice thing is that after
you have your masterpiece built, you can test it and if you
find it needs improvement, you do some redesign and try
again. You can save your designed games on tape/disk for
later redesigning and playing.
Pinball has a long lasting appeal to the players because
you don't have to play the same game over and over. If you
get tired of one game, just change it or play another one !
You will get hours of enjoyment from this game and be able
to let some of those creative juices flow in designing you
own games!!
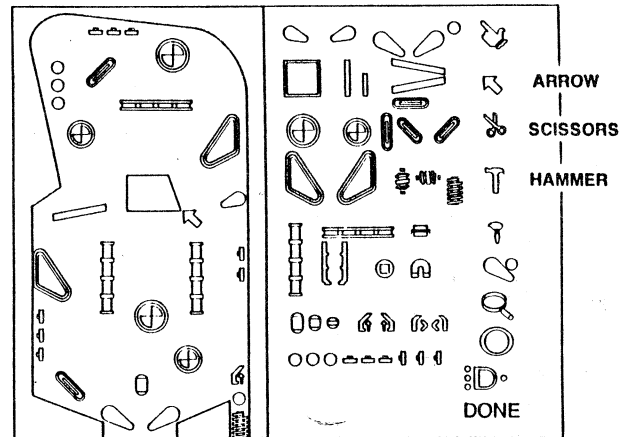
PINBALL
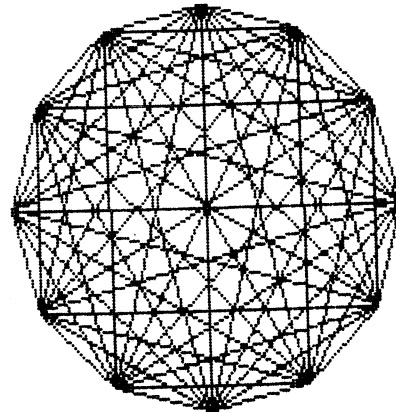
MISCELLANEOUS INFORMATION

. The catmenu program contained on Utilities volume 2
(UNDV2) adn published in a previous issue appears to have
an intermitten bug which will occasionally cause the
program to lock up. We can't determine why. All you need
to do is rerun the program and it will work ! .

. The Z80DSMBLR program on Basic volume 12 (BNDV12) creates
a special file when it is first run. There is not enough
room on the BNDV12 disk to do this so if you try you will
get a NO MORE ROOM error message. You must move this
program to another disk/tape with room on it and then run
it.

Beeper Program
This is a simple sound demonstrator program using Super
Action Controllers or standard paddles to control the
frequency and length of note by the sound chip. You can
adjust the frequency by moving the joystick. The frequency
is a product of the sum of the up/down & right/left
position variables. The length of note is varied by the
trigger or action key depressed.
You can select which controller is active by SmartKeys I &
II.
You can change from continuous notes to discrete beeps by
pressing the 0 (zero) key on the controller/paddle.

You can press the 9 key on the controller/paddle and get
into a single note mode. There you type the frequency
number you want by the keyboard and press RETURN to
generate the note. After a few seconds duration the note
ceases and ADAM is ready to generate another note .
You can escape the single note mode by pressing RETURN when
the frequency is zero or by pressing the ESCAPE key. CLEAR
and BACKSPACE work for the frequency during single note
mode. Because of the way the numbers are read from the
keyboard, decimal points are not recognized.

```
10REM  beeper by tjl
15LOMEM :29000
25 x1=PEEK(17115): x2=PEEK(17126):   x3=PEEK(17059)
30POKE 17115, 21:POKE 17126, 31:POKE 17059, 5:TEXT
35POKE 16953, 32
40DATA  58,102,109,211,255,201
50FOR add=28000 TO 28005
52READ x
54POKE add, x
56NEXT add
60 loud=144: p=0
65 snd=28000: vce=0
70 mhz=3597000: tempo=20
75 bp$="kazoo ": spec$="off"
80DATA    33,117,253,54,0,201
82FOR add=28020 TO 28025
84READ x
86POKE add, x
88NEXT add
100HOME:VTAB 2:HTAB 12:INVERSE:?      "BEEPER":NORMAL
110VTAB 4:HTAB 1:? "Uses Super       Action Controllers,"
115VTAB 5:HTAB 1:? "or standard      paddles."
120VTAB 7:HTAB 1:? "Chg paddle by    SmartKey I&II:"; p
125VTAB 9:HTAB 1:? "Frequency:";
130HTAB 12:INVERSE:? freq:NORMAL
135VTAB 11:HTAB 1:? "Alter frequency by joystick"
137FLASH
140VTAB 12:HTAB 1:? "Press * to      Start"
142NORMAL
145VTAB 13:HTAB 1:? "Press # to       Stop"
147VTAB 14:HTAB 1:? "Press 0 to       change mode :"; bp$
148VTAB 15:HTAB 1:? "Press 9 for      single note mode"
150VTAB 16:HTAB 1:? "Duration Keys:   "
155VTAB 17:HTAB 1:? "Yellow - whole   note (L.Trggr)"
160VTAB 18:HTAB 1:? "Red    - 3 / 4   note (R.Trggr)"
165VTAB 19:HTAB 1:? "Purple - 1 / 2   note ( 1      )"
170VTAB 20:HTAB 1:? "Blue   - 1 / 4   note ( 2      )"
175VTAB 21:HTAB 1:? "Yell+Red 1 / 8   note (L+R TRG)"
180VTAB 22:HTAB 1:? "No Key   1/ 16   note          "
190IF PDL(12)=10 OR PDL(13)=10 THEN  GOSUB 3000:GOTO 200
191IF PEEK(64885)=27 THEN GOTO 9000
195GOTO 190
200REM         get values
210 freq=(PDL(p)+PDL(p+2))*7.60204
215IF freq<30 THEN  freq=30
220 time=2
230IF PDL(p+6)=1 THEN  time=64
240IF PDL(p+8)=1 THEN  time=32
250IF PDL(p+12)=12 THEN  time=16
260IF PDL(p+12)=13 THEN  time=8
270IF PDL(p+6)=1 AND PDL(p+8)=1 THEN time=4
280IF PDL(p+12)=11 THEN GOTO 9000
285IF PDL(p+12)=0 THEN GOSUB 2000
290IF PEEK(64885)=27 THEN GOTO 9000
300IF PEEK(64885)=129 AND p<>0 THEN  GOSUB 1000
310IF PEEK(64885)=130 AND p<>1 THEN  GOSUB 1000
320IF PDL(p+12)=1 THEN  time=16
330IF PDL(p+12)=2 THEN  time=8
335IF PDL(p+12)=9 THEN GOTO 4000
340VTAB 9:HTAB 12:INVERSE:? freq
350 freq=mhz/(32*freq)
355 second=freq/16
360 first=128+vce+(freq-second*16)
365POKE 28006, first:CALL 28000
370POKE 28006, second:CALL 28000
375POKE 28006, 144:CALL 28000
377IF spec$="on" THEN RETURN
380FOR delay=1 TO time*tempo:NEXT    delay
390IF bp$="beeper" THEN POKE 28006,  159:CALL 28000
400GOTO 200
1000REM          change pdl
1010IF p=0 AND PEEK(64885)=130 THEN  p=1:GOTO 1030
1020IF p=1 AND PEEK(64885)=129 THEN  p=0
1030NORMAL
1040VTAB 7:HTAB 29
1050? p
1060VTAB 9:HTAB 12:INVERSE:RETURN
2000REM          change mode
2010IF bp$="beeper" THEN  bp$="kazoo ":GOTO 2030
2020IF bp$="kazoo " THEN              bp$="beeper"
2030NORMAL
2040VTAB 14:HTAB 25:? bp$
2050INVERSE
```

```
2060RETURN
3000REM      start msg
3010NORMAL
3020VTAB 12:HTAB 1:? "Press # to      Start"
3090RETURN
4000REM      single note load
4005POKE 28006, 159
4006CALL 28000
4010VTAB 23:HTAB 1:INVERSE:? "Type      frequency &RETURN,or
ESC"
4020CALL 28020:NORMAL
4030 x$="0": x=0:VTAB 9:HTAB      12:FLASH:? x$:NORMAL
4040 kp=PEEK(64885):IF kp=0 THEN      GOTO 4040
4050 kp$=CHR$(kp):CALL 28020
4060IF kp=13 THEN GOTO 4110
4070IF kp=27 THEN GOTO 4300
4075IF kp=150 THEN  x=0: x$="0":      kp$=""
4080IF kp=151 OR kp=163 OR kp=8 THEN GOSUB 4200
4090 x$=x$+kp$: x=VAL(x$):      x$=STR$(x)
4100HTAB 12:VTAB 9:FLASH:?      x$:NORMAL:GOTO 4040
4110 freq=x
4111IF x=0 THEN GOTO 4300
4115IF freq<30 THEN GOTO 4130
4119 spec$="on"
4120GOSUB 350: spec$="off"
4125FOR delay=1 TO 4000:NEXT delay
4130POKE 28006, 159
4140CALL 28000
4150GOTO 4030
4200REM      delete character
4210 l=LEN(x$): m=l-1
4220 x$=MID$(x$, 1, m)
4230 kp$=""
4240RETURN
4300REM      ret to main menu
4310VTAB 23:HTAB 1:NORMAL:? " "
4320VTAB 9:HTAB 12:INVERSE
4330POKE 28006, 159:CALL 28000
4340GOTO 200
9000REM           exit
9010POKE 28006, 159:CALL 28000
9020POKE 16953, 95
9030POKE 17115, x1:POKE 17126,      x2:POKE 17059, x3:TEXT
9040NORMAL
9999END
```

This is a short little program that you will want to type in before Christmas !

```
1&       XMASCARD
10LOMEM :32000
15POKE 18711, 21:POKE 18607, 5:POKE 18633, 85
20FOR x=0 TO 15
30POKE 18765+x, x:POKE 18781+x, x
40NEXT x
43HOME:VTAB 12:? TAB(4); "Press any key for musical"
45?:? TAB(9); "CHRISTMAS CARD"
47GET k$
50GR
70 xy=0:FOR y=0 TO 31:FOR x=0 TO 39
80COLOR =PEEK(xy+30000):PLOT x, y: xy=xy+1
90NEXT x:NEXT y
100CALL 27407
110? TAB(6); CHR$(34); "AND HAPPY NEW YEAR"; CHR$(34)
120POKE 18711, 240:POKE 18607, 1:POKE 18633, 17
```

SMARTBASIC WORKSHOP

WAMOdriver
(continued)
By W. MOTEL

    As I mentioned last month, we'll discuss the machine language routines used by my parallel port print driver and explain how to use these routines to access the dot matrix print capabilities that have previously been unusable. You may want to reread (or have handy) last months issue to refresh yourself on my article on printer routines under EOS and the WAMOdrive article.
    Basically, I set up 5 machine language routines and reserve a print buffer all within memory locations 10 thru 98. This is an unused area within SmartBASIC V1.0 and V2.0 and also (to the best of my knowledge) unused under Smart-BEST or Intel-BEST basic, therefore, these routines, once loaded, remain permanent while BASIC is loaded and power is on, unless, your own program writes over this area.
    The layout is as follows:
10 - 24 Set EOS jumptable to ADAM printer
25 - 39 Set EOS jumptable to Parallel PORT 64 printer
40 - 56 Print Buffer area (16 bytes for data, 17th for ETX)
57 - 69 A to (HL): CALL PRINT (70-88)
70 - 88 PRINT (to PORT 64) from (HL) pointed buffer area
89   NO-OP
90 - 98 Set HL with buffer addr. (40) and CALL PRINT

    EOS Jumptable area
64611 (FC63) Print (from HL pointed buffer)
64613 (FC66) (A) to buffer, Set (HL), CALL PRINT (above)

Now a little detail:

10 - ADAM jumptable set
   Set FC63 to point to ADAM EOS routine (print (HL) buffer)
   Set FC66 to point to ADAM EOS routine A to (HL)
      CALL 10 will set pointers to ADAM printer
25 - PORT 64 jumptable set
   Set FC63 to my print buffer routine at 70
   Set FC66 to my A to (HL) PORT 64 buffer routine at 57
      CALL 25 will set pointers to my PORT 64 routine
         This is automatically set by WAMOdrive run.
57 - (A) to buffer, set (HL)
   Nothing special,except it uses my buffer area at 40.
The contents of the A register is loaded into address 40,
ETX value 03 is loaded into 41, HL loaded with the address
of 40 (my buffer), and CALL print-buffer routine (at 70).
This prints 1 character at a time. It is simply provided as
a routine needed by existing BASIC code.
70 - Print to PORT 64 from (HL) buffer
   This does the actual printing thru PORT 64 (where your
Dot Matrix printer is attached). It prints from the buffer
pointed to by the value in HL register until the ETX is
reached. The ETX (terminator) value used is hex 03. This is
consistent with ADAM EOS and BASIC code, however, it causes
a problem sometimes. More on this later. For now, within
this routine, the value compared for ETX (in our case 03)
is STORED AT ADDRESS 72. You can write your own   routine
to load HL with the address of your own buffer and CALL
70. The buffer can be as big or small as you want,   just
move in the terminator value as the last character.

90 - LOAD HL with address 40 (my buffer) and CALL print
This is used when you want to specifically POKE into the
buffer area at 40 thru 55 and print from there (56 is
always kept at 03 for default ETX or set by your ETX if
you use all 16 data locations. This is the one routine
that you will use the most in doing some of the special
printer functions. It allows you to send ANY values to
the printer, as they do not go thru BASIC routines that
strip away values.

Example:
   Poke 40,65:Poke 41,66:Poke 42,67:Poke 43,13:Poke 44,3:
   CALL 90
   This will print the values ABC on the printer, which
are the characters for values 65, 66, 67. The 13 is the
carriage return (clear buffer) and the 03 is the ETX.
Notice that you DO NOT PR#1 with this as you are sending it
directly to the printer.
   You can send up to 16 values at a time (don't forget
the ETX) and CALL 90. If you have more than 16 values, you
will have to control it yourself as to when you have passed
all the groups of 16 needed for the line. After all
characters passed for the print line, then you end it with
the 13 C.R.
Example:
   POKE 40,65:POKE 41,3:CALL 90
      (make sure printer ready on)
   nothing prints, however now type in
   POKE 40,66:POKE 41,13:POKE 42,3:CALL 90

AB will print, A sent to the printer from first line, B
from the second, but the 13 dumps the printers "buffer" out
to the paper. This is somewhat equivalent to
   PRINT "A";:PRINT "B"
   As I said, this is needed for many of the printer
commands, such as those that start with the CHR$(27).
   The last thing I want to mention, is what to do when
you need to send the value 03 to the printer, (you can't
use it as the ETX terminator). This is simple enough to do,
you simply "temporarily" change the ETX compare value at
address 72 to some other value (not being passed to the
printer at that time) and then change it back to 03 after
the printer call (remember BASIC stills uses 03 as the
terminator).
Example:
   On the Panasonic, Auto Justification is set by
following
PRINT CHR$(27);"a";CHR$(3);
   The problem is CHR$(3) will not get passed as it will get
treated as the ETX (By BASIC coding). To get it working:
   POKE 40,27:POKE 41,97:POKE 42,3:POKE 43,255:POKE
72,255:CALL 90:POKE 72,3

   40 thru 42 get the 3 values of 27, 97 (a) and 3. 43 gets
my ETX of 255 (I just picked it as it was not used in this
set of values). The ETX compare value in my routine at 72
is ALSO changed to this ETX value of 255 and I CALL 90 (my
routine), after which I reset byte 72 back to ETX compare
value 3.

   Experiment around with this and some of the commands
for your printer. You DO NOT have to do all printing by
POKEs into the buffer area, just those special commands
that would otherwise not work via normal PRINT statements.
You can still use the PRINT command for other printing (you
still need the PR#1 for these).
   When looking at your printer book for the commands,
the LPRINT command is the same as the PRINT. The commands
that end with ; on the print (such as the AUTO JUST.
example) are made into POKEs without the 13 at the end of
the POKE. If the command or normal printing DOES NOT have
this at the end, then you DO INCLUDE the 13 in your string
of values.

      CALL 10 for ADAM printer set
      CALL 25 for Paralle PORT 64 printer set
      POKE into buffer are 40 - 55 and CALL 90 (for doing
      special command/printing)   or
      just do normal BASIC printing or CTRL-P (text screen
      dump)
- -

   For running under SmartBASIC V2.0, to get the ADAM
printer to print   -- line 11 should be changed to read as
follows:

Line 11
229,33,113,246,34,100,252,33,103,246,34,103,252,225,201
Add 124 PRINT " UNDER V2.0 BASIC"
Save it under a different name and use this when running
SmartBASIC V2.0. This change is required because the ADAM
printer drivers are in a different spot in V 2.0.

Investigative Tools
By W. Motel

One thing I wanted to mentioned last month but didn't get a chance to was the use of two resources I found extremely helpful in deciphering BASIC and it's machine language routines. One is a very fine DISASSEMBLER on UTILITY volume 2 called Z80DSMBLR. This is a very nice program that allows you flexibility in decoding mahcine language routines. A hardcopy printout is also available (now works to the dot matrix when my print routine is installed). The other of course is the excellent 2 volumes from Ben and Peter Hinkle, "The HACKERS GUIDE Vol. 1 and 2". Volume 2 was especially a time saver to me in deciphering the BASIC print command processing, which helped me in determining how to best make my print driver compatiable with normal BASIC coding. As I mentioned in my review on Vol 2, the layout is extremely helpful in helping zero in on specific areas of code that help you decide what areas may actually be the ones you need to look at, when deciphering BASIC code. If you do not yet have these books and/or the Disassembler, and are interested in this type of work, I strongly recommend these as an aid to your investigation.

BINARY CONVERSION
by Bob Tarnowski

So, you are concerned that you don't have a disk drive because of the cost or availability. You feel neglected, rejected and sore because you, too, want to be able to load your programs FAST. Well, you can through binary conversion!

When you SAVE your SMARTBasic program ADAM creates a Basic A file. Your program is stored in ASCII form exactly as you wrote it. When the program is LOADed, ADAM must interpret your program, check for errors and convert it to machine code. This process of interpreting takes time that can be eliminated by storing your program in machine code. Programs stored in machine code become BASIC "H" files (NOTE: SMARTWriter files are also H files, but not the same type of H file as Basic machine language) that will load up to 15 times faster than an "A" file. Also, "H" files can be several blocks shorter than their "A" file counterpart further lessening the time it takes to load.

"H" files are created by BSAVEing the program loaded or written into ADAM's memory. To BSAVE the program, however, you must have the address in ADAM's memory where the program begins and the length (in bytes) of the program. There are several fine commercial programs that do this for you automatically like 'TURBOLOAD' and 'Intel-LOAD'. Also, NIAD's Public Domain has a program called 'CRUNCHER' available on Utilities Volume # UNDV2 that will give you the program's address and length plus complete instructions for BSAVEing it.

Additional characteristics of "H" files include:
 * DATA and REM storage space bumps are automatically eliminated.
 * "H" files cannot be read by SmartWRITER because they're in machine code.
 * Once loaded (BRUN), typing LIST will convert the program back to Basic ASCII format.
 * ADAM has a bug which prevents the RECOVERing of "h" files via Basic. POKE 20619,72 in immediate mode to correct this problem.
 * If you get an error message after BRUNning an "H" file, try LISTing the program. It is usually LOADed anyway.

So, you don't have a disk drive; but, you do have one of the greater benefits available to you on DDP. As a matter of fact, your "H" file on DDP will LOAD faster than an "A" file on disk! And, you can store 256K instead of 160K on your tape. If you have many smaller programs, I suggest you get an INITializing program (as found in 'MEDIA-AID') that will enable you to have a 2 block catalog and store over 70 programs on 1 tape. Always remember to make a backup copy and - GOOD PROGRAMMING!

COMMUNICATIONS WORKSHOP

As background for those of you that have asked about this subject, a modem allows you to transmit and receive data over phone lines. The ADAMlink modem is inserted into the inside of the ADAM's console and has a phone wire that comes out and is plugged into a regular phone jack. To operate the modem a software program is provided with the modem that sets up the ADAM to send and receive data over phone lines. A typical scenario would be as follows:

1. Make sure the modem wire is plugged into the phone jack
2. Load the special ADAM Telecommunications digital data pack into the ADAM and press the computer reset
3. Once the program loads it will ask you to enter the phone number of the computer you want to call
4. The ADAM will dial the number electronically
5. Once contact has been made and the modem at the other end "answers" your call, the ADAMLink program tells you that it is "hooked" into the other computer

This may sound complicated but it really isn't, once you get used to it.
The benefits of telecommunications via a computer are severalfold:
. Exchange information with people from across the country. This is accomplished by using "Bulletin Board Systems" (BBS) like Compuserve (explained below). These BBS allow you to post and read messages. Many ADAMites do this on Compuserve by just making a local call in their city. This is a great way to contact many people of like interests for alot cheaper then a long distance phone call.
. Obtain public domain programs (free, non-copywrited). Most BBS have what are called Data Libraries where these programs reside. See the Sept/86 issue for a list of those

that contain ADAM compatible programs. This is an easy way
to obtain and share programs, which benefits all of us.
Note: to upload and download programs, you will need the
updated version of the ADAMlink software (ADAMLink II
Telecommunications) - this is available from NIAD on our PI
libary.
. Use general information database systems such as
Compuserve to obtain information, do "online" shopping and
use discount buying services. CUS has an excellent
discount buying service called Compustore that allows you
to determine prices for named brand items and even order
them via your ADAM. I got my parents a VCR and camera this
way at a real discount over what the retail stores were
charging.

As you can see there are many uses for "telecommunicating"
with your ADAM.
Compuserve is a multi-purpose information service for home
and business computer owners. It offers BBS for many
different types of computers, including the ADAM. It also
has a personal electronic mail system that allows you to
leave messages to others, that no one else can read. There
are also games to play online and extensive information
databases on many subjects, both business and personal.
There is electronic shopping and travel reservation

SMARTFILER WORKSHOP

As mentioned previously, there is a corrected version of
SMARTFiler which will allow you to correctly create a
database of more then 255 records. Most of the versions of
SF contain the number 21, which is the "bugged" version.
The corrected version is 27D. You can determine which
version of SF you have by holding down the CONTROL and R
keys simulataneously after you first load SF. A number
will appear, which is the revision number. The new version
also has a much improved sort routine which significantly
reduces the sorting time. Sorting on the primary index
field for 262 records with the old version took 145
seconds, and only 15 seconds with the new version.
Additionally, and very importantly the new version will
read a "messed up" database of more then 255 records.
created under the old version and correctly resort and
index it !! How's that for a fix ?
Please send your old SMARTFiler and $4.00 and we will
update it to the "27D" version. We will also correct
another bug which prevents the correct printing of mailing
labels. All versions of SF have this bug which does not
evenly space between the labels.

One of the major advantages of a database program is the
capability to search for information in various
combinations. This function makes SMARTFiler more then
just an automated index card system. As we discussed last
month, you need to carefully choose your four search fields
based on your future needs. I highly recommend that you
make one of these an "open" field of 24 characters that you
can modify for future uses that you won't be able to

forsee. This field can be "coded" to provide the
equivalent of several search fields. As an example lets
take the following "coded" search field for our address
database:

[5!7!X!K2]

The first postition indicates the month of the persons
birthday. The second is the month of a couples anniversary
if applicable. The third digit indicates that this person
should be selected when its time to print the Christmas
card list. The fourth position indicates if the family has
children and how many.
As you can see, there is no end to what you can do with
this type of capability.

Lets say our Index screen looks like this:
LAST NAME:
STATE:
ZIP:
CODED SEARCH:
Now, lets set up a sample search for all the people who
have birthdays next month (April). We would go through the
FIND records procedure and enter the following on the line
for our Coded Search field: "4..."
This indicates that all records with a "4" in the first
position of the Coded Search field should be selected and
displayed.
Now, lets say we want to search for all the people who live
in Illinois for the purpose of doing our Christmas card
list. The index screen should look like this:
LAST NAME:
STATE: Illinois
ZIP:
CODED SEARCH: ...X...

Spend some time planning out your own application for
SMARTFiler to meet your particular needs.
I would think that most searching the typical user would
want to do would require multiple characteristics. What I
mean is that you would want to find the Filer records that
contain more then one desired characteristic, e.g. all
record titles by a particular singer AND of a certain type
(jazz, country,etc). This is an example of searching for
common characteristis across different fields within your
record. SMARTFiler also allows you to search for common
characteristics within the same field. Lets say I want to
find all my record titles by EITHER B. Manilow OR N.
Diamond. I could do this either by going through two
search routines or by using the COPY function on the Singer
field and getting it all in one search.
Lets review this concept of the two types of searching
methods. If you want to find a particular Filer record
that contains multiple desired characteristics (B. Manilow
and Jazz) in the same record then you would do the
following:
FILER FIELD NAMES   YOU ENTER
Singer name   B. Manilow
Music type   Jazz
Record title
Year

Hit SEARCH and you will only get those Filer records that contain BOTH of the search characteristics you specified. Now lets say you want to find all record titles sung by either Manilow OR Diamond. You would be asking for characteristics that cross mulitiple Filer Records. Your search screen would look like this (NOTE: you need to hit the COPY LINE Smartkey after you enter Manilow's name):

FILER FIELD NAMES	YOU ENTER
Singer name	B. Manilow
-OR-	
Singer name	N. Diamond
Music type	
Record title	
Year	

We can also use this OR logic within a record to find all record titles sung by Manilow OR that are a Jazz music type.
Lets combine this all together and find all record titles sung by Manilow OR Diamond AND that were released in 1974:

FILER FIELD NAMES	YOU ENTER
Singer name	B. Manilow
-OR-	
Singer name	N. Diamond
Music type	
Record title	
Year	1974

As you can see, there are endless ways to find your records with SMARTFiler.
Make sure you read your SF manual on searching as well.

ADAMCALC WORKSHOP

In discussing AC at our last Chicago local chapter meeting, I found that some of the members who were using AC were not aware of the fact that there are seven model spreadsheets (ones that have already been done) on the data pack that contains AC ! Hence, I thought we should pass this on to everybody.
The way you get to these model spreadsheets is via the old STORE/GET key on the right side of the keyboard. AC has its own directory and you can select which of the spreadsheets you want to load into AC.
Look on page 117 of your excellent AC manual which explains what these models are and gives some great tips on how to use them, modify them for your own use, etc. Here are the models :
. LoanCost - To determine monthly payments, interest rates, length of loan, etc.
. LoanSched - Produces a monthly schedule of principal/ interest payments
. HomeBudget - You can schedule your earnings and expenses by month and by category.
. HomeInv - A model for doing an inventory of household items with replacement cost.

. IRA.Plan - A planning model for determining how much to put in an IRA and what the impact of different interest rates may be.
. Balance - A simple balance sheet.
. BreakEven - To determine the breakeven point for a small business based on costs/income.

These models are completed and ready to run or modify to your needs.
The model spreadsheets on our AC Public Domain volumes ANDV1 and ANDV2 are also pre-done spreadsheets that can be loaded into AC the same way - via the STORE/GET key.

SMARTWRITER TIPS
PRINTING THE CENT SIGN ON ADAM
- D.ZIMMERMAN

The ADAM print wheel contains a cent sign that can be can be printed in both SMARTbasic and SMARTwriter. The printing of the cent sign must be done in a round about fashion because the ADAM keyboard does not have the cent sign on it. It seems that when the ASCII code was developed the cent sign was left out either for space reasons or an oversight. We can only assume that it was included on the ADAM printwheel because some keyboards support it. When the ADAM printer encounters the ASCII number of 27 it will print the cent sign. Because most computers use the ASCII code of 27 as the ESCAPE signal to interrupt normal operation, Coleco probably decided to assign this code to the cent sign and leave the cent key off ADAMs' keyboard.

To have ADAM print the cent sign in SMARTbasic it must be enclosed in quotes. Then ADAM will send ASCII 27 to the printer and print the cent sign. To do this enter: double quote mark, press ESCAPE/WP key ONCE, double quote mark. You will not see any movement on the screen to indicate that the ASCII 27 the ESCAPE/WP sends was accepted by ADAM but IT WAS. After pressing the ESCAPE/WP key once enter the second quote mark even if the screen does not show anything between the two quote marks. The graphic symbol ADAM uses to represent ASCII 27 is the reverse solid triangle that SMARTwriter uses to show a carriage return only with the point pointing to the right instead of the left. The graphic symbol will appear on the screen between the quote marks when the program is LISTED. Try entering this one line program and using the PR#1 command:

    1 PRINT "(ESCAPE/WP)"

LIST it to see the graphic character ADAM uses for ASCII 27. Enter PR#1 and RUN it. Try entering:

    2 PRINT "75(ESCAPE/WP)"

PRINTING THE CENT SIGN IN SMARTWRITER

Because SMARTwriter uses the ESCAPE/WP key to interrupt an action the ASCII 27 symbol must be saved as a SMARTbasic program and then called up with SMARTwriter if the cent sign is to be printed. Under normal conditions the ADAM keyboard will trap the signal sent when the ESCAPE/WP key is pressed and use this signal to interrupt the action and return the user to SMARTwriters' main menu. If we STORE the ASCII 27 symbol between qoute marks in SMARTbasic and then GET the one line basic program under SMARTwriter we can then MOVE or COPY this graphic symbol to where we want the cent sign to appear on the printed page. The first step is to STORE the following one line program under SMARTbasic. NOTE there is one space added after pressing the ESCAPE/WP key. This extra space will be required when MOVing or COPYing the symbol into the text. This must be done because the HI-LITE begin and end operation can not MOVE/COPY only one character.

```
1 PRINT "(ESCPE/WP)(SPACE)"
```

STORE this under the name CENT and use it whenever the cent sign is to be used. Boot SMARTwriter and GET the one line program. What will appear at the top of the screen will look like this (with solid diamonds): 1 ?"> "<. The text will then be typed in or you can GET a previously written file. The symbol for ASCII 27 that appears at the top of the screen will be COPYied into the text below it where the cent sign is wanted. Because of the extra space required when entering ASCII as a program the user will have to backspace out an extra space or two after COPYing the symbol.

1. After the entire text is done. Hit MOVE/COPY.
2. Hit SK VI- COPY
3. Move cursor under the ASCII 27 symbol and hit SK IV- HI-LITE FIRST.
4. Move cursor under the space we added after the ASCII 27 symbol. Hit SK V- HI-LITE LAST.
5. Move the cursor to the right of the number where the cent sign is desired.
6. Press SK V- COPY.
7. Press SK VI- DONE.
8. Place the cursor under the ASCII 27 sign and BACKSPACE once to remove the extra space. You may notice the point of the ASCII 27 symbol may be partly be erased. Does not affect it.
9. Repeat the above procedure to place the cent sign where wanted in the text.
10. HI-LITE and DELETE the one line program when finished COPYing all the "cent" signs. You may have to play a bit with a short text file first to get the hang of it and to know how to get the spacing right but it is not too hard.

GRAPHIXPAINTER

By L. Marschand

Computer graphics are an intriguing subject. There is something challenging about generating graphics, especially in color via a computer. This whole field is a growing one and computers manufactured just for graphics work are available at a cost of $25,000, with the software required to do complex design work. Doing graphics on a TV or monitor is really neat and there are some nice ones available for the ADAM. We have published some mathematics programs that draw various shapes/designs. There are several public domain low and high res graphics drawing programs available also. Paintmaster (C) by Strategic Software (reviewed in the February/86 issue) is the premiere color graphics design program. I just noticed that we left Paintmaster out of the review summary published in the Sept/86 issue, which is unfortunate. Briefly, PM is probably the most sophisticated third party piece of software for the ADAM. It is patterned after the famous MACPaint drawing program and includes all the same features. Graphic icons are used to select the various drawing options. There are 20 different size/shapes of brushes used to draw with and you can select the distance between brush strokes as well. The color of both the brush strokes and background can be selected/changed. There are built in functions for drawing lines, circles, trianges and polygons ! This is all done in high resolution graphics mode. Text can also be entered on the screen and you can copy a design from one part of the screen to the other. As you can see this is a comprehensive program. You can of course save and load pictures to/from tape or disk. Four pre-drawn pictures are included. The car below is shown on the graphics design screen to give you an idea of PM's capabilities.

COMPLEX GRAPHIC DESIGN
MADE SIMPLE WITH
PAINTMASTER
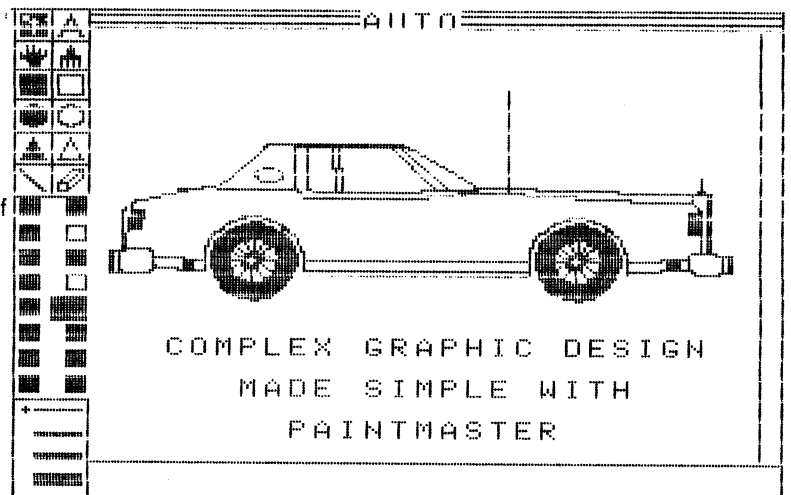
We rated PM an A++.

Now, back to Graphixpainter (C). PM and the various graphics programs are nice, but up until NOW they could not be printed. You couldn't take your masterpieces and show your friends at school or work. Graphixpainter solves that problem !! Wayne Motel has done a superior job in producing the only ADAM graphics utility package for dot matrix printers. Dot matrix printers not only have the advantage of speed over daisy wheel printers, like the ADAM printer, but they can print graphics via software that can control the firing of the individual pins that they use to print the various characters. Graphixpainter allows the printing of ADAM SMARTBasic generated graphics on most popular dot matrix printers attached to the ADAM via either the Eve

SP-1 or SP-1P or the Orphanware PIA2 parallel printer hardware interface. Here are the major functions of Graphixpainter:

. Full support for SMARTBasic GR, HGR and HGR2 screens
. Print directly from the image on your TV or monitor
. Save and retrieve pictures
. Landscape and portrait printing options (horizontal or vertical printing of the picture).
. Prints in two sizes - 2 3/4 by 4 1/4 or 5 by 8 inches.
. Inverse print option provided
. Includes SMARTNBasic printer drivers that allow you to pass graphics commands directly to your printer (Eve and Orphanware drivers do not support the required graphic commands).
. Full support for printing high resolution pictures pictures created using Paintmaster (C) from Strategic Software.

Seeing is the best review for this product. All the pictures/designs printed in this issue were done with Graphixpainter.

Most popular printers are supported because Wayne is using a "standard" graphics command (Escape K N1 N2) mode that most dot matrix printers that we have looked at support. There may be some differences in the line spacing commands used so if you order GP make sure you specify which printer you have. Currently we know that Graphixpainter will work on all the Panasonic printers, Epson, Star and Okimate 20 printers. Basically, any printer that is advertised as Epson compatible should work without a hitch.

Graphixpainter can be adapted in the future to work with other, non Epson compatible printers if there is a demand for it.

GP will be available by the time you get the newsletter afterwhich Wayne will work on adapting it for COLOR printing of HI res graphics screens via the Okimate 20 printer !!

RATING - A++

CREATE EFFECTIVE BUSINESS PRESENTATIONS
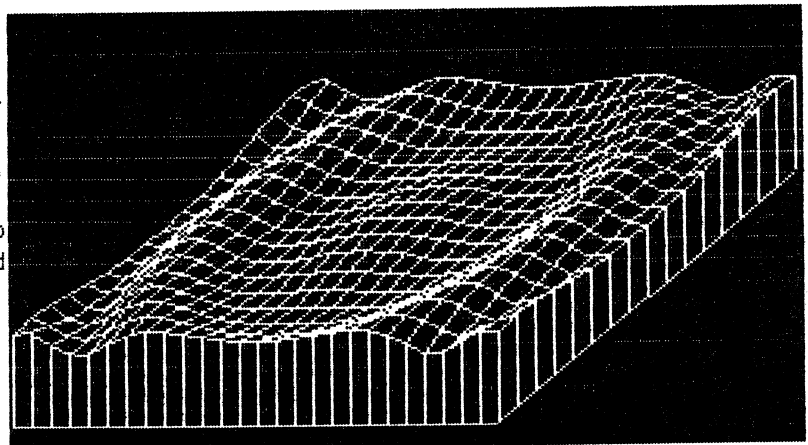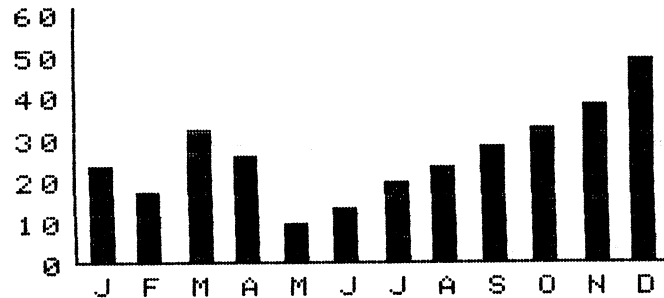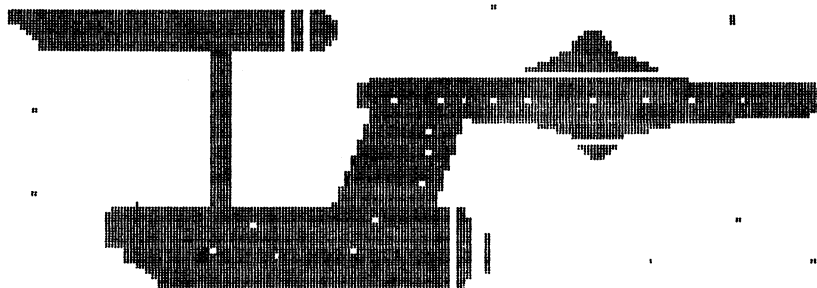

Gilbert James Everett

Age: 46
Born: June 26,1939
Hamiliton, OH
Height: 5'7"
Weight: 185 lbs
Build: Husky
Race: White
Eyes: Brown
Hair: Brown, streaked with gray, curly and wiry in texture
Complexion: Medium
Nationality: Amer.

2" scar on rt. wrist;
tattoos: red rose on outer rt. mid. forearm
Indian head, left arm.
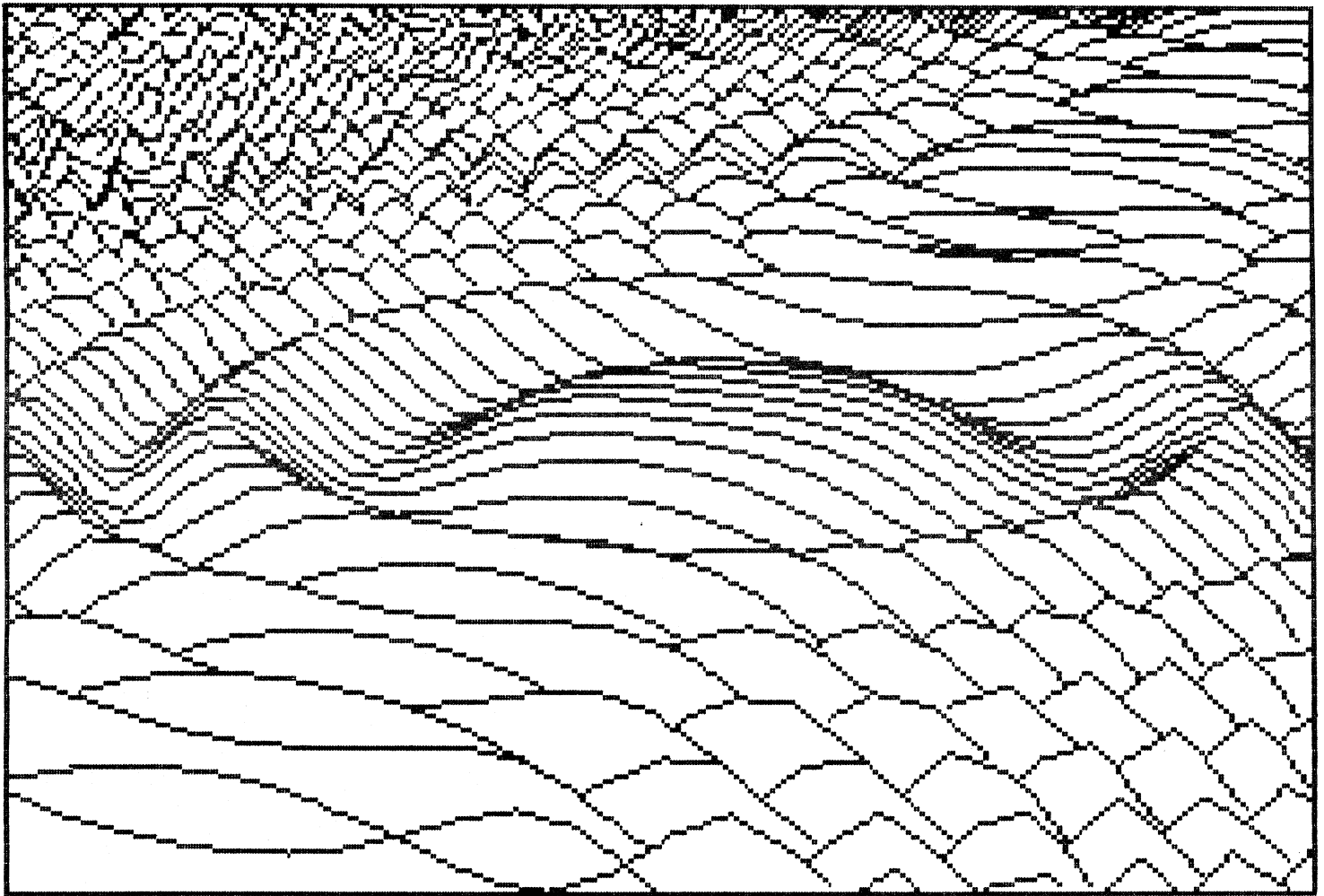
GRAPHIXPAINTER

.WITH .PAINTMASTER

THE SKYS THE LIMIT

ORPHANWARE'S 80 COLUMN VIDEO CARD
By D. Zimmerman

ORPHANWARE, PO BOX 324, Canal Fulton, OH 44614, Tel. (216) 882 - 4720 has finished and is shipping their version of a 80 column card for ADAM. The price is a reasonable $210 plus $9.00 for shipping for a standalone unit and $190 if you already have a serial interface attached to your ADAM. I was in for a pleasant surprise when I opened the 80 column package. The two multi-layered circuit boards are enclosed in an attractive plastic case that measures 2 X 7 X 10 inches. The first board is 7 X 11, and contains it's own Z-80 processing chip, 30 other chips, and three DIP switches. The second smaller board contains the 50 edge card connector and 7 more electronic chips. A 50 conductor ribbon cable (included) connects the 80 column box to the large right hand slot on ADAM. A software 80 column booting disk, an external power supply and monitor cable rounds out the package.

WARRANTY: 90 Days parts and labor. Hot line for problems. $45 maximum repair charges after 90 day warranty.

OPERATION: Read the manual. Unplug ADAM. Plug the 80 CVU unit into the side of ADAM. Plug in the power supply. Plug in the monitor cable. Boot CPM. Type in "80" <CR> and "10" <CR> and off you go. There are MANY different options that can be selected from the menus and DIP switch settings but a simple "10" and a carriage return is enough to use it until you may want to play with it's MANY features. A green "RUN" light on the face of the unit informs the user that the 80 CVU is in operation. The clarity of 80 columns on my very old cheap monitor is very good. I have yet to find a CPM program that will not work on it.

DOCUMENTATION: The 20 page preliminary documentation manual (is updated now) contains installation, operation, trouble shooting, diagrams, and an excellent technical Theory of Operation section that the hacker type will certainly enjoy.

FEATURES: Five I/O assignments and four serial parameters can be set via the main menu of the 80.COM boot program. The I/O byte options are: CONSOLE, READER, PUNCH, LIST, and KEYBOARD. Orphanware allows either the ADAM or IBM style keyboard to be used with the 80 CVU. The SERIAL PARAMETER options are: BAUD, PARITY, DATA BITS, and STOP BITS. Each option is selected by pressing it's number and a second menu appears that allows the wanted setting to be activated by pressing one more key. For example the pressing of the "10" - The "1" pulled down the CONSOL menu and the "0" changed the default CRT to the TTY which is the 80 column port. The flexability of the combinations that can be obtained via the software and DIP switch settings are amazing.

The 80 CVU is defaulted to emulate the ADM-3 terminal but by changing two of the contacts on DIP switch 2 the 80 CVU will emulate the ADDS, BEEHIVE, and the HEATH H-19

terminals. The telecommunications people will like this. The baud rate boots at 19.2 Kbaud which probably will make the screen too fast for most users but can be slowed down to any of 16 different speeds via DIP switch 2 and the main menu. BE SURE to have DIP switch 2 set to the speed you want BEFORE selecting that speed via the main menu. DIP switch 1 controls the polarity of the syncs, vidio, keyboard, selects the type of keyboard, resets the 80 CVU, and turns the sound on and off. Besides the 16 different screen speeds, DIP switch 2 changes parity, protocol, and auto line feed. In addition to selecting the four different terminal emulations, DIP switch 3 allows the selection of eight different number of rows and columns per screen, wrap, local/line, and duplex.

The setup I use sends the video to the 80CVU (vrs the television), sets the LIST device to the dot matrix printer (vrs ADAM printer), and sets the baud to 1200 (vrs the VERY fast 19.2K). The six numbers required to set the 80 CVU to these settings are: 104367.
"10" to send the video to the card, "43" to select the dot matrix, and "67" to slow the baud rate down to 1200B. May seem a bit complicated at first. Boot CPM, type in "80" <CR>, type in "104367" <CR>. There is a MUCH easier way to do it. Configure a CPM disk to automatically boot the 80.COM program with the public domain program AUTOBOOT.COM. Use CPM's CONFIG.COM to configure one of ADAMs SMARTKEYS to contain the macro "104367 <CR>". Once this is done all that is required to boot the 80 columns is to insert the CPM disk, pull the reset, and hit the SMARTKEY. Those who do not have AUTOBOOT.COM need only to configure one SMARTKEY to contain "80 <CR>" and another SMARTKEY to contain "104367 <CR>" (or whatever other options YOU want). This second method is just as easy. Boot CPM, hit SK one, and then hit the second SMARTKEY.

I have OrphanWares 64K expander, PIA2 parallel interface, and now their 80 CVU 80 column board and I can say without any hesitation that OrphanWare's materials work as advertised and are of excellent quality!! When I was a bit confused on how to configure my off-brand printer, OrphanWare's hardware and software developers spent time on the phone helping me. When lighting destroyed most of my equipment when I so foolishly kept working during a storm OrphanWare repaired it at a VERY reasonable cost. Two disk drives that could not format without errors are now as good as new thanks to OrphanWare. What a pleasure to watch a screen that does not flop from side to side. The ADAM has matured to a point where even the harshest critics now take notice of it's capabilities. The OrphanWare 80 column board rates tops in my book as well as their prices, other materials, and backup help.

RATING: A++

SEGA ULTIMATE GAME SYSTEM
UPDATE

We are getting a number of requests for more information on the Sega so you must be interested.

The Base Game system comes with the power unit, 2 hand controllers and a double game cartridge - Hang On, which is a popular motorcycle racing game and Astro Warriors which is a fantastic space shoot em up game. Astro Warriors actually is a combination of a number of other popular games all in one. The graphics are superb and if you are successful in getting past a number of waves of attacking ships you are faced with the impossible task of defeating the mother ship. This game is very challenging and offers hours of fun. It has many varied features that make it a long lasting game. The kids constantly play this one.

The Master Game system comes with the same equipment as the Base system with the addition of a Phaser Light gun that can be used with a series of games coming out. The game Safari Hunt is included with the Master System (instead of Astro Warrior). In this game you are a game hunter, using your Phaser gun to zap a wide variety of creatures - ducks, rabbits, frogs on the first level, bears, owls, spiders, panthers on the next two levels which, of course, get progressively harder. These home shooting games are a new item and offer a wider appeal then just using hand controllers. By varying the distance you stand from the TV you can make the game more difficult. In fact, you need to be a pretty good shot at the higher levels to remain in the game. There is a Marksman/ Trap Shooting game coming out soon that will also use the Phaser gun.

World Gran Prix is a great racing game. You are the driver on one of 12 different Gran Prix courses, each with different scenery. You must beat the current course record to proceed in the game ! This is a very difficult game - you must not only negotiate high speed corners, but avoid the other cars on the track. You have a 2 speed GP race car and can brake as well as accelerate. The graphics and sound are great and you really get into the game. Once you beat the current record for a course you go to the next one on the circuit and gain some points which can be used to purchase new brakes, handling, etc. Another unique feature is the ability to design your own course and then race on it. If you liked Pole Position at the arcade, this is for you.

F16 Fighting Falcon is a flight simulation game - specifically, a dogfight between you in a F-16 and some MIG-25 enemy aircraft. You must manuever your F16 into range and then using either missles or your 20MM guns shoot down the MIGs. The MIGS have missles as well and they can do the same to you. You are looking out your cockpit window and have "look down" radar and various guages at your disposal to guide you. You can use an autopilot or go manual, don't forget to eject if your plane is hit ! We just got this one in, but my son says it is a winner.

Fantasy Zone just arrived. It is a WILD game, with strange colors and music ! You must design a ship and then take off through various worlds to shoot the bad guys. There are many different challenges ahead in this very different game. As you shoot out various other ships/bases you collect coins that are used to buy more advanced weapons and engines for your ship. This truly different game, also offers a wide variety and will be one you will continue to play.

New games coming soon include Action Fighter (something like Spy Hunter), Black Belt, All-Star Wrestling, My Hero and Teddy Boy.

MEMBERS QUESTIONS, ETC.

. Contact Harold Shaw at (317) 271-5873 for local meetings held in Indianapolis, IN the first Wednesday of each month.

. I have had several inquiries about ADAMLand's products. Buck Rogers, the person who runs ADAMLand, which publishes a newsletter and sells hardware has been advertising a number of unique ADAM products. I have done some research and do not know of anyone who actually received the 3 1/2 " disk drives, the expanded memory boards or the IBM emulator system he advertises. Draw your own conclusions. If anyone can give me more specific information I would like to see it.

. I really enjoy your newsletter! I have learned so much from it. I am getting more usable information from it then any of ht ethree computer magazines I get. I love the chess game on the CP/M public domain tape. I have two ADAMs at home and one at the office; I got one for our Church and one for our local 700 Club office and helped a friend get one set up for another ministry here in town. I really like the SMARTWriter that comes withe the ADAM. In fact, I have written an entire book manuscript (170 pages with 150 footnotes) with it. I am looking for an upgraded word processor. Multiwrite provides right justification, variable line spacing and margins but it does not support super/ subscripting.

I use Wordstar at work and have been considering buying it for my ADAM. Then I saw your reviews on the Eve 80 column interface, which includes a word processing program like Wordstar for almost the same price as Wordstar alone. However, does it support super/sub scripting ?
- B. Sandlin

Thanks for the comments and support of NIAD. Yes, the WP program supports Super/sub scripting but only for dot matrix printers, not the ADAM printer. If you are serious about using the ADAM for writing yo may want to consider buying a reasonably priced printer, most of which provide super/sub script has a hardware option.

. In talking to a teacher at Purdue I learned that their computer hasn't been turned off in 6 years. He said it is better for a computer to be left on rather then being constantly turned on and off, one of the reasons being the heat keeps the moisture out of the components.
- L. Taylor

Yes, your teacher is correct. However, it is not practical to leave a home computer on all the time, unless it is equipped with a fan to keep the heat out of the system and quality surge protectors that can withstand lightning strikes. I recommend you not leave your ADAM on all the time.

HARDWARE & ACCESSORIES

NOTE: SEE SPECIALS ON NEXT PAGE AS WELL

DOUBLE SIDED DISK DRIVE UPGRADE $ 139.95
Send in your Coleco disk drive to be upgraded to 320K (270K
in CP/M 2.2) capacity. Send in your complete drive with
cables. If your drive requires repair you will be charged
$39.95 plus parts.
NOTE: Due to a limitation of CP/M you can not mix single
and double sided drives while using CP/M.

ADAM LINK MODEM 7818 $ 69.95
ADAM phone modem which provides capability, with included
software, to interface with other ADAM computers or large
bulletin board systems such as Compuserve. Includes coupon
for receiving advanced communications software for uploading
and downloading of programs.

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

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

EVE RS232/PARALLEL INTERFACE SP-1 $139.95
Allows the connection of the ADAM to any popular printer and
other devices requiring either serial or parallel interface
connections. Includes software for directing print to
additional printers directly from SMARTWriter, SMARFiler,
BASIC, CPM programs.
Includes EITHER parallel or serial cable - specify
which one desired.

EVE SP-1 PARALLEL INTERFACE ONLY $ 79.95
(Includes parallel cable)

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

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

SPEECH SYNTHESIZER/CLK CAL SS-CC $109.95
Output voice speech and words via Basic and CPM programs.
Includes software to construct words. Real time clock
calendar provides continuous date and time accessible from
Basic and CPM.

EVE 80-COLUMN VIDEO/MOTHER BOARD VD-MB
                With Power Supply$329.95
                W/O Power supply $309.95
            With trade in of PS-1 $299.95
Provides 80-column video output from the ADAM to a
monochrome 80-column monitor. Also includes separate power
supply & expansion slots for attaching other EVE products.
Expands ADAMS capability for CP/M SOFTWARE ONLY requiring
80-column display.
** Includes Word Processing and Basic software programs **

EVE MON-80 $329.95
80 Column video board and monochrome monitor assembly.
Includes cable to attach to inside of ADAM console.
Does NOT include independent power supply or motherboard
** Includes Word Processing and Basic software programs **

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

EVE POWER SUPPLY FOR ADAM PS-1A $ 79.95

EVE MULTI-UNIT ADAPTER   MA-3 $ 44.95
Special adapter cable required to attach both the SP-1 and
SS-CC to the ADAM. NOTE: Not required for 80-column video
board.

CARD EDGE ADAPTER CEA-1 $ 24.95
For attaching ADAM Autodialer to MA-3 cable.

ADAM PRINTER TRACTOR FEED $ 72.95
Hooks unto the ADAM printer as originally designed to
provide for feeding of pin-fed continuous form paper.
Provides consistent alignment and advancing of paper. All
metal design - guaranteed.

PRINTER STAND/ON/OFF SWITCH $ 15.95
Provides raised legs for the ADAM printer and relocates the
on/off switch to the front of the printer for easier access
when loading paper.

MONITOR CABLE   7830 $ 9.95
Required to hook complete ADAM console to a video monitor.
Supports both picture and sound signals.

EXPANSION MOD MONITOR KIT $ 29.95
Kit to modify colecovision unit to allow it to be connected
to a monitor via 7830 cable above. Requires soldering
skill - see review in 2/85 issue.

ADAM REPLACEMENT RIBBONS   7806 $ 4.95

ADAM DUST COVERS
3 pieces for complete ADAM system $ 18.95
      Disk Drive Only Cover $ 8.95
3 pieces for ADAM Colecovision
Expansion Unit $ 23.95

PRINTER WHEELS $ 5.55
Replacement printer wheels for the ADAM printer - Gothic 12
/Script 12 /Elite 12 /Emphasis /Courier 72/Pica. Specify
font desired.

TAPE DRIVE HEAD CLEANING KITS $ .50

COLECO/LORAN DATA PKS $ 4.75 @
                             10 for $ 39.95

NIAD/LORAN DATA PKS $ 4.25 @
                             10 for $ 34.95

NIAD UNFORMATTED DISKS - DS/DD 1-9 $1.50 @
                         10 or more$ .99 @
                         50 or more$ .85 @

PRICES EFFECTIVE 11/1/86

SOFTWARE
(DDP unless noted)

SMART LOGO	7600	$ 29.95	SPECIAL
EXPERTYPE	7602	$ 19.95	SPECIAL
SMART FILER	7813	$ 15.95	
RECIPE FILER	7814	$ 10.95	SPECIAL
SMART LTRS/FORMS	7805	$ 15.95	
FLASHCARD MAKER	7662	$ 15.95	
FLASHFACTS (TRIVIA 2902,			
HISTORY 2901,VOCAB 2900)		$ 11.95	EACH
CP/M 2.2	7832	$ 39.95	
ADAMCALC	7831	$ 29.95	
R. SCARRY WORDBOOK	7658	$ 20.95	
WACKY WORD GAME	7834	$ 15.95	
DONKEY KONG		$ 19.95	
DONKEY KONG JR.		$ 19.95	
SUPER ZAAXON	2632	$ 12.95	SPECIAL
2010: TEXT ADVENTURE	7849	$ 20.95	
FAMILY FEUD	7710	$ 20.95	
BEST OF BRODERBUND		$ 20.95	

OTHER SOFTWARE
Specify DDP or DISK

VIDEOTUNES	(DDP)	$ 26.95	
FANTASY GAMER	(DDP)	$ 22.95	SPECIAL
BASIC BONANZA		$ 22.95	SPECIAL
SOFTPACK I		$ 18.95	
LVAC ARCHIVE I		$ 9.95	SPECIAL
REEDY SOFTWARE LIB		$ 15.95	
QUICKFAX QUEST		$ 22.95	
PERSONAL ACCOUNTANT		$ 19.95	
STRATEGY STRAINER I		$ 19.95	
BUSINESS PACK		$ 18.95	
PAINTMASTER		$ 22.95	
TURBOLOAD		$ 26.95	
POWERPRINT		$ 22.95	
SIGNSHOP		$ 22.95	
QUICKCOPY		$ 15.95	
MULTIWRITE		$ 36.95	
MEDIA AID		$ 19.95	
ELECTRIC GAME PACK	(DISK)	$ 17.95	
	(DDP)	$ 19.95	
NUMBER BUMPER		$ 15.95	SPECIAL
REEDY	(DISK)	$ 15.95	NEW
ENTERTAINMENT PACK	(DDP)	$ 17.95	
JEOPARDY QUESTION PACK		$ 19.95	NEW
FAMILY FEUD QUESTION PACK		$ 19.95	NEW
TRIVIA PACK I	(DISK)	$ 14.95	NEW
	(DDP)	$ 16.95	
KIDS TRIVIA	(DISK)	$ 14.95	NEW
	(DDP)	$ 16.95	
PRO FOOTBALL		$ 18.95	NEW
BACKUP 3.0 (COPY ONLY)		$ 16.95	NEW
BACKUP +3.0 (COPY/UTILITY)		$ 29.95	NEW
SMARTGAMES PACK	(DISK)	$ 9.95	
	(DDP)	$ 11.95	
ROYAL AMBS. EDUC PCK	(DISK)	$ 9.95	SPECIAL
(Christian pgms)	(DDP)	$ 11.95	
CPM NEVADA BASIC		$ 39.95	
SP-1 CUSTOM SOFTWARE for		$ 20.00	
Smartwriter/Filer (Specify printer)			
GRAPHIXPAINTER		$ 19.95	NEW

CARTRIDGE SOFTWARE
Colecovsion/Adam

SMURF PAINT/PLAY	2697	$ 18.95	
SUESS FIXUP PUZZLE	2699	$ 18.95	
MONKEY ACADEMY	2694	$ 18.95	
T.TURTLE LOGO/GRPHICS	2698	$ 18.95	
DUKES OF HAZZARD		$ 18.95	
ROCKY BOXING (S.A.)		$ 18.95	
CABBAGE PATCH PIC SHOW		$ 18.95	
SPYHUNTER		$ 24.95	

CP/M 2.2 COMML SOFTWARE
INFOCOM PRODUCTS
Requires ADAM CP/M software
* DISK only*

PLANETFALL	$ 34.95
ZORK I	$ 34.95
ZORK II	$ 39.95
ZORK III	$ 39.95
STARCROSS	$ 39.95
DEADLINE	$ 39.95
HITCHHIKERS GUIDE	$ 34.95 NEW

NIAD USER GROUP PRODUCTS
P U B L I C   D O M A I N

PLEASE   *Specify VOLUME # and DISK/DDP*
NOTE: *COST per VOLUME:*
         $ 7.00 DISK - $ 5.00 DDP

SMARTBASIC # 1 - 17	(17 Different)	
# BNDV1 - 17 (Vol numbers)		
SMARTLOGO # 1 - 2	(2 Volumes)	
# LNDV1 - 2		
ADAMCALC # 1 - 2	(2 Volumes)	
# ANDV1 - 2		
BASIC UTILITIES # 1 - 2 (2 Volumes)		
# UNDV1 - 2		
(Vol 1 includes backup utility)		
CPM2.2 # 1 - 21	(21 Volumes)	
# CNDV1 - 21		

JEOPARDY
PINBALL/HARDHAT MACK
  New BUG FREE vers with 2 DEMO games
  Add $ 2.00 for 40 page manual
PINBALL GAMES VOL 1
  Requires Pinball/Hardhat Mack
SUPER SUBROC
TROLLS TALE
ADAM DIAGNOSTIC
  Requires 64K expander
ADAMLINK II TELECOMMUNICATIONS
SMARTBASIC REPLACEMENT DDP
SMARTBASIC V2.0 with Doc. file

NIAD   SPECIALS

SUPERACTION CONTROLLERS	2491	$ 49.95	
EXPANSION MODULE 1 (Atari	2405)	$ 44.95	
EXPANSION MODULE 2 (Driver	2413)	$ 49.95	
ORPHANWARE PIA2 PARALLEL INTERFACE			
& PANASONIC 1080I PRINTER W/CABLE		$ 309.95	
RECOND DIG DATA DRV (30 day guar)		$ 19.95	
NEW ADAM (tan) HAND CNTL'S 2 for		$ 10.00	
NEW ADAM KEYBOARDS		$ 9.95	
ADAMNET CABLES for KEYBOARD/DISK		$ 2.95	
3 1/2 x 15/16 PIN FEED ADDR. LBLS		$ 6.95/1000	
9 1/2 x 11 20 Lb PIN FEED PAPER		$ 9.95/ 500	
		$ 16.95/1000	
JANES'S RECIPES 25 recipes/vol		$ 5.00	

(*Specify DISK or DDP and VOLUME*
V1 Deserts, V2 Salad, V3 Outdoor, V4 Holiday)

SUPER GAME CONVERSION to DISK	$ 4.00 EACH

NOTE: You must send label card from game as
proof of purch: Family Feud, Best of Broderbund
can be copied directly by most copy programs

SMARTFILER COPY WITH LATEST VERS.	$ 4.00

Includes Label Print Fix
Send in your Filer Disk/DDP

BACK ISSUES of NIAD from 1/85	$ 3.00 EACH
10 or more	$ 2.50 EACH
RIGHT DIR TAPES for SUPERGAME COPY	$ 2.50 EACH

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