Hello, and happy Labor Day !!
Boy, I don't know about you but the
summer is going fast ! Continuing our study of
Ephesians Chapter 5...
[11] Take no part in the unfruitful works of darkness,
but instead expose them. [12] For it is a shame even to
speak of the things that they do in secret; [13] but when
anything is exposed by the light it becomes visible, for
anything that becomes visible is light. [14] Therefore it
is said,
"Awake, O sleeper, and arise from
   the dead,
and Christ shall give you light."
[15] Look carefully then how you walk, not as unwise men
but as wise, [16]making the most of the time, because the
days are evil . [17] Therefore do not be foolish, but
understand what the will of the Lord is. [18] And do not
get drunk with wine, for that is debauchery; but be filled
with the Spirit, [19] addressing one another in psalms
and hymns and spiritual songs, singing and making melody to
the Lord with all your heart, [20] always and for
everything giving thanks in the name of our Lord Jesus
Christ to God the Father.
Paul is continuing to give some practical instructions to
the Church at Ephesus. He makes an interesting analogy
between darkness/light and evil/God that I think needs some
study. References to God and light are found throughout
the Bible. The Gospel of John states that Jesus is the
light to men which gives us life. The book of Acts relates
the story of the conversion of Paul and that Jesus appeared
to him as a "blinding light". The book of Revelations
states that heaven is full of the light of God. God
created light on the first day, etc. If you remember
studying light in school, it is very interesting. Light is
a form of energy that travels at a consistent 186,000 miles
a second and never wears out !!! The light from distant
stars and galaxies is observable everyday, even though it
may have been emitted a billion years ago. The light from
the sun literally runs our world and enables life to exist
on earth. One tiny candle can be seen in a large room,
otherwise dark. Light literally pierces and eliminates
darkness. Paul states that light exposes things done in
the dark. The Bible is God's word that reveals sin in our
lives. The very nature of God is light. Just as God and

•sin can not coexist, light and darkness can not coexist -
light always drives out darkness. Scientifically, darkness
is defined as the absence of light. In other words,
darkness is nothing itself, only the absence of light.
Living apart from God (which is sin) is to live in darkness
because God is the one who brings light and life into man.
Verses 15-17 state that we should be wise, not foolish by
understanding what the will of the Lord is. This is a
KEY truth that can make the difference in one living a
happy and successful life. If we rely on our own
intelligence and wisdom and not God's we can end up in BIG
trouble. How many times have you said "If I had only
known.." when something goes awry, well, God did know and
you could have found out from him! My wife Julie and I
are doing a study in the Bible specifically about knowing
God's will for us. Matthew says that God is the sheperd,
we are the sheep and the sheep know the sheperds voice and
only follow his directions. God is our father and he wants
to help us just as we want to help our children not make
mistakes that will hurt them. God loves us more then we
could imagine and is always trying to help us by giving
much needed direction. All we have to do is spend the time
to listen for this direction.
Won't you step out and accept Jesus' love for you ?

God Bless you all.

INDEX

CONTRIBUTORS: W. Motel; C. Kolander; B. Lennes; D.
Zimmerman

NIAD - A CHRISTIAN RUN BUSINESS

. Our "new" front page is the result of a friend doing our Logo on a Xerox laser printer. Hope you like it !

. Progress is being made on the updates to the Review Summary. I think you will be pleased with the information provided which will help you make intelligent decisions on your software purchases.

. A class action suit has evidently been filed on behalf of all ADAM owners by an Ohio ADAMite. I don't know the specifics of the suit but it evidently has something to do with the fact that Coleco has resisted releasing many ADAM and Colecovision titles that were completed.

. New ADAMs are still selling strong and rumor has it that there-are still 1000's in the wharehouses of the retailers who purchased them from Coleco. Look for even lower prices this Christmas !!

. Ben and Peter Hinkle have again performed a great service for the ADAM community with the release of their "Hacker's Guide to ADAM - Volume II". See our reviews in this issue. I'm pleased to start carrying both Volume I and Volume II of the Hacker's Guide on our product list.

. See our Game Hints for some great tips on 2010: Text Adventure that many of you have been asking for.

. Utilities Vol 2 is a great addition to our Public Domain library - see this months PD Workshop.

. Jeopardy Question Pack has gotten mixed reactions, although most feedback is positive. Some of you have expressed that you feel the questions are too difficult and it is not as forgiving as the basic game as far as misspelled answers. Additional feedback is requested to help evaluate whether changes should be made. I have played the game, although not all the way through, and have had no problems. It is a great addition to on of the best computer games around. Walter's software is now working on a Family Feud Question pack, as an add on to this great game.

. Signshop is one of our top sellers. Thanks to Bruce Crocker, here are three corrections that need to be made to fix program bugs:
1437 INPUT pw:INPUT ph
 1432 ? CHR$(4);"open "+fi$+dn$
 1445 ? CHR$(4); "close "+fi$+dn$
 To make these changes, load the program SS.OBJ, enter the lines EXACTLY as above, hitting the return key after each line entered. Make sure you have a backup of your data pack before you attempt this fix.
We are still working on the enhancement to Signshop to allow use of dot matrix printers. It looks like we will

may have to make a modification to SMARTBasic to allow some of the printer codes to pass through.

. ADAMCalc is a great program. Glenn Benham provides the following information on how to use parallel printer interfaces, connected to dot matrix printers to print spreadsheets (the software provided with these parallel interfaces works on all ADAM programs, except ADAMCalc).
Save your spreadsheet file in the normal way, save it again using the "SAVE VALUES" option. You may then call your file up via SMARTWriter and print the sheet that way. However, the spreadsheet, or portion of the spreadsheet can not be more then 78 characters across.

. ADAM BBS are growing in number. I will have a list of all known BBS in next months issue. See a couple new ones in the Updates section.

. Modems have arrived in quantity - thank God ! All orders have been filled.

. Disk drives - the last of the Coleco drives have arrived and been shipped, there will be no more. Eve is still having problems obtaining some of the electronic components required for their new drives. Due to price increases on some of the components, Eve has increased the projected price of the single sided drive about $ 60.00. Letters have sent to all of you that have already orderd this drive. The price on the double sided drive will only go up slightly.

. Spyhunter is one of the best games for the ADAM, but has been very hard to find. We have just purchased a large quantity and added it back on our product list.

. New keyboards have also been added to the product list for a great price. The complete keyboard, without a cable is included.

. Donkey Kong and Jr. are now back on the Product list as well.

. ADAMNET cables are now available from NIAD. These cables are used to connect the keyboard or the disk drive to the main console.

. Chicago Local Chapter meetings are held the first Thursday of each month at the Glenside Library, 25 East Fullerton in Glendale Hts, IL.
Our August meeting was again well attended with many of you getting your questions answered and seeing demos of software. These meetings are an excellent way to meet ohter ADAMites and share information, common problems, etc. Come to our September meeting.

. Renewals - Get your renewals in early enough to
insure you don't miss any issues. If "0886" are the first
4 letters of your your member number, this is your last
issue.

NIAD product information -
SPECIALS

. New ADAM Keyboards - $9.95
. ADAMNET 6 ft. flat cables for keyboard/disk drive $2.95
. Royal Ambassador Education Pack - a series of 8 excellent
educational programs, with Christian themes - $ 9.95 Disk/
$ 11.95 DDP
. New (Tan) ADAM hand controllers - 2 for $ 10.00
. Double Sided disk drive upgrades - $139.95 each or two
for $265.00 (must be packaged together).
. 3 1/2 by 15/16 " tractor feed address labels $6.95/1000
. 9 1/2 by 11" 20 LB tractor feed with "clean edge"
perforations $9.95/ 500 or $16.95/1000
. Six ribbons for $25.95
. Right directory tapes for copying Supergames $2.50
. Reconditioned data drives $19.95
. Super Zaxxon $10.95

NEW PRODUCTS
. Hacker's Guide to ADAM - Volumes I/ II $11.95 @
. Spyhunter
. Donkey Kong
. Donkey Kong Jr.
. Trivia Pack I
. Jeopardy Question Pack
. Reedy Entertainment Pack
. Media Aid Utilities Pack
. Multiwrite word processor
. Electronic Games Pack
. PIA2 Parallel printer interface
. Number Bumper math arcade game
. Quickcopy backup utility program
. Paintmaster Hi Res painting program
. Signshop sign/picture printing program
. Powerprint print formatting program
. New Infocom CP/M text adventure games
. Rocky Super Action Boxing
. Super Sub Roc PD game

. 80 Column Video board
. Disk drives - single and double sided

NIAD Services
. Disk conversion of Super games - Buck Rogers, Super
Zaxxon, Dragon's Lair, 2010: Text Adventure, Donkey Kong
and DK Jr., Recipe Filer, Smart Letters & 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 upload and
download of programs $7.00
. Fix SMARTFiler tapes (send yours in) to provide the
ability to print mailing labels by correcting the spacing
problem and give you the latest bug free version $4.00
. Updates or fixes to damaged Public Domain tapes $3.00.

UPDATES

. E & T Software has updated their Softpack and
Business Pack software programs. You may receive the free
updated version by sending your original E & T tape or disk
with $2.50 to cover shipping to:
E & T Software
PO Box 821242
Dallas, TX 75382-1242

. Some of the Eve Double sided disk upgrades
evidently have an overheating problem. Eve is sending out
information on how to correct the problem.

. The new Soccer cartridge is reviewed in this
issue. Next month we will have reviews of 2 more new
cartridges developed in Great Britain - Skiing and Amazing
Bumpman.

. Murdock Games has just released a Pro Football
simulation game, written in SmartBasic which looks real
good. We will have a full review next month.

. Our Pinball games pack is still under
development - hopefully next month.

. A graphics screen dump program is one that we
owners of dot matrix printers could really use. I talked
to a Vinh Le, who has indicated he has developed such a
program. However, he was reluctant to send a review copy,
but requested that I place a volume order first ! Sounds a
little strange to me or he may just be new at this. In any
case he is supposedly sending out prints of some of the
screen dumps. We will keep you posted.

. Orphanware is nearing completion of a serial
RS232 interface and required software to allow a serial
terminal (not just a monitor, but a terminal with a
keyboard) to be attached to the ADAM for 80 column video
under CP/M 2.2. More about this next month.

. Bob Lennes is doing some research on how to read
and write blocks of data to the 64K memory expander from
SMARTBasic 1.0.

. Bob Tarnowski, developer of Trivia Pack (reviewed
last month) is working on two new programs - Bible Trivia
and a childrens Trivia.

. Digital Express has released Intel-BEST 3.3 -
see our review in this issue.

. Data Backup, developer of the ADAM Tractor Feed
has come out with an improvement that will physically
attach the Tractor Feed to the ADAM printer and prevent it
from working loose. The clips and screws are included on
all new Tractor Feeds and may be obtained by current

Tractor Feed owners by writing to Data Backup, PO Box 335,
Iona, ID 83427

. Two new ADAM Bulletin Board systems are now
online:
(617) 776-7666 11PM to 8AM EST
(702) 873-8056 24 HRS

PUBLIC DOMAIN WORKSHOP

LIBRARIAN CHANGES
Our Public Domain libaries are growing ever bigger and
more complex to manage.
The majority of programs submitted are SMARTBasic (although
CP/M is not far behind and being well managed by Chuck
Kolander) and it is getting tougher to handle. Hence, I
will be taking this over, specifically to handle the review
of programs being submitted. We have been getting alot of
programs submitted that we already have on our PD library,
as well as some copyrighted programs. We will be more
selective in accepting programs from now.
NIAD has the best Public Domain library for the ADAM and we
need to insure we maintain this level of quality.
Additionally, we will not accept any programs that involve
anything to do with the occult - astrology, Dungeons &
Dragons, witchcraft, etc.. I strongly believe that these
themes are very harmful, especially to impressionable
children.
Here is the new PD librarian list - please refer to it for
furthur submissions:

SOFTWARE EXCHANGE

NIAD supports a software exchange for all members in order
to supply public domain and non-copyrighted programs.
"Libraries" will be maintained for each of the major
software products by a NIAD member. Current librarians are:

SMARTBASIC   >>>>>>>>> L. Marschand
UTILITIES
SMARTLOGO

ADAMCALC   >>>>>>>>> Greg Van Valkenburg
                          701 Pond View Dr
                          Audubon, PA 19403

CPM 2.2   >>>>>>>>> C. Kolander
                          1295 A Pearl Ave
                          Glendale Hts, IL 60139

SOFTWARE EXCHANGE RULES:
NOTE: YOU HAVE THE OPTION TO PURCHASE A SPECIFIC LIBRARY
FOR ONLY $ 5.00 (disk) or $ 7.00 (Data pack) FROM THE NIAD
PRODUCT LIST IF YOU DO NOT HAVE A PROGRAM TO EXCHANGE.

The Public Domain library is made up of volumes (individual
tapes or disks) that contain from 10 to 25 individual
programs. In order to receive all the library programs in
a specific library send a disk or data pack with one
program for the library (all programs should be tested and
well documented via a separate "readme" file prepared by
SmartWriter) to the librarian. Include a self addressed
and STAMPED return mailer. The librarian will copy the
entire library on your DDP and return it to you.
NOTE: You must submit the same type of program as the
library you are requesing -i.e. send a Basic program
to get a Basic library volume, a CP/M for a CP/M, etc.

Additionally, you may submit NON-COPYRIGHTED programs from
books or magazines, EXCEPT Family Computing magazine.

Miscellaneous
. I have had several requests for complex math programs
such as curve fitting, solving simultaneous equations,
integration, etc.; thanks to Dan Pease we now have a series
of these advanced math programs on our Basic PD volume #
14.
. John Biagioni is having a problem with the the text
adventure game on CP/M volume #6. It doesn't seem to end
properly when the sequence FEE, FIE, FOE, FOO was entered.
Could someone please write in if they have encountered this
and have the solution ?
. For you Jeopardy lovers, there is a special set of
questions available that relate to the authors of this fine
game at Coleco. After loading the game, when it asks you
if you have a question pack, hold down the control key and
press the up arrow, then the right arrow, then the bottom
arrow and finally the left arrow - the special questions
will then be loaded.

UPDATES - As noted in previous issues, we occasionally find

bugs or make improvements in the PD volumes. You may
receive these updated versions by sending in your original
tape/disk and $3.00. The volumes recently updated are:
Basic volumes BNDV4, BNDV7, BNDV8
Utilities UNDV1 and ADAMCALC ANDV1

BASIC UTILITIES VOLUME TWO
The collection of programs on the new NIAD Utilities UNDV2
is perhaps the finest collection of Public Domain ADAM
utilities around. We have assembled the best of the
available Basic utilities. Hats off to Jim Young who sent
us the Renumber, Cleanup, Merge, Hellodate and Diredit
programs. These are fine programs that Jim put alot of
work into, he also provided fine documentation for each
program. Also, thanks to Wayne Motel and Bob Tarnowski for
testing and constructing the volume.

Thanks to James Young and others for their fine, and
unselfish work in developing and contributing these
excellent utilities to the ADAM Public Domain.

This medium is self-booting ON DATAPACK ONLY. Place in
drive 1 and pull the RESET.
SMARTBasic will be loaded and the catalog will be presented
via a catalog menu HELLO program. Select the program you
wish to run using the arrow keys and press <RETURN>.
If you purchased this volume on disk or want to copy it to
disk, use the program, BAISCMODIF on this volume to change
the contents of address 16641 from an 8 to a 4 which will
allow the menu to be loaded directly by SMARTBasic when it
is booted.

NOTE: Files with CAPITAL filenames can not be run directly
from Basic. They are either documentation files that
should be read and printed via SMARTWriter or special
files.
* catmenu - For use as a HELLO file to provide a catalog
menu for selecting programs. See CATMENUDOC.
*udsprite - A sprite demonstration taken from UTILDUMP.
*menuselect - Creates a catalog menu for selecting
programs.
*colorselct - For use as a HELLO file to set screen colors.
*diredit - A good directory editor utility program. See
DIREDOC.
* DIREDT.ASM - Fast loading version of DIREDIT. Type "brun
DIREDT.ASM".
*cleanup - A nicely done utility for renumbering SMARTBASIC
programs. See CLEANDOC.
*hellodate - For use as a HELLO file to place the current
date into memory. See HELLODTDOC.
*merge - A good utility for merging up to 10 SMARTBASIC
files into 1. See MERGEDOC.
*repack2 - A good utility for reclaiming lost space due to
deleted files on tapes or disks. See REPACK1doc.
*addresread - For quickly viewing current values in memory.
*viewram - For displaying the contents of active memory.
See VIEWRAMDOC.
*damagetape - Used to help reconstruct data lost through
damaged tape. See DAMAGEDDOC.
*catcreate3 - Prints a neatly formatted directory of your
disk or tape on your printer. Will display up to 70 files
and the number of blocks used.
*CRUNCHER - This machine language program is used to create
fast loading versions of your programs. See CRUNCHDOC.
*catclear - This program will remove the deleted files from
your tape or disk. Self Documented.
*renumber - Another useful utility for renumbering your
programs.

*filterbas - CPM/SMARTWRITER filter program. Read REM
statements in the program.
*basicmodif - This SMARTBASIC editing program will enable

you to change the default values on your SMARTBASIC tapes.
*diskdoctor - This program will allow you to read in a
block of data from tape or disk, change any value, and
write the altered block back to the media.
*initdisk - This program will initialize your disks.

BEGINNER'S BASIC WORKSHOP

Last month we talked about a how SMARTBasic is
automatically loaded (booted) when you put in the
SMARTBasic tape and pull the computer reset. We explained
how to copy SMARTBasic to another tape and then place your
favorite Basic programs on that tape so that you can load
SMARTBasic and then run your programs without swapping
tapes.

Now, we are going to create a MENU program that, once
loaded will display all the Basic programs on the tape and
allow you to select the program you wish to run with the
arrow keys, much like the SMARTWriter directory. Using
this type of menu has the advantage of providing an easy
method for kids to run their own programs.

One more refinement will really spruce it up. SMARTBasic
has a built in routine when it is first loaded that will
automatically load and run any program that is named HELLO.
Hence, if you put a program on your tape and name it HELLO,
from then on every time you load this SMARTBasic tape this
HELLO program will be immediately run as soon as SMARTBasic
is loaded. You might say "So what ?". Well, if you type
in the following program and save it under the name HELLO
on the same tape containing SMARTBasic and your favorite
programs, it will automatically run each time you load the
tape, display the menu of programs on the tape and allow
the user to select one to be run. By doing this you have
created what is called a TURNKEY tape that takes very
little and only simple input to use.
Remember, however, that after you have finished using the
first Basic program and want to run another, you will have
to enter RUN HELLO to get the menu back so you can select
another program to run.


```
10&        *** CATMENU ***
12&            by BOB TARNOWSKI
20&        adapted from:
22&            MENU-SELECT              by BOB LENNES
30LOMEM :30250
35POKE 16149, 255:POKE 16150, 255:POKE 64885, 0
40FOR a=28900 TO 28920:READ v:POKE a, v:NEXT
43 cd=PEEK(16821)
45DATA
205,138,252,62,8,33,72,113,1,0,0,17,1,0,205,243,252,50,71,11
3,201
47POKE 28904, cd:REM current drive for catalog
50IF PEEK(257)<>255 THEN POKE 16150, 255:POKE 16953, 0
```

```
55IF PEEK(257)=255 THEN POKE 17240, 241:POKE 17251,
20:TEXT:POKE 17251, 15:GOTO 70
60POKE 17115, 241:POKE 17126, 20:TEXT:POKE 17126, 15
70&
100CLEAR:DIM fl$(46)
110 bk$=CHR$(8): zz=0
150VTAB 2:? CHR$(24); " ONE MOMENT..CATALOGING "
180CALL 28900
185IF zz=1 THEN 260
200HOME:INVERSE:VTAB 24:HTAB 1:? " PRESS ARROW KEYS -
<RETURN> "; :NORMAL
210VTAB 1:HTAB 6:? "DIRECTORY:"; :HTAB 17
220FOR n=29000 TO 29011
230IF PEEK(n)=3 THEN  n=55307:GOTO 250
240? CHR$(PEEK(n));
250NEXT:VTAB 5:HTAB 2:? "ONE MOMENT..":VTAB 5
260FOR i=29000 TO 30000 STEP 26
270 p=PEEK(i+12):IF p<>16 AND p<>208 THEN 310
280FOR t=0 TO 10:IF PEEK(t+i)=3 THEN  t=10:GOTO 300
290 lt=PEEK(t+i): fl$(num)=fl$(num)+CHR$(lt)
300NEXT t: num=num+1
310NEXT i
311IF zz=1 THEN 315
313IF PEEK(29012)=2 THEN POKE 28912, 2: zz=1:GOTO 180
315?:VTAB 3
320FOR i=0 TO num-1 STEP 2
325HTAB 4:? LEFT$(fl$(i), LEN(fl$(i))-1); :HTAB 19
330 f$=fl$(i+1):IF f$<>"" THEN ? LEFT$(f$, LEN(f$)-1)
335NEXT
340&
345 h=3: v=3:VTAB v:HTAB h:? CHR$(27);
348POKE 64885, 0
350 p=PEEK(64885):IF p=0 THEN 350
360POKE 64885, 0
365IF p=128 THEN ? bk$; " "; :GOTO 340
367IF p=3 OR p=27 THEN 1000
368IF p=13 THEN 600
370IF p>159 THEN 400
375IF p<160 THEN ? CHR$(7); bk$; " "; :GOTO 340
400IF p=162 AND v<2+num/2 THEN HTAB h:? " "; bk$; :
v=v+1:VTAB v:? CHR$(27);
410IF p=160 AND v>3 THEN HTAB h:? " "; bk$; : v=v-1:VTAB
v:? CHR$(27);
420IF p=163 AND h=18 THEN HTAB h:? " "; : h=3:HTAB h:?
CHR$(27);

430IF p=161 AND h=3 THEN HTAB h:? " "; : h=18:HTAB h:?
CHR$(27);
440IF p>163 THEN ? CHR$(7); :GOTO 340
490GOTO 350
600REM            Run File
610 x=h/18: y=(v-3)*2
615HTAB 1
620IF fl$(x+y)="" THEN VTAB 2:FLASH:? CHR$(7); " CANNOT
ACCESS-"; :GOTO 680
630IF RIGHT$(fl$(x+y), 1)="A" THEN 648
632IF RIGHT$(fl$(x+y), 1)="H" THEN 634
633VTAB 2:FLASH:? CHR$(7); " *** '"; RIGHT$(fl$(x+y), 1);
"' FILE-"; :GOTO 680
634ONERR  GOTO 700:IF PEEK(257)<>255 THEN POKE 16953, 95
```

```
635? CHR$(4); "brun "; LEFT$(fl$(x+y), LEN(fl$(x+y))-1)
6400NERR  GOTO 700
645IF PEEK(257)<>255 THEN POKE 16953, 95
6480NERR  GOTO 700:IF PEEK(257)<>255 THEN POKE 16953, 95
650? CHR$(4); "RUN "; LEFT$(fl$(x+y), LEN(fl$(x+y))-1):IF
d%=4 THEN ? 5
655? 1
660END
680? "SELECT ANOTHER"; :NORMAL:FOR de=1 TO 2500:NEXT
681VTAB 2:HTAB 1:? "                             ";
690VTAB v:HTAB h:? " "; :GOTO 340
700 e=ERRNUM(0):CLRERR
710IF e=8 THEN ? " READ ERROR. RE-INSERT MEDIA.":CLRERR:FOR
t=1 TO 1400:NEXT:RUN
720TEXT:? "ERROR#"; e
790POKE 16953, 95:END
1000POKE 16953, 95:TEXT:END
```

SMARTBASIC WORKSHOP

Miscellaneous Tips

DATA AND REM SPACE "BUMP" FIX

One of the bugs in SMARTBasic 1.0 is that everytime you
save a program, any DATA or REM statements will have a
space inserted after them. This can be a nuisance and
create a serious problem if too many are added - you will
start to get crazy messages like "FATAL SYSTEM ERROR" which
indicates you have a BIG problem. The following pokes will
eliminate this problem. I do not know who to give credit
to for finding them, but thanks anyway.

You can use the "Basicmods" program from NIAD PD volume
#BNDV4 or the "Diskdoctor" program, also on #BNDV4 to make
the change (NOTE: See the June/86 issue for some background
on how to use these programs).

If using Basicmod you want to change the following
addresses to the values indicated -

ADDRESS	New Value
15824	216
15830	8
15831	55
15832	19

If you use Diskdoctor the changes are in block 17, bytes
208, 214, 215 and 216.

Once you make these changes you'll never have those extra
added spaces again.

SMARTTRIX "FAST" COMMAND By Jack Reedy

The following program adds the "FAST" command to your
standard SMARTBasic for use by the SmartTRIX program:
```
100 rem FASTinstall
110 rem Installs the SmartTRIX FAST command in standard
SmartBasic
```

```
120 poke 16149,255:poke 16150,255
130 for x=65530 to 65533: read a: poke x,a:next
140 data 205,30,255,201
150 nw$="FAST": for x=1 to 4
160 poke x+387,asc(mid$(nw$,x,1)):next
170 poke 6453,250:poke 6454,255
180 text:input "Insert the SmartTRIX medium and press
RETURN:;a$
190 print chr$(4); "bload ml-bicon"
200 print:print "FAST Installed."
```

RANDOM NUMBER GENERATION

There are many occasions when you want to generate a random
number for use within a program. The SMARTBasic RND
command is supposed to do this, but if you need to generate
a series of random numbers, you will always get the same
sequence of numbers if RND is used. Here are two routines
submitted by Bob Tarnowski that will always generate a true
random number -

This program uses keypad responses to generate a random
number:

```
10 poke 16149,255:poke 16150,255:poke 64885,0
20 print "PRESS ANY KEY TO CONTINUE"
30 a%=a%+1:if a% > 20000 then a%=1
40 if peek (64885) then rn=RND(-a%):goto 60
50 goto 30
60 rem CONTINUE WITH YOUR PROGRAM
```

This program uses the controller keypad instead of the
keyboard:

```
10 print "PRESS # ON KEYPAD TO BEGIN"
20 a%=a%-1:if not PDL(11) then 20
30 rn=RND(a%)
40 rem CONTINUE WITH YOUR PROGRAM
```

GRAPHICS (PART 2) BY W. Motel

    This continues the discussion of my graphics changes
in the CUBE program last month. Lines 5050 - 5080 are as
follows:

```
1)  gl% = 128  gh% = 21  gz% =  80,  ga% = 24
2)        128        21         8         26
3)          8        23       208         26
4)         24        21         8         26
5)         80        21         8         26
```

    From my machine language, gh% is the hi-portion of the
VRAM address, gl% is the low. This is the starting address
I want to change in VRAM. gz% contains the count (number of
bytes). Remember, we are changing 8 bytes for each
character. ga% contains the color code (hi 4 bits is the
color code for the character, the lower 4 bits is the
backround color).
    First the color codes. Decimal 24 is (in hex) 18. This
is 1 (black letters) on 8 (red) backround. (Remember, we

use the TI video chip internal color values, not the
SmartBasic color codes). 26 is 1A (in hex), or black
letters on A (10) yellow backround.
    Keep in mind from last month, the initial change made
all characters white letters on blue backround. We now
selectively change specific characters.
    Now that we have the color codes, let's figure out the
characters used within each VRAM page 21, 22 and 23. gh%
denotes the PAGE, gl% denotes the offset into that page (0
thru 255 - with 8 bytes for each character) and gz% is the
number of bytes (8 for each). Looking at #1, we see we are
changing 128 bytes into PAGE 21 for 80 bytes. The 80 bytes
mean 10 characters (80 / 8). What character starts 128
bytes in? 128 / 8 = 16, therefore, we are starting to
change at the 17th character.(NOTE, we add 1 because the
1st character occupies bytes 0 - 7, the second is 8 - 15,
and so on). So this means we are changing the 17th (for 10
) thru 26th character.
    What are these characters? (Refer back to last month).
Since ascii character 32 (space) is the 1st character
allocated to Page 21, the 17th thru 26th are the digits 0 -
9. (These are black on red).

    #2 changes just the digit 0 to black on yellow. #3
offsets 8 bytes (2nd character) into Page 23 for 26
characters (26 * 8 = 208). These are the small letters a -
z, also black on yellow. #4 does the 4th character in Page
21 (gl% = 24). This is the # sign. Finally # 5 does the
11th character in Page 21, which is the * sign. Listed
below is a chart of the ascii, character, and offsets for
text characters in VRAM (GR/HGR mode). Try playing around
with it and hopefully you can use it in some of your
programs.

ASCII	CHAR.	OFFSET
32	space	0
33 - 47	special punc.	8 - 127
35	#	24
40	(	64
41	)	72
42	*	80
48 - 57	0 - 9	128 (for 80)
58 - 63	special punc.	208

--- END OF PAGE 21 ---

64	@	0
65 - 90	A - Z	8 (for 208)
91	[	216
92	\	224
93	]	232
94	^	240
95	_	248

--- END OF PAGE 22 ---

96	`	0
97 - 122	a - z	8 (for 208)
123 - 127	special punc.	216

BOOT program for SMARTBASIC *(loads into addr: 51200 x'C800')*

LOAD DISP		M.L	DEFinition	
---------		-------	----------	
			For actual address, add LOAD DISP to 51200 or <xx> hex to C800	
00	<00>	F3	DI	*Disable Interupt*
01	<01>	18 0E	JR,addr	*Jump to addr +14 (17)*
03	<03>	hex as:	BASICPGM-02-03-00-01-1C-00	
17	<11>	31 58FE	LD SP,nn	*Set stack pointer with 65122 <FE58> for EOS*
20	<14>	78	LD A,B	*Load A reg with B reg (From Op Sys -- B has last drive used ID)*
21	<15>	06 01	LD B,imm	*Load B with 01 (for CALL at 26)*
23	<17>	21 03C8	LD HL,imm	*Load HL with 51203 <C803>*
26	<1A>	CD C0FC	CALL addr	*OPEN-FILE routine 64704 -<C0FC>*
				EOS routine
				IN -- (A) has device id
				(B) has I/O mode (1 = READ)
				(HL) has addr of FILE NAME STRING
				(note: 51203 has name BASICPGM
				and hex code 02 - 03)
				OUT -- If OK (Z = 0)
				(A) = file # for FCB use)
29	<1D>	28 03	JR Z,addr	*Jump to addr +3 (34) IF Z = 0*
31	<1F>	C3 E7FC	JP addr	*Unconditional jump to 64773 <FCE7> (Smartwriter)*
34	<22>	32 04D0	LD (addr),A	*Store (A) (returned file id) into address 53252 <D004>*
37	<25>	CD 3EC8	CALL addr	*Routine that does actual read/store of basic interpretor*
				Routine is at 51262 (<C83E> see below)
40	<28>	FE 00	CP imm	*Compare A reg to 00 (passed from routine)*
42	<2A>	28 03	JR Z,addr	*Jump to addr +3 (47) (If Z reg is 0)*
44	<2C>	C3 E7FC	JP addr	*Unconditional jump to 64773 <FCE7> (Smartwriter) (read/store was not successful)*
47	<2E>	3A 04D0	LD A,(addr)	*Load (A) with contents of 53252 <D004> (File id #)*
50	<32>	CD C3FC	CALL addr	*CLOSE-FILE routine 64707 -<C3FC>*
				EOS routine
				IN -- (A) has file #
				OUT -- If OK (Z = 0), else
				Z = 1 and
				(A) = error code
53	<35>	28 03	JR Z,addr	*Jump to addr +3 (58) IF Z = 0*
55	<37>	C3 E7FC	JP addr	*Unconditional jump to 64773 <FCE7> (Smartwriter)*
58	<3A>	2A 0DC8	LD HL,(addr)	*Load HL register pair with contents of 2 bytes from addr 51213*
				(H) get 51213 or 01
				(L) get 51214 or 00
61	<3D>	E9	JP (HL)	*Jump to address value in HL HL has 01-00 or decimal address 256 (which is the start of where BASIC is loaded into memory)*

LOAD DISP		M.L	DEFinition	
				For actual address, add LOAD DISP to 51200 or \<xx> hex to C800
62	\<3E>	21 0DC8	LD HL,imm	HL loaded with value 51213 \<C80D>
65	\<41>	11 00D0	LD DE,imm	DE loaded with value 53248 \<D000>
68	\<44>	01 0400	LD BC,imm	BC loaded with value 0004
71	\<47>	ED B0	LDIR	Tranfer data from address in HL
				to address in DE for count in BC
73	\<49>	21 02D0	LD HL,imm	HL loaded with value 53250 \<D002>
76	\<4C>	35	DEC(HL)	Decrease contents of addr in HL by 1
77	\<4D>	3A 04D0	LD A,addr	Load A with stored file ID at 53252 \<D004>
80	\<50>	2A 00D0	LD HL,(addr)	Load HL with contents of 53248 \<D000>
83	\<53>	01 0004	LD BC,imm	Load BC with 1024 \<0400>
86	\<56>	CD D2FC	Call addr	READ-FILE routine 64722 \<FCD2>
				EOS routine
				IN -- (A) has fiLE ID #
				(HL) has buffer address
				(BC) has number of bytes
				OUT -- If OK, (Z = 0)
89	\<59>	20 16	JR NZ,addr	If Z Not Zero, (error) Jump +22 to 113
91	\<5B>	01 0004	LD BC,imm	Load BC with 1024 \<0400>
94	\<5E>	09	ADD HL,BC	Increase HL by value in BC (1024)
				This increases HL (store address)
				by 1 block (1024 bytes)
95	\<5F>	DD21 00D0	LD IX,imm	Load IX (index registers) with 53248 \<D000>
99	\<63>	DD75 00	LD (IX+d),L	Load contents of L into address
				specified by (IX + d)
				d = 0, address is 53248 + 0 = 53248
				This stores the lower portion of the
				new store address (in HL) back to 53248)
102	\<66>	DD74 01	LD (IX+d),H	Load contents of H into address
				specified by (IX + d)
				d = 1, address is 53248 + 1 = 53249
				This stores the upper portion of the
				new store address (in HL) back to 53249)
105	\<69>	3A 02D0	LD A,(addr)	Load A with contents of 53250 \<D002>
				(this contains the number of blocks)
108	\<6C>	FE 00	CP imm	Is A = 0 yet
				if true, Z flag set to 0, false set to 1
110	\<6E>	20 D9	JR NZ,addr	Z not 0 (compare not true), jump to
				address -39 (52073)
				(redo read for next block)
112	\<70>	C9	RETurn	(return back to instruction after call)
				Since we originally came here from 52037,
				RET to next instruction after this at
				52040 (Compare to see if we successfully
				Completed this routine)
113	\<71>	3E 01	LD A,imm	Load A reg with 1 (for error set)
115	\<73>	C9	RETurn	(return back to instruction after call)

```
==============================================================================
```

The following addresses are also used

53248/53249   Address to store block being read in (BASIC program)

Initially contains 00-01 (<0100> hex or 256)

(see instructions at 53062 - 53072)

- 53080 loads this value in HL for actual read (for each block)

- 53094 thru 53102 modifies this (up by 1024) for each block read

53250/53251   Number of blocks to read in for file (for read loop counter)

Initially contains 1C-00 (<001C> hex or 28)

(see instructions at 53062 - 53072)

- 53105 thru 53110 modifies this (Down 1) for each block read

and reloops thru read until value is 0

53252   Device (FILE) id #

Used for EOS routines

SMARTBasic BOOT By W. Motel

The following is the actual BOOT program used on the SmartBASIC tape. The program is located on BLOCK 0 of the BASIC tape. When the reset button is pulled, this program is read (from block 0) and stored into memory at address 51200 (hex C800). This is the same thing that happens on any boot up for the ADAM. Once the program is loaded, execution begins at address 51200. Basically, what needs to happen, (1) the Boot program reads a file into memory (in this case BASICPGM, the Basic interpretor). Once read in, control is passed to it and it begins to execute (the BASIC interpretor).

I've tried to briefly describe each instruction, but you will need a little knowledge of machine language. Shown is the LOAD DISPlacement (from 51200 <hex C800>). I refer to most instructions/points by this DISP value. 51200 is the default address of where the BOOT program is loaded. It can then read in a file and transfer it to another area of memory.

One common instruction used is the family of Jump Relative (JR). These cause branches (either conditional/unconditional) to a point RELATIVE to the address of the NEXT instruction. The relative value can be positive (forward) or negative (backward). The negative value is shown in complement form (positive value subtracted from hex <100>). An example is at Load Disp 29. Here is a jump of +3. This branches around the following instruction at Disp +31, to Disp +34. A negative jump is at Disp 110. The D9 value is a backward jump of decimal 39 (hex <27>). 100 - D9 = 27 <hex>.

This Boot consists of 2 parts. 00 thru 61 is the main portion. It opens BASICPGM, sets up the internal areas and calls the read/transfer routine. After the file BASICPGM is all read in and moved into memory, the file is closed and a check is made to see if everything was successful. If it was, execution passes to address 256, the start of the BASIC interpreter. If not, a jump to 64773 (Smartwriter) is made.

Disp 62 - 115 is the actual read/copy of BASICPGM. It is performed 28 times, for the 28 blocks of the file. It is called from the main routine.

As you look thru this, you will see a series of register loads and Calls to Operating System routines. These are routines already made and provided as part of the operating system (EOS) supplied by Coleco.

One last thing. BASIC loads into address 256 thru 27406 (normal LOMEM). 28 blocks * 1024 bytes = 28672 total bytes. This should yield a start of address 256 thru 28927. What actually occurs is that the last block and the last part of the 2nd from last block of BASICPGM do not contain any worthwhile data, LOMEM gets set over this. Perhaps Coleco originally had something in mind for this area.

Hopefully you'll get something from this and be able to use it as a basis of learning machine language or writing your own Boot.

ADAMCALC WORKSHOP

The following Monthly Expense spreadsheet is from our ADAMCalc PD Volume ANDV1.

The monthly expenditure is for business but can be used for personal expenses also. Just enter the check#, date, who it was to the amount under the proper headings (which can be changed easily to match your expense categories). This will give you your monthly totals for each category.

```
@1,3;<T;EXPENDITURE LEDGER      @13,20;>D;sum([13,4:13,19])      @67,7;>T;TOTAL
@1,4;>T;! COST OF!              @14,20;>D;sum([14,4:14,19])      @67,8;>T;TOTAL
@1,19;>T;                       @15,20;>D;sum([15,4:15,19])      @67,9;>T;TOTAL
@2,2;>T;                        @16,20;>D;sum([16,4:16,19])      @67,10;>T;TOTAL
@2,3;<T;1986                    @17,20;>D;sum([17,4:17,19])      @67,11;>T;TOTAL
@2,4;>T;!  SALES !              @18,20;>D;sum([18,4:18,19])      @67,12;>T;TOTAL
@3,2;>T;                        @19,20;>D;sum([19,4:19,19])      @67,13;>T;TOTAL
@3,4;<T;------------            @20,20;>D;sum([20,4:20,19])      @67,14;>T;TOTAL
@3,9;<T;RENT &                  @21,20;>D;sum([21,4:21,19])      @67,15;>T;TOTAL
@3,12;<T;AVCO                   @22,20;>D;sum([22,4:22,19])      @67,16;>T;TOTAL
@4,1;<T;CHECK                   @23,20;>D;sum([23,4:23,19])      @67,17;>T;TOTAL
@4,4;<T;SUPPLIES                @24,20;>D;sum([24,4:24,19])      @67,18;>T;TOTAL
@4,6;<T;PAYROLL                 @25,20;>D;sum([25,4:25,19])      @67,19;>T;TOTAL
@4,7;<T;NON-EMP                 @26,20;>D;sum([26,4:26,19])      @67,20;>T;TOTAL
@4,9;<T;PHONE &                 @27,20;>D;sum([27,4:27,19])      @68,4;>D;sum([6,4:66,4])
@4,10;<T;OFFICE                 @28,20;>D;sum([28,4:28,19])      @68,5;>D;sum([6,5:66,5])
@4,12;<T;LEASE                  @29,20;>D;sum([29,4:29,19])      @68,6;>D;sum([6,6:66,6])
@4,13;<T;OTHER                  @30,20;>D;sum([30,4:30,19])      @68,7;>D;sum([6,7:66,7])
@4,16;<T;BANK                   @31,20;>D;sum([31,4:31,19])      @68,8;>D;sum([6,8:66,8])
@4,17;<T;AUTO                   @32,20;>D;sum([32,4:32,19])      @68,9;>D;sum([6,9:66,9])
@4,19;<T;NON-DED                @33,20;>D;sum([33,4:33,19])      @68,10;>D;sum([6,10:66,10])
@5,1;<T;NUMBER                  @34,20;>D;sum([34,4:34,19])      @68,11;>D;sum([6,11:66,11])
@5,2;<T;DATE                    @35,20;>D;sum([35,4:35,19])      @68,12;>D;sum([6,12:66,12])
@5,3;<T;NAME                    @36,20;>D;sum([36,4:36,19])      @68,13;>D;sum([6,13:66,13])
@5,4;<T;CHEMICALS               @37,20;>D;sum([37,4:37,19])      @68,14;>D;sum([6,14:66,14])
@5,5;<T;PAYROLL                 @38,20;>D;sum([38,4:38,19])      @68,15;>D;sum([6,15:66,15])
@5,6;<T;TAXES                   @39,20;>D;sum([39,4:39,19])      @68,16;>D;sum([6,16:66,16])
@5,7;<T;LABOR                   @40,20;>D;sum([40,4:40,19])      @68,17;>D;sum([6,17:66,17])
@5,8;<T;TOOLS                   @41,20;>D;sum([41,4:41,19])      @68,18;>D;sum([6,18:66,18])
@5,9;<T;UTILITIES               @42,20;>D;sum([42,4:42,19])      @68,19;>D;sum([6,19:66,19])
@5,10;<T;SUPPLIES               @43,20;>D;sum([43,4:43,19])      @68,20;>D;sum([6,20:66,20])
@5,11;<T;   INS.                @44,20;>D;sum([44,4:44,19])      @71,18;>T; ALL COLMNS
@5,12;<T;PAYMENTS               @45,20;>D;sum([45,4:45,19])      @71,19;<T;UMNS
@5,13;<T;TAXES                  @46,20;>D;sum([46,4:46,19])      @71,20;>D;sum([68,4:68,19])
@5,14;<T;ADVERTISING            @47,20;>D;sum([47,4:47,19])      >,M
@5,15;<T;ROYALTIES              @48,20;>D;sum([48,4:48,19])      0:10
@5,16;<T;CHARGES                @49,20;>D;sum([49,4:49,19])      1:8
@5,17;<T;EXPENCE                @50,20;>D;sum([50,4:50,19])      2:7
@5,18;<T;MISC.                  @51,20;>D;sum([51,4:51,19])      3:23
@5,19;<T;UCTBLE                 @52,20;>D;sum([52,4:52,19])      8:10
@5,20;<T;TOTALS                 @53,20;>D;sum([53,4:53,19])      14:12
@6,20;>D;sum([ 6,4: 6,19])      @54,20;>D;sum([54,4:54,19])      nonde:0,19
@7,2;>T;                        @55,20;>D;sum([55,4:55,19])      misc:0,18
@7,3;>T;                        @56,20;>D;sum([56,4:56,19])      auto:0,17
@7,8;>T;                        @57,20;>D;sum([57,4:57,19])      bank:0,16
@7,9;>T;                        @58,20;>D;sum([58,4:58,19])      fees:0,15
@7,10;>T;                       @59,20;>D;sum([59,4:59,19])      ads:0,14
@7,11;>T;                       @60,20;>D;sum([60,4:60,19])      taxes:0,13
@7,12;>T;                       @61,20;>D;sum([61,4:61,19])      avco:0,12
@7,14;>T;                       @62,20;>D;sum([62,4:62,19])
@7,15;>T;                       @63,20;>D;sum([63,4:63,19])      ins:0,11
@7,16;>T;                       @64,20;>D;sum([64,4:64,19])      office:0,10
@7,18;>T;                       @65,20;>D;sum([65,4:65,19])      rent:0,9
@7,20;>D;sum([ 7,4: 7,19])                                       labor:0,5
@8,20;>D;sum([ 8,4: 8,19])                                       chem:0,4
                                @66,1;<T;**********
@9,20;>D;sum([ 9,4: 9,19])      @66,2;<T;**********
                                @66,3;<T;********************************
@10,20;>D;sum([10,4:10,19])     @66,20;>D;sum([66,4:66,19])
@11,20;>D;sum([11,4:11,19])     @67,4;>T;TOTAL
@12,20;>D;sum([12,4:12,19])     @67,5;>T;TOTAL
                                @67,6;>T;TOTAL
```

SMARTWRITER TIPS

AUTOMATIC FORM GENERATION WITH ADAM
By D. Zimmerman

A form is a preformatted printout that will print lines,
characters, and words at predetermined locations on the
paper. A job application is an example of a preformatted
form. A form can be generated on ADAM and multible copies
can be printed or copies can be run off a copy machine from
a master. Data can be entered into the form by hand,
typewriter, or by GETting the form from disk and using ADAM
to insert data into a MASTER form if room is provided in
the form. I use this method to generate masters of things
like material lists and instruction sheets that I hand out
to my students as they manufacture projects. Each material
list form is EXACTLY the same except for the information
contained within which changes with each assigned project.
The benefits of doing this in a classroom setting are many.

1) The students become familiar with one style over and
over again throughout the entire year. After a short time I
find the students do not even "see" the form itself but
instead concentrate on the forms content which is my
objective in the first place.

2) Commercial material will not be in the same format
and is difficult to modify. I have yet to find commercial
material that did not have to be changed to fit specific
situations.

3) The use of print wheel characters as graphics will
dress up and make a form VERY attractive to look at. Spaces
are left in certain locations of some forms where I pencil
simple drawings in to help illustrate a point.

4) Changes are easy and fast once the specific master is
created. Modifications to either the flow of ideas or the
actual data itself is done by GETting the form from disk
and overtyping the changes into the old form. We still find
minor unnoticed errors in some forms that have been in use
for two years now. The end result is a clean, error free,
attractive, unique, and easy to modify form to work from.

5) The worksheet forms that the students are required to
use seem to help me bridge the gap between the slow
learners and the faster ones. I use "instruction" forms
that instruct the student in a step by step manner. The
faster students hardly look at the "instruction" sheets and
still complete the task while the slower ones must rely on
them all the time. The age range in my classes have ranged
from 14 years old to 22 years old, the grade levels from
7th to 12th grade, and the classifications from learning
disabled to "normal". These levels are located within the
same classes primarily because of P.L 94-142 which requires
the "mainstreaming" of handicapped students. The students
at the 3rd or 4th grade reading level are required to show
me their "instruction" sheet for the specific assignment
and after they are helped with the reading of the
sequencially numbered steps, do the task, mark an "X" in
the provided location and then go on to the next
instruction on the form. This method provides the teacher a
fast way of providing a very clear series of simple
instructions to a student who may have difficulty
completing complicated tasks. The bonus being the slower
ones are not neglected in favor of the more demanding
"smarter" ones.

6) Neatness is encouraged when the students work from
forms that are printed and neat looking themselves. In many
cases I will hand out copies of an empty ADAM generated
form along with the identical form filled out on ADAM. The
students are required to fill out the blank form by
printing in the sequence of operations to be performed to
complete the assigned task. One of the worst things a
teacher can do is to hand students sloppy hand written
"dittos" and expect neatness in return from the students.

The use of ADAM generated forms in a classroom is only
one application. I keep the "master forms" and related
application forms on tape libraries that can be called up
and modified at will. The ability to print out multible
copies also gives me felxibility in adapting to unexpected
conditions such as the copy machine being down again for
three days. Any news ideas or student handout shortages
noticed in a days operation will be printed out on ADAM
that same night and ready to go the next day. This fast
response time has given me the flexibility to reach out and
explore adventuresome activities that I would never been
able to do without ADAM. The key adavantage is the ability
to generate on the spot neat and accurate forms tailored to
fit varying conditions and the ability to modify these
forms so the teaching strategies can be changed to meet
these varying conditions. The application of ADAM generated
forms is limited only by the users imagination.
Here is a sample of just one of the many forms I have
generated with SMARTWriter:

```
: A  I D  I A I M  I      I L  I I  I V  I E I S :
|-----------------------------------------------|
|  *********          MASTER REPORT A2B       ********** |
|  *********          _ _ _ _ _ _ _ _         ********** |
|-----------------------------------------------|
|                                               |
|-----------------------------------------------|
|    .     |  ****************   |    .    |
| <<<@>>>  | +++++  BY ADAM SMARTWRITER  +++++ | <<<@>>> |
|    v     |  ****************   |    v    |
|-----------------------------------------------|
```

DATE	ITEM	QUANITY	DESCRIPTION	PRICE	TOTAL

SUPER ACTION FOOTBALL (SOCCER)
By L. Marschand

This is a brand new Colecovision game cartridge from CBS Electronics of Great Britain ! Yes, that is why it is titled FOOTBALL, which is European for American SOCCER. These games are distributed by Telegames, which is the largest videgame distributor in Europe. See the Updates section for more information on other new games on the way. This cartridge is designed to work with the Super Action controllers, but we found that you could play a reasonable game using the standard ADAM controllers.
The instructions are in five languages, emphasizing this international game.
The initial option screen allows you to choose either a fast or slow game (recommend slow game until you learn). There are also 4 non-game options:
1. Penalty competition - one player against the goal keeper
2. Penalty taking - one player against a computer controlled goal keeper !
3. Penalty safing - your are the goal keeper against a computer controlled player
4. Tackling - the opposition has the ball and you must get it.
There is also a demonstration option which displays a typical game and is a good way to learn before you start to play.
The first step is to configure your individual teams by selecting average, strong or "star" strengths for each of the following - Goal Keeper, Defense, Attack. As an example a strong goal keeper covers more ground then an average one; a strong defender runs faster; a "star" defender runs faster AND tackles more effectively, etc. These 9 different variations of team configuration give a nice variety and challenge to the game. Additionally, each player chooses their team formation - defensive, balanced (3 and 3) or attacking.
There are 3 screens in the game. The first screen displays the middle portion of the field with the players ready for the kick off. Once the ball is kicked the screen scrolls to follow the ball and players. The control stick moves one of your players, by hitting one of the fire buttons you may transfer control to your player nearest the ball. The roller on the Super Action controller is used to move the entire field up and down the field.
The second screen is a close up display of two players. This screen is automatically displayed when any two opposing players close in on the ball. This closeup screen is nicely done with good color graphic renditions of the players going after the ball. A picture of the entire field is displayed with a moving box to indicate where you are on the field as the two players fight for the ball. If the ball is kicked away or one of the players moves away from the other, the mid-field screen is displayed again.
The third screen is the goal keeper and net and the forward who must attempt to kick for a goal. You control the goal keeper by either having him side step or dive left or right. The forward kicks in the direction he is facing. Here is where the Super Action controllers give the additional options of the strength and arch of the kick. we had some problems with controlling the direction of the kick using with both the Super Action of regular hand controllers. We suspect this is an inherent problem with the game, but did not play it for hours to really test this out.

Overall, we found this to be a good game for the many kids who love Soccer. The graphics are nice and the game play options are extensive. The only problems were with controlling the direction of the kick and that the Super Action controllers are required for some of functions (and we all know how hard they are to find !

Rating - B

Intel-BEST 3.3 By W. Motel

SmartBEST by DATA DOCTOR was a SmartBASIC enhancement package. It added many capabilities to BASIC, especially in the area of sound and graphics. This was an excellent package (we reviewed in Nov., 85 issue with rating of A+). Digital Express has bought the copyrights to the software from Data Doctor. Intel-BEST is their improved version of SmartBEST.

Intel-BEST modifies SmartBASIC giving you some new commands, access to the sound thru commands, and general improvements to SmartBASIC. This is all accomplished by machine language modifications to the original SmartBASIC, adding less than 200 bytes of additional code. Lomem is originally set by BASIC at 27407, this pushes it up to 27600, therefore it does not "rob" you of much available space for your programs.

What are these enhancements?

GRAPHICS

They have modified BASIC so that you only need to remember one color code table. You do not need to know the COLOR/HCOLOR codes and the seperate TI color chip codes for internal pokes.

Machine language routines have been added to give you instant color changes to existing text, backround, inverse, etc. color, without the need for erasure of the existing text or screen.

Text block graphics that allow lo-res type colored graphics to be include on the normal text screen, with existing text.

SOUND

Simplified Basic commands that give you access to all 3 voices to control tone and volume, plus access to the noise channel (with 8 built in sounds).

ADDITIONAL CHANGES

Shortcut coding for some commands, I.E F for Flash.

Instructions on how to "load" programs in so that they "MERGE" the program lines together (by line number) to form one program. Useful in combining small program parts. Normally LOAD erases any existing program and replaces it with the new loaded program.

POKE limit automatically set to 65535

Added space to DATA/REM statements is fixed which is a great addition.

Another nice feature is the inclusion of the print drivers for the Eve SP-1 printer interface. Hence, you don't have to load it separately.

LINE command that allows you to selectively "restore" or point to specific DATA lines.

Lets you enter up to 216 characters per line, instead of the usual 128.

Machine language routines that allow you to read or write blocks of data from tape/disk. 2 versions exist, normal routine and one that performs read/write WHILE the program is executing other instructions. This is a commonly used process in games, where new data is being read in while the game is being played.

Also included is a 23 page instruction manual that clearly explains everything, especially the sound commands. 10 demo programs are included, as is a simple media copy program.

Overall, this is an excellent package. They have taken the excellent SmartBEST and have added functions AND made it more user friendly. More importantly, current SmartBASIC programs will run unmodified under Intel-BEST (unless you use 27407 thru 27599 for M.L. routines, you'll have to move these up). If you already own SmartBEST, you may not want to get this, however, considering the fairly low price AND the improvements (read/write routines and DATA/REM bug fix), it's worth it.

RATING — A+

Hacker's Guide to ADAM Vol II
By W. Motel

This is the second volume written by Ben and Peter Hinkle. Actually, they have written three manuals - the first being "Info for ADAM Explorers", followed by the Hacker's Guide to ADAM Volume I and now Volume II.
I would state that Volume II is not a continuation of Volume I but an unique book of important information for the serious ADAMite.
First a little on Volume I which was a combined effort of Ben and his father Peter. It was both a primer for the novice and a detailed source of information for the serious hacker. Topics ranged from how does a computer work, explanations of binary and hex numbers, through machine language, how SMARTBasic works, POKE locations, on up to detail descriptions of VideoRam layouts, the graphics chip and the sound chip, as well as hardware information and pinouts. Sample programs included use of sound, creating your own screen text characters, sprites and sound usage. This was one of the first, if not the first, comprehensive sources of detailed ADAM information. Although, some sections are somewhat detailed, I feel it is a book everyone should have that is interested in how SMARTBasic and the ADAM work. Even the novice can learn from it. Well, what then is volume 2. First, it is not a book for everyone. It is, however, a book for the hacker or anyone interested in learning how Basic works, how to change Basic and learning how machine language works through Basic's machine language routines. The majority of the 107 page manual is the result of Ben's disassembly of SMARTBasic. The book is a comprehensive volume of how Basic works, listing by address EVERY ROUTINE. The book covers and explains how the "control loop" within Basic controls program code entry in both program and immediate mode, how the parsing routines work (these create the tokenized instructions) and how the program code is actually executed. The actual internal registers are shown for each routine as they relate to the code being executed. ALL the mysterious memory locations are explained i.e. 17115 holds the text color, etc.
The book is very well structured in that it is like a dictionary of routine addresses in sequential order, starting at 256. If you've ever tried to decode Basic machine language, it is a frustrating affair. Once you have figured out where a specific routine is at and you disassemble it, you find it is a series of register loads and calls/jumps to other addresses. Now you're getting a headache because you need to find out what these new address routines do. This laborious process is made easy with this book - just look up the routine that is called and you have the information you need.
What I think is really nice about this book, is the non-technical attempt at describing these routines. Ben has told enough about each routine to give you a description of what it does, what registers are used, etc. without too much detail. It's enough to let you know if you need to further disassemble it to solve your problem or not.
As I said, everything in Basic is described, graphic routines, printer, keyboard, tape/disk I/O, Hello search/load routines, etc..
In addtion, a chapter gives you Basic changes/enhancements you can make including:
- 40 column text
- DATA/REM spacing fix
- Allowing spaces in file names
- Chaining programs together
- GOTO equation i.e. GOTO x*10
- Define commands for a single key
- Creating a single sound command that controls voice, duration, pitch, volume
- Sprite commands to-
 . SETUP type and magnification
 . DEFINE sprite #, bytes of description
 . SPDRAW at a specified location
 . BUMP detect collsions

A HELLO program is included that contains all these changes
and which will modify your SMARTBasic to provide the above
functions.
As I stated above, this may be over the heads of some
people but for the "hacker" this is a must. Not only is
the information great, the book was printed on a laser
printer for quality and includes many illustrations,
including complete schematics of the ADAM.

One final note. What Ben has done is invaluable for the
ADAM community. Ben and his dad, Peter have really been a
Godsend as far as the ADAM is concerned. They have
pioneered most of the original research into the ADAM and
provided all of us with much of the information that has
been both an inspiration and a source of knowledge that I
firmly believe has kept the ADAM alive. This has all been
done in what I feel was an unselfish, non-money grabbing
fashion. I think they deserve a big "Thank you" from
everyone interested in keeping the ADAM ALIVE.

RATING — A++

THE HACKER'S GUIDE TO ADAM — VOL TWO
By D. Zimmerman

    Peter and Ben have again stepped to the ADAM forefront
and published another volume in their continuing efforts to
unlock the secrets of ADAM. This time it is Peter's son Ben
who leads the way by presenting the most comprehensive work
ever seen on the workings of SmartBASIC. Whatever secrets
SmartBASIC held are now exposed for all ADAM users to do
with it as they wish. While a bit technical in nature
VOLUME TWO will step the reader through how SmartBASIC (or
any other high level language) works.

    VOLUME TWO is a soft covered 8 1/2 by 11 inch manual
that consists of 110 pages divided into eleven chapters,
three appendices, and a glossary. The glossary goes far
beyond the standard BIT, BYTE, ROM, and RAM words and very
clearly explains some of the more uncommon words like
CRUNCH CODE, MACRO, PARSE, POINTER, STACK, TOKEN, TABLE,
and VECTOR that most users have heard of but do not know
exactly what they mean. Appendix 1 contains a ten line
CRUNCH CODE VIEWER program for those who want to examine
the actual crunch codes of any line typed in as per chapter
one and the nine line FLOATING POINT program will show how
ADAM represents any number in floating point format as per
chapter four. Appendix 2 contains a Z-80 machine language
source code of the Basic HELLO program in chapter eleven
that installs 40 columns, macros, sound changes, and sprite
enhancements to SmartBASIC. Appendix 3 has six pages of
previously unseen ADAM schematics. While VOLUME TWO can
stand alone it is an extension of HACKER'S GUIDE VOLUME ONE
and the casual reader will find it most helpful to have
VOLUME ONE on hand for a more detailed explanation of some
concepts.

    The first ten chapters are the heart of the technical
workings of SmartBASIC. They give a detailed explaination
of SmartBASIC's built in routines and describe what they
do. Flowcharts, diagrams, charts, and excellent printing
graphics are used to enhance the readability of VOLUME TWO.
This attractive format is used throughout the entire book.
The memory locations of each routine is given in bold print
followed by an explaination of how they work. Chapters one
through ten cover: A BASIC Overview of The Central Loop,
crunch codes, and tokens; Zero Page, KeyWords, Math
Routines, Command Routines, The Parser, The Data Table,
Screen Routines, Tape (Disk) Routines, Sound and Graphics.

    Chapter eleven starts out with: "This chapter
summarizes 'minor' fixes for SmartBASIC......". These
"minor" fixes Ben refers to are very short BASIC programs
that will either temporarily or permanently:

    1) Boot BASIC from disk.
    2) Recover "H" files.
    3) Fix the famous DATA and REM extra space bug.
    4) Modify BASIC so spaces can be included in the
       filenames.
    5) CHAIN Basic programs so that a program can be

    LOADED.
    into memory without erasing the one in memory.
    6) Replace lengthy ON...GOTO lines with GOTO X * 10.
    7) Change ADAM's text mode to 40 columns like Apple.
    8) Define 30 of ADAM's keys so they will contain
       MACROs that automatically print key words like
       PRINT, SAVE, LOAD, and the like without having to
       actually type the keywords in.
    9) Install a new BASIC command SOUND that eliminates
       the extensive pokes and machine language
       required to operate ADAM's sound chip.
   10) Install four new Basic sprite commands, SETUP,
       DEFINE, SPDRAW, and BUMP that will give complete
       contol over ADAM's 32 sprites.

    Included in chapter eleven are a Basic HELLO program
that combines the above into one program and very short
programs that demonstrate what these changes do. Chapter
eleven is worth more than the cost of VOLUME TWO to me. If
chapter eleven contains what Ben calls "minor" changes I
would not want to be IBM if Ben ever decided to do "major"
changes to ADAM. Oh yes did I forget to mention that Ben
Hinkle is in the tenth grade?

RATING — A++

GAME HINTS

2010: Text Adventure

Thanks to James Goebel and Ronald Collins we have the solution and a number of hints for this great, but very tough text adventure game.

I will list a number of clues this month and some more next month. For any of you that just want the solution, send me a self addressed stamped envelope.

2010 CLUE LIST 1

1. You don't have to repair the Hibernator, Water Recycler or any of the Pod Bays or Garages unless you want to or have the time.
2. Pick up a spare, recharged suit.
3. You must sleep –
   a) Sleep in a Hibernator couch, even if it is not operative, if you are not wearing your suit.
   b) If you try to sleep somewhere else and get the message "toss and turn", try to sleep again. If you can't either repair something or move to another room and you will be able to sleep.
4. Before you leave the Repair room you must first turn OFF the the Auxillary Generator and also DISCONNECT the Repair Battery.
5. You need to stock up with tools. The MMT and CCP are required to repair the main generators which are outside the ship. You will also need the WLT and PLATE for other repairs.
6. First repair the Auxillary Generators, Recharge them and then deactivate.
7. Go to Life support, repair, recharge and return to the Airlock room.

MEMBER COMMENTS/ QUESTIONS & ANSWERS

. I agree with you that ADAM owners should write Family Computing to notify them that we enjoy and need their support for ADAM. Although their current support for ADAM is limited, our letters will not only encourage FC to continue their ADAM coverage, but to expand on the support. I personally want to let you know of my own satisfaction with the NIAD newsletter! As a confirmed ADAM addict, the only thing that's more exciting then sitting at my ADAM, whether I'm playing (learning) or investigating new programs, is getting your Newsletter, which I consider the most informative and complete publication for the ADAM user! It's not the sitting down and reading that I enjoy so much... but it's knowing that many things in the Newsletter are going to get me back on the keyboard. I'm still in the learning stages of "computerese" and it's the computer time I spend at ADAM (and there is never enough time available) that does the teaching.
Something very helpful to me in understanding the background and basics to computers in general is the

"Understanding Computers" series of volumes that Time-Life offers. The first two volumes, Computer Basics and Computer Images are so well written for the beginner that I no longer feel as an "outsider" when conversations regarding computers arise.
We recently purchased an AT&T PC 6300 for our office and my ADAM experience has given me a terrific head start in using the various programs that our office requires.
Mostly, thank you for helping me put my ADAM to use at home for more applications and enjoyment than I ever thought was available to the ADAM owner.
R. Amant
- Thank you very much for your comments and support of NIAD and the ADAM. Your comments are gratifying since they reflect that NIAD is achieving the objectives we established over a year ago. Our purpose is to help and encourage the ADAM owner to better use the power he has in the ADAM. Unfortunately, I know that most ADAM owners are not getting the benefits they could out of their systems and NIAD's goal is to help correct this problem.

. I'm a fairly new member of the NIAD group and I have a couple of observations on the SMARTWriter program. I'm sure that several other users have experienced the same troublesome problems I have.
I was typing a fairly long business letter in which I needed several of the lines to be tabbed over 10 spaces at the beginning of each line. I found that when I printed the document the ADAM automatically moved the beginning of the line over to the preset left margin. My cure for this was found only after much trial and error and is really easy. All you have to do is put a hard carriage return

(via the return key) at the end of the previous line and the ADAM will follow whatever tabs of spaces you put in at the beginning of the next line.
I am sitting here re-reading issue #15 in which you gave a few tips on ADAM's SMARTWriter and thought I would drop you a line and let you know how much I appreciate the time and effort you all have put into this newsletter. Keep up the good work, it is needed by a great many of us. Thank you.
E. R. Kiesler
Thank you for the SMARTWriter tip that every SW user must know about. This letter was sent to Don Zimmerman, who has done all you a great service via his monthly SMARTWriter Tips column.

.Thank you for your prompt response in filling my order for all NIAD back issues. I have been very busy for the past week reading and re-reading all the issues. Your effort with ADAM is absolutely superb and the monthly issue is outstanding service and indicative of obvious dedication. Keep up the good work!
J.C. Mattos
- Thanks for the encouraging comments. We continually strive to povide the best in service to our members (even though we occasionally make mistakes).

NOTE: SEE SPECIALS ON NEXT PAGE AS WELL

ADAM DISK DRIVE ## AVAILABLE 9/86 ##
DC-1A/SINGLE SIDED 160K CAPACITY $ 289.00
DC-1A/DOUBLE SIDED 320K*CAPACITY $ 319.00
5-1/4" high-capacity disk drive for the Coleco Adam.
Provides expanded capability for faster storage and
retrieval and increased reliability. Requires standard
diskettes. Manufactured by Eve Elec Sytems and 100%
software and hardware compatible with the ADAM.
* 270K in CP/M 2.2
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/ Disk Manager and CP/M System disk if you have CP/M.
If your drive requires repair you will be charged $19.95
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$ 50.00
(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-colum 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 **
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-colum 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 9/1/86
SUBJECT TO CHANGE WITHOUT NOTICE

MEMBERS ONLY
PRODUCT LIST

SOFTWARE (DDP UNLESS NOTED)

SMART LOGO 7600	$ 29.95 SPECIAL
EXPERTYPE 7602	$ 19.95 SPECIAL
SMART FILER 7813	$ 15.95
RECIPE FILE 7814	$ 15.95
SMART LTRS/FORMS	
7805	$ 15.95
FLASHCARD MAKER 7662	$ 15.95
FLASHFACTS (TRIVIA 2902,	
HISTORY 2901,VOCAB 2900)	$ 11.95@
ADAMCALC 7831	$ 29.95
R. SCARRY'S WORDBOOK 7658	$ 20.95
WACKY WORD GAME 7834	$ 15.95
DONKEY KONG	$ 19.95
DONKEY KONG,JR.	$ 19.95
SUPER ZAXXON 2623	$ 10.95 SPECIAL
2010: TEXT ADVENTURE	
GAME BY MGM/UA 7849	$ 20.95
FAMILY FEUD 7710	$ 20.95
BEST OF BRODERBUND	$ 10.95 SPECIAL

NIAD USER'S GROUP PRODUCTS:

I. NIAD PUBLIC DOMAIN SOFTWARE

** COST IS $7.00 FOR EACH VOLUME ON DDP **
** COST IS $5.00 FOR EACH VOLUME ON DISK **
*** SPECIFY VOLUME # AND DISK OR DDP***

- SMARTBasic   Volumes I-15 #BNDV1-15 (15 different volumes)
- SMARTLogo   Volumes 1-2 #LNDV1-2 (2 volumes)
- ADAMCalc   Volumes 1-2 #ANDV1-2 (2 volumes)
- BASIC Utilities   Volumes 1-2 #UNDV1-2 (2 volumes)
                      Note: UNDV1 contains copy utility
- CPM 2.2   Volumes I-21 #CNDV1-21 (21 volumes available)

- JEOPARDY
- PINBALL/ MACK
- TROLLS TALE
- ADAM DIAGNOSTIC (NOTE: Requires 64K Memory Expander)
- SUPER SUB ROC
- ADAMLINK II TELECOMMUNICATIONS

II. COMMERCIAL SOFTWARE

-SMARTGAMES PACK	$ 9.95 DISK
	$ 11.95 DDP
-ROYAL AMBASSADOR EDUCATION	
PACK I (CHRISTIAN PGMS)	$ 9.95 DISK SPECIAL
	$ 11.95 DDP
-CPM NEVADA BASIC	$ 39.95 DISK/DDP
-SP-1 CUSTOM SFTWARE FOR	
SMARTWRITER /FILER (AVAIL-	
ABLE FOR MOST PRNTERS)	$ 20.00

OTHER SOFTWARE- SPECIFY DDP OR DISK

VIDEOTUNES (DDP ONLY)	$26.95
FANTASY GAMER (DDP)	$22.95 SPECIAL
BASIC BONANZA	$22.95 SPECIAL
DIABLO	$19.95
SOFTPACK I	$18.95
LVAC ARCHIVES I	$ 9.95 SPECIAL
REEDY SOFTWARE LIB	$15.95 SPECIAL
QUICKFAX QUEST	$22.95
PERSONAL ACCOUNTANT	$19.95
SMARTBEST	$16.95
STRATEGY STRAINER I	$19.95
BUSINESS PACK	$18.95
PAINTMASTER	$22.95 NEW
TURBOLOAD	$26.95 NEW
POWERPRINT	$22.95 NEW

SIGNSHOP		$22.95 NEW
SMARTTRIX		$28.95 NEW
QUICKOPY	DISK	$11.95 NEW
	DDP	$14.95
MULTIWRITE		$36.95 NEW
MEDIA AID		$19.95 NEW
ELEC GAME PACK	DISK	$17.95 NEW
	DDP	$19.95
NUMBER BUMPER	DDP	$18.95 NEW
REEDY ENTERTNMNT PK	DSK	$15.95 NEW
	DDP	$17.95
JEOPARDY QUESTION PACK		$19.95 NEW
TRIVIA PACK I	DISK	$14.95 NEW
	DDP	$16.95

CARTRIDGE SOFTWARE

SMURF PAINT AND	
PLAY 2697	$18.95
SUESS FIX UP	
PUZZLE 2699	$18.95
MONKEY ACADEMY 2694	$18.95
TELLY TURTLE LOGO	
GRAPHICS 2698	$18.95
DUKES OF HAZZARD	$18.95
ROCKY BOXING	$18.95
WARGAMES	$18.95
CABBAGE PATCH PIC	$18.95
SHOW	
SPYHUNTER	$24.95

CP/M 2.2 COMM'L SOFTWARE - REQUIRES ADAM CP/M SOFTWARE

INFOCOM PRODUCTS:

Planetfall	$34.95
Zork I	$34.95
Zork II, III	$39.95 @
Starcross	$39.95
Deadline	$39.95
Seastalker	$39.95 NEW
HitchHiker Quide	$34.95 NEW

**** NIAD SPECIALS ****

- EVE SP-1P (PARALLEL ONLY) AND
  PANASONIC 1080 PRINTER $ 309.95
- RECONDITIONED DIGITAL DATA DRIVES $ 19.95(30 day guar)
- NEW ADAM (TAN) HAND CONT'S 2 for $ 10.00
- NEW ADAM KEYBOARDS $ 9.95
- ADAMNET CABLES for KEYBOARD/DISK $ 2.95

- SIX # 7806 RIBBONS $25.95
- 3 1/2 x 15/16 PIN FEED ADDRESS LABS $ 6.95/1000
- 9 1/2 x 11 20 Lb PIN FEED PAPER $ 9.95/500
                                  $16.95/1000
- JANE'S RECIPES (REQ'S RECIPE FILER) $ 7.00 DISK
(specify VOL 1 Deserts or VOL 2 Salads) $9.00 DDP

CONVERSION OF SUPER GAMES TO DISKETTE: $ 4.00 EACH
NOTE: YOU MUST SEND IN THE LABEL CARD FROM
THE GAME AS PROOF OF PURCHASE EDUCATION PACK II $ FAMILY
FEUD; BEST OF BRODERBUND CAN BE COPIED DIRECTLY
BY MOST COPY PROGRAMS

SMARTFILER COPY SERVICE FOR LATEST VERSION WITH $ 4.00
MAILING LABEL PRINT FIX (SEND IN YOUR FILER DISK/DDP)

BACK ISSUES OF NIAD NEWSLETTER FROM 1/85 $ 3.00 EACH
                                  $ 2.50 EACH (10 +)

RIGHT DIR TAPES FOR COPYING SUPERGAMES $ 2.50 EACH
TO TAPE

*** PRINTERS ***   ** MONITORS **

PANASONIC KX-1080 $ 249.95
. TYPE: 9x9 DOT MATRIX
. SPEED: DRAFT MODE -100 CPS (PICA & ELITE);
             NEAR LTR QUAL - 20 CPS; PROPRTIONL -75
. PRINT CHAR:BI-DIRECTIONAL; 96 CHAR W/ASCII DEC'S
             NORMAL, ELONGATED,CONDENSED,IBM GRAPHICS
             ITALICS, IBM SPECIAL CHAR'S
. MEDIA HNDL:ADJ TRACTOR FEED, FRICTION FEED   PANASONIC COLOR DT-S101 COMPOSITE $ 199.95
             4" TO 10" PAPER   . CRT TYPE: 10" 90 DEG INLINE DARK; P22
. INTERFACE: CENTRONICS 8 BIT PARALLEL   . DOT PITCH: .63 MM
. BUFFER: 1K STANDARD - 4K ADD'L OPTIONAL ($ 69.95) . RESOLUTION: 250 HOR x 300 VERTICAL
. SIZE: 4.5"x15.9"x11.3"; WEIGHT 14.6 LBS   . SIZE: 10.3 x 11.2 x 13.4 "
. FEATURES: 2 YEAR LIMITED WARRANTY   . AUDIO: YES
                                                 . FEATURES: BLK & WHITE DISPLAY
                                                 . OPTIONS: TILT SWIVEL STAND $ 19.95
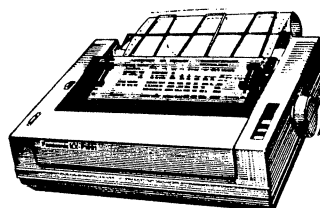PANASONIC KX-1091 $ 299.95
. TYPE: 9x9 DOT MATRIX
. SPEED: DRAFT MODE -120 CPS (PICA & ELITE);
             NEAR LTR QUAL - 29 CPS; PROPRTIONL -75
. PRINT CHAR:BI-DIRECTIONAL; 96 CHAR W/ASCII DEC'S
             NORMAL, ELONGATED,CONDENSED,IBM GRAPHICS
             ITALICS, IBM SPECIAL CHAR'S
. MEDIA HNDL:ADJ TRACTOR FEED, FRICTION FEED
             4" TO 10" PAPER
. INTERFACE: CENTRONICS 8 BIT PARALLEL
. BUFFER: 1K STANDARD - 4K ADD'L OPTIONAL ($ 69.95)
. SIZE: 4.5"x15.9"x11.3"; WEIGHT 14.6 LBS
. FEATURES: 2 YEAR LIMITED WARRANTY

PANASONIC KX-1092 $ 399.95
. TYPE: 9x9 DOT MATRIX
. SPEED: DRAFT MODE -180 CPS (PICA & ELITE);
             NEAR LTR QUAL - 33 CPS; PROPRTIONL -112
. PRINT CHAR:BI-DIRECTIONAL; 96 CHAR W/ASCII DEC'S
             NORMAL, ELONGATED,CONDENSED,IBM GRAPHICS
             ITALICS, IBM SPECIAL CHAR'S
. MEDIA HNDL:ADJ TRACTOR FEED, FRICTION FEED
             4" TO 10" PAPER
. INTERFACE: CENTRONICS 8 BIT PARALLEL
. BUFFER: 7K STANDARD - 4K ADD'L OPTIONAL
. SIZE: 5.4"x16.3"x13.8"; WEIGHT 19.6 LBS
. FEATURES: 2 YEAR LIMITED WARRANTY

PANASONIC RIBBONS # P110 (ALL MODELS) $ 9.95   TRAINING MANUALS/ BOOKS

STAR SG10 $ 279.95   LEARNING EXPRESS AUDIO TRAINER $ 32.95
. TYPE: 9x9 DOT MATRIX   CP/M USER'S GUIDE BY T. HOGAN $ 15.95
. SPEED: DRAFT MODE - 120 CPS; NLQ -30 CPS   WORD PROCESSING WITH YOUR ADAM
. PRINT CHAR:BI-DIRECTIONAL, NORMAL,ELONGATED, CONDSD BY TAB BOOKS $ 8.95
             ITALICS, IBM GRAPHICS/ SPECIAL CHAR"S THE COLECO ADAM USER'S HANDBOOK$ 8.95
. MEDIA HNDL:ADJ TRACTOR FEED,FRICTION FEED   THE BASIC ADAM : A SELF TEACHING
             4" TO 8 1/2 "   GUIDE BY ABIKOFF & CORNELL $ 14.95
. INTERFACE :CENTRONICS 8 BIT PARALLEL   HACKER'S GUIDE TO ADAM VOL I $ 11.95
. BUFFER: 2K STANDARD   HACKER'S GUIDE TO ADAM VOL II $ 11.95
. FEATURES: 140 DOWNLOADABLE CUSTOM CHARACTERS
. ACCESSORIES: RIBBONS $ 2.95   PROGRAMS FROM BOTH VOL I&II OF
                 4K BUFFER $ 109.95   HACKER'S GUIDE $ 3.00 DISK
                                                                                 $ 5.00 DDP