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I HOPE ALL OF YOU HAD A REAL NICE EASTER AND ARE READY FOR SPRING, I KNOW I SURE AM !

EASTER HAS BECOME A VERY SPECIAL HOLIDAY TO ME OVER THE LAST FEW YEARS. I USED TO CONCENTRATE ON BUNNIES AND EGG HUNTS AND EAT TOO MUCH CANDY (I HAD TO SAVE MY CHILDREN FROM GETTING SICK, SO I HELPED THEM BY GORGING ON THEIR BASKETS WHILE THEY WEREN'T LOOKING !!). EASTER NOW FOR ME IS A TIME OF CONCENTRATING ON THE ENIGMA OF THE CROSS AND WHAT GOD DID FOR ALL MANKIND THROUGH SENDING HIS VERY OWN SON TO DIE FOR US. THE CROSS IS BOTH A PLACE OF INHUMANE SUFFERING, SADNESS, GRIEF AND PITY FOR THE DEATH OF A MAN SO PURE AND INNOCENT AS WELL AS A PLACE OF SUPREME VICTORY AND TRIUMPH. WHAT A CONTRAST ! ITS NO WONDER THAT WE HAVE A HARD TIME FIGURING IT OUT. EVEN JESUS' DISCIPLES, WHO WERE WITH HIM SO LONG COULD NOT UNDERSTAND WHY HE HAD TO SUFFER SO AND DIE THE DEATH OF A CRIMINAL. THEY WANTED HIM TO BE A KING AND TRIUMPH IN THE USUAL WORLDLY SENSE. HOWEVER, WE SHOULD KNOW THAT GOD'S WAYS ARE NOT THE NORMAL WORDLY WAYS !! GOD'S PLAN WAS TO COMPLETELY TRIUMPH OVER SIN AND DEATH FOR US THROUGH THE SUFFERING AND DEATH OF HIS PERFECT SON. OH, HOW THE DISCIPLES UNDERSTODD THIS AFTER JESUS ROSE FROM THE GRAVE !! HOW THEY MUST HAVE REJOICED COMING FROM SO LOW PLACE WHEN CHRIST WAS SEIZED AND THEN CRUCIFIED!!

READ THE BIBLE AND ASK GOD TO HELP YOU UNDERSTAND THE CROSS AND HOW IT IS THE MEANS TO HIS PLAN OF SALVATION FOR MANKIND.
GOD BLESS YOU ALL.

"BEHOLD, WE ARE GOING UP TO JERUSALEM, AND EVERYTHING THAT IS WRITTEN OF THE SON OF MAN BY THE PROPHETS WILL BE ACCOMPLISHED. FOR HE WILL BE DELIVERED TO THE GENTILES, AND WILL BE MOCKED AND SHAMEFULLY TREATED AND SPIT UPON; THEY WILL SCOURGE HIM AND KILL HIM, AND ON THE THIRD DAY HE WILL RISE." LUKE 18:31-34 (RSV)

"THUS IT IS WRITTEN, THAT THE CHRIST SHOULD SUFFER AND ON THE THIRD DAY RISE FROM THE DEAD, AND THAT REPENTANCE AND FORGIVENESS OF SINS SHOULD BE PREACHED IN HIS NAME TO ALL NATIONS, BEGINNING FROM JERUSALEM." LUKE 24:46-47 (RSV)

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COLECO, ADAM, COLECOVISION, SMARTWRITER, ADAMCALC, SMARTFILER, SMARTBASIC, CPM 2.2, SMARTLOGO, SUPER ZAXXON, DRAGON'S LAIR ARE ALL TRADEMARKS OF COLECO INDUSTRIES, INC.



NIAD NEWS

WELL, HERE WE ARE WITH ANOTHER NIAD NEWSLETTER ALREADY ! THEY REALLY COME FAST WHEN YOU'RE DOING THE WORK TO WRITE ARTICLES. I THANK GOD AND REALLY APPRECIATE THE WORK THAT WAYNE MOTEL, BARRY WALLIS, KIP HAMMOND AND CHUCK KOLANDER ARE DOING TO HELP YOU NIAD MEMBERS OUT - DON'T YOU APPRECIATE IT TOO ? LETS LET THEM KNOW THIS, SEND IN YOUR COMMENTS SO THEY CAN BE REPRINTED FOR ALL TO SEE. ALSO, PLEASE HELP TAKE THE BURDEN OFF THESE GUYS (AND ME TOO) BY SUBMITTING ARTICLES AND REVIEWS - DON'T JUST RELY ON OTHERS, CONTRIBUTE TO NIAD YOURSELF ! YOU DON'T HAVE TO BE THE WORLDS GREATEST WRITER OR TECHNICIAN, NIAD MEMBERS ARE DIVERSE AND SOME WILL BENEFIT FROM YOUR HELP. PLEASE SEND IN THOSE BOOK REVIEWS ALSO, THESE REVIEWS WILL HELP OTHER NIAD MEMBERS PICK OUT BOOKS THAT CAN HELP THEM.

WAYNE HAS ENHANCED THE FDUMP PROGRAM TO READ FROM TAPE/DISK AND WRITE A BLOCK INTO MEMORY FOR DUMPING AND VIEWING. THIS DUMP PROGRAM IS VERY PROFESSIONALLY DONE, USING COLOR AND MENUS TO AID THE USER - NICE JOB WAYNE !

ADDITIONALLY, WAYNE IS STARTING A SERIES OF ARTICLES IN THE UTILITIES WORKSHOP TO GIVE YOU AN UNDERSTANDING OF HOW ADAM STORES FILES. THIS INFORMATION WILL AID THE MORE TECHNICAL NIAD MEMBERS TO BETTER UTILIZE THEIR SYSTEM. WAYNE IS ALSO WORKING ON A COPY PROGRAM THAT WILL BE DEVELOPED IN STAGES. THE FIRST "INSTALLMENT" WILL BE A BASIC COPY PROGRAM (DISK AND TAPE) WHICH WILL BE READY IN MAY FOR ALL NIAD MEMBERS. FUTURE FEATURES WILL INCLUDE A VERIFY FUNCTION, INDIVIDUAL FILE COPY AND OTHERS STILL ON THE DRAWING BOARD.

NEXT MONTH, NIAD SOFTWARE EXCHANGE PROGRAMS WILL BE AVAILABLE ON COMPU SERVE FOR THOSE OF YOU WHO HAVE THE ADAM LINK MODEM AND ADVANCED TELECOMMUNICATIONS SOFTWARE. SEE THE CPM WORKSHOP FOR INFORMATION ON OUR PLANS FOR CPM SOFTWARE EXCHANGE VIA COMPU SERVE.

WE'VE ADDED SOFTWARE FROM TAPEWARE TECHNOLOGY AND EXTENDED SOFTWARE CO TO THE NIAD BUYING SERVICE PRODUCT LIST. I BELIEVE BOTH OF THESE COMPANIES HAVE QUALITY PRODUCTS THAT ARE GOOD ADDITIONS TO YOUR SOFTWARE LIBRARY. BOTH ARE ALSO WORKING ON ADDITIONAL PRODUCTS FOR THE ADAM. PLEASE SUPPORT THESE SUPPLIERS OF QUALITY ADAM SOFTWARE.

ADDITIONALLY, I HAVE ADDED SOME OF THE RECENT COLECO CARTRIDGE SOFTWARE TO THE PRODUCT LIST BECAUSE I WAS SO IMPRESSED BY IT.

PLEASE NOTE THAT NIAD PRICES ON THESE ITEMS IS LOWER THEN ANYWHERE ELSE (AS FAR AS I KNOW). I CAN ONLY MAINTAIN THESE DISCOUNTS IF I ORDER IN VOLUME - THATS UP TO YOU !!

FOR SOME OF YOU WHO HAVE HAD RIBBONS ON ORDER, I APOLOGIZE FOR THE TIME IT IS TAKING TO FILL YOUR ORDERS, BUT MY SUPPLIER HAS HAD THEM ON BACKORDER FOR A MONTH. THEY HAVE RECENTLY COME IN AND I SHOULD BE ABLE TO FILL ALL BACKORDERS BY THE TIME YOU RECEIVE THIS NEWSLETTER. I HAVE ALSO FOUND A SECOND SUPPLIER OF RIBBONS SO THIS SHOULD NOT HAPPEN AGAIN.

PLEASE NOTE THAT BACK ISSUES OF THE JANUARY, FEBRUARY AND MARCH NIAD ISSUES ARE AVAILABLE FOR \$3.00 EACH FOR NEW MEMBERS. I RECOMMEND YOU PURCHASE THESE ISSUES TO OBTAIN THE WORKSHOP INFORMATION AND REVIEWS. UNTIL MID-MARCH I WAS GIVING THE JAN AND FEB ISSUES TO ALL NEW MEMBERS, BUT THIS BECAME TOO MUCH OF A PROBLEM TO KEEP TRACK OF WHO GOT WHAT. HENCE, AS OF THE PUBLICATION DATE OF EACH MONTHLY ISSUE ONLY THAT MONTHS ISSUE WILL BE GIVEN TO NEW MEMBERS.

A FEW COMMENTS ABOUT ORDERING FROM THE BUYING SERVICE:

- . SEND A MONEY ORDER OR CHARGECARD NUMBER IF YOU WANT TO EXPEDITE YOUR ORDER. ALL FIRST TIME ORDERS PAID BY CHECK WILL BE HELD FOR 10 DAYS UNTIL THE CHECK CLEARS.
- . IF YOU ORDER ITEMS THAT ARE SHOWN AS NOT YET AVAILABLE AT THE SAME TIME YOU ORDER OTHER ITEMS, YOU WILL BE CHARGED TWO SHIPPING CHARGES UNLESS YOU SPECIFY THAT I SHOULD HOLD YOUR ORDER UNTIL ALL ITEMS ARE AVAILABLE.

- . IF YOU WANT ME TO SHIP TO A POST OFFICE BOX, INCLUDE THE SHIPPING CHARGE FOR US MAIL SINCE UPS DOES NOT SHIP TO PO BOXES.

- . PLEASE CALL ME BEFORE RETURNING ANY MERCHANDISE.

- . IF I AM BACKORDERED ON AN ITEM THAT IS NOT SHOWN AS "NOT YET AVAILABLE", I WILL FILL THE REST OF YOUR ORDER AND SEND THE BACKORDERED ITEM WHEN RECEIVED (WITH NO ADDITIONAL SHIPPING CHARGE).

ADAM'S FUTURE

IN TALKING WITH THE PEOPLE AT COLECO RECENTLY, IT APPEARS THAT THERE MAY STILL BE A DEAL COOKING RELATIVE TO THE SALE OF ALL OF THE ADAM HARDWARE AND SOFTWARE TO A 3RD PARTY RETAILER. EVIDENTLY, THE CONTRACT FINALIZATION HAS BEEN HELD UP, BUT THE ARRANGEMENT IS NOT DEAD (AT LEAST NOT YET). THE ARRANGEMENT WITH THE FIVE RETAILERS I ANNOUNCED LAST MONTH MAY TURN OUT TO BE AN INTERIM ONE, BUT WHO KNOWS.

THERE HAVE BEEN RUMORS THAT LORANGER (THE COMPANY THAT MAKES THE LORAN DATA PACKS) IS PRODUCING SOME ADAM DATA DRIVES AND EVEN THE CONSOLE ITSELF. THIS HAS NOT YET BEEN CONFIRMED.

EVIDENTLY, COLECO IS STILL MANUFACTURING THE ADAM IN LIMITED QUANTITIES TO MEET THE SALE QUANTITY THAT WAS AGREED TO WITH THE 3RD PARTY. IT'S UNCLEAR WHETHER THE DISK DRIVES AND OTHER PERIPHERALS OR THE SOFTWARE ARE STILL BEING PRODUCED. I HAVE NO INDICATION THAT THERE IS ANY SHORTAGE OF THESE ITEMS AT THIS POINT. COLECO STILL INSISTS THAT THEY WILL PRODUCE MORE SOFTWARE FOR THE ADAM (SEE UPDATES SECTION).

I AM ENCOURAGED BY THE SOFTWARE THAT IS COMING OUT FROM THE 3RD PARTY VENDORS AND PREDICT THAT THIS WILL INCREASE IN THE FUTURE AS A RESULT OF THE ADAM TECHNICAL MATERIAL BEING MADE AVAILABLE. I AM CONTINUING TO RESEARCH OUT NEW VENDORS AND EVALUATE

THEIR PRODUCTS FOR NIAD MEMBERS.

I AM VERY ENCOURAGED BY THE SUPERB SOFTWARE THAT IS COMING OUT FROM SYDNEY DEVELOPMENT AND THAT THEY HAVE MORE IN THE WORKS. LETS BUY THESE PRODUCTS AND SUPPORT THESE VENDORS - IF WE DON'T, THEN WERE CERTAINLY CUTTING OFF OUR NOSES.

OVERALL, I AM STILL ENCOURAGED BASED ON WHAT I SEE IN THE MARKETPLACE. I WOULDN'T WANT TO TRADE MY ADAMS FOR ANY SYSTEM - ITS STILL THE BEST HOME SYSTEM OUT IN MY OPINION !

UPDATES

. RESPONSE FROM THE SURVEY FOR SMARTBASIC 2.0 AND THE ADAM UTILITY KIT WAS GOOD WITH ABOUT 50% OF YOU INDICATING THAT YOU WOULD BUY BASIC 2.0 AND 40% WOULD BUY THE UTILITY KIT. I AM FORWARDING THIS INFORMATION TO COLECO AND WILL LET YOU KNOW AS SOON AS I HEAR ANY FEEDBACK.

. I'M SURE THAT MOST OF YOU HAVE RECEIVED YOUR ADAMLINK II SOFTWARE BY NOW. BOTH THE FAM-200 AND CRE FORUMS ON COMPUSERVE HAVE DATA AREAS FOR YOU TO STORE AND RETRIEVE PROGRAMS. IF YOU ARE NEW AT THIS, IT MAY BE CONFUSING. WHEN YOU SIGN INTO FAM-200, TYPE 'DL6' AT THE MENU PROMPT AND THEN 'R UPLOAD.HPL' WHEN YOU GET INTO DL6. A FILE WILL BE DISPLAYED THAT WILL TELL YOU HOW TO UP/DOWNLOAD PROGRAMS USING THE NEW ADAMLINK SOFTWARE 0- HAVE FUN !!

. THE NEXT SOFTWARE RELEASES FROM COLECO FOR ADAM ARE STILL SCHEDULED FOR THIS QUARTER. 2010: TEXT ADVENTURE SHOULD BE OUT SHORTLY, FOLLOWED BY FAMILY FEUD, JEOPARDY, MATHQUEST AND BERENSTAIN BEARS. COLECO HAS JUST RELEASED FOUR NEW CARTRIDGE SOFTWARE TITLES WHICH ARE EXCELLENT - SEE THE REVIEWS SECTION.

. VICTORY SOFTWARE HAS RELEASED STRATEGY PACK I ON DDP/DISK (SEE REVIEW THIS ISSUE) AND WILL HAVE GAME PACK I OUT SHORTLY.

EXTENDED SOFTWARE CO. IS WORKING ON SOME VERY INTERESTING PROGRAMS. I HAVE TALKED WITH THEIR PRESIDENT AND AM IMPRESSED WITH THEIR APPROACH AND COMMITMENT TO THE ADAM. AS JIM TOLD ME, "...I WAS SO IMPRESSED WITH THE CAPABILITIES OF THE ADAM, THAT I CHOSE TO WORK ON NEW PRODUCTS FOR IT RATHER THEN SOME OTHER SYSTEMS...". NIAD MEMBERS, THIS IS OUR TYPE OF GUY !

. STEVE SIMPSON IS WRAPPING UP AUTOAID WHICH SOUNDS GREAT, WE WILL REVEIW IT AS SOON AS IT IS COMPLETED.

. WE HAVE OUR FIRST 3RD PARTY ADAM ACCESSORY FROM A NEW COMPANY CALLED ADAM TECH. OUR OWN JOE ZINGALE HAS DEVELOPED AN EXTERNAL POWER SUPPLY FOR THE ADAM AND IS PLANNING ON SOME SOFTWARE PRODUCTS AS WELL -SEE REVIEWS SECTION.

UTILITIES WORKSHOP

FDUMP2 BY W. MOTEL

I'VE ENHANCED FDUMP FROM THE LAST ISSUE TO INCLUDE A ROUTINE TO READ A BLOCK OF DATA IN FROM TAPE OR DISK INTO MEMORY, WHICH YOU CAN THEN DUMP OUT.

THIS IS USEFUL FOR MANY THINGS,

- LOOK AT THE ACTUAL TAPE/DISK DIRECTORY
- LOOK AT ANY FILE
- INVESTIGATE AND SEE HOW VARIOUS FILES ARE FORMATTED, SUCH AS SMARTFILER, SMARTWRITER, ETC.

THE MACHINE LANGAÜGE ROUTINE I USE IS LOADED AT ADDRESS 27645 TO 27665. THE ACTUAL DATA THATS READ IN IS STORED IN MEMORY LOCATION 28000 TO 29023 (1024 BYTES). THIS ROUTINE IS ACTUALLY JUST CALLS AND Z80 REGISTER LOADS FOR 2 OPERATING SYSTEM ROUTINES. THE FIRST ROUTINE CHECKS TO SEE WHICH DEVICES ARE CURRENTLY ACTIVE. THIS KEEPS THE SECOND ROUTINE FROM LOCKING UP IF WE TRY TO ACCESS A NONE EXISTENT DEVICE. THE SECOND ROUTINE ACTUALLY READS 1 BLOCK OF DATA IN. WHAT WE NEED TO PASS IT, BY LOADING VARIOUS REGISTERS, IS

- DEVICE # WE WANT TO READ FROM (A REGISTER)
- MEMORY ADDRESS TO STORE DATA AT (HL REGISTERS)
- SECTOR TO READ FROM -BLOCK #- (E REG. B,C,D SET TO 0)
- RETURNED IN A REGISTER IS CODE INDICATING RESULT

IF YOU'RE INTERESTED IN Z80 MACHINE LANGUAGE, THE TWO BOOKS I USE ARE

- Z80 REFERENCE CARD - NANO SYSTEM- APPX \$ 4.95
- Z80 INSTRUCTION HANDBOOK - NAT WADSWORTH HAYDEN PUBL. \$ 6.50

THE HANDBOOK IS VERY GOOD IN GIVING BRIEF DESCRIPTIONS OF WHAT THE VARIOUS INSTRUCTIONS DO. BRIEFLY, THE MACHINE LANGUAGE ROUTINES ARE:

27645	205,138,252	CALL 63947	JUMP FOR SCAN-ACTIVE
27648	62,X	LOAD A,IMM	(DEVICE ID)
27650	33,96,109	LOAD HL,IMM	(STORE AT ADDRESS)
27653	1,0,0	LOAD BC,IMM	
27656	17,X,0	LOAD DE,IMM	(SECTOR WANTED)
27659	205,243,252	CALL 64755	JUMP FOR READ-BLOCK
27662	50,95,109	LOAD (ADDR),A	STORE A REG IN MEMORY
27665	201	RETURN	BACK TO AFTER YOUR CALL



IF YOU DUMP THE ADDRESSES OUT, YOU'LL SEE THE ACTUAL HEX VALUES

SEE MY ARTICLE ON DIRECTORY LAYOUT. THIS WILL HELP YOU DECODE YOUR OWN TAPES/DISK. I HOPE TO HAVE A FORMATTED DIRECTORY PRINT PROGRAM FOR NEXT ISSUE.

THE ADDITIONS/CHANGES FROM ORIGINAL FDUMP ARE LINES
10-40 LOAD OF MACHINE LANGUAGE
1108-1109, 1113 PROMPT AND CHECK FOR 77777 OPTION
1800-1899 BLOCK READ ROUTINE.

I HOPE YOU FIND THIS USEFUL AND A HELP TO BETTER UNDERSTANDING THE ADAM. YOU CAN READ AND DUMP AS MANY BLOCKS OF DATA AS YOU WISH WITHOUT EXITING THE PROGRAM. THE ONLY THING THAT MAY BE STRANGE TO YOU IS IN USING THE DISK. FOR SOME REASON, THE TAPE WILL SENSE AN EMPTY DRIVE AND RETURN BACK TO YOU. THE DISK WILL NOT. IF YOU SELECT YOUR DISK DRIVE AND DO NOT HAVE ANYTHING IN IT, THE SYSTEM WILL SIT AND APPEAR TO BE LOCKED UP. JUST INSERT A DISK INTO THE DRIVE. THIS WILL THEN COMPLETE THE READ AND RETURN BACK TO YOU.

REMEMBER, THE LAST BLOCK READ IN IS STILL IN ADDRESS 28000-29023. YOU CAN DUMP AS MUCH OR AS LITTLE AS YOU WANT, AND USE THE HEX CONVERT SCREEN. THIS DATA REMAINS UNTIL YOU READ ANOTHER BLOCK OR RERUN THE PROGRAM.

IF YOU HAVE A DISASSEMBLER WRITTEN IN BASIC, YOU MIGHT WANT TO MODIFY IT TO USE THIS READ-BLOCK ROUTINE TO READ IN AND DISASSEMBLE MACHINE LANGUAGE PROGRAM. THIS WOULD BE QUITE FASTER THAN DECODING THEM JUST FROM MY DUMP PROGRAM.

```
10REM FDUMP2 BY W. MOTEL
20LOMEM :29050
29REM LOAD ML FOR BLOCK READ
30FOR SA=27645 TO 27665:READ SV:POKE SA, SV:NEXT SA
31DATA 205,138,252
32DATA 62,0
33DATA 33,96,109
35DATA 1,0,0,17,0,0
37DATA 205,243,252
39DATA 50,95,109,201
40FOR SA=27999 TO 29023:POKE SA, 0:NEXT SA
1000 X$="0123456789ABCDEF":DIM C$(15)
1005 S2=PEEK(17115): S3=PEEK(17126)
1010POKE 17115, 245:POKE 17126, 74:GOTO 1100
1090FOR LC=0 TO 5000:NEXT
1100PR #0:TEXT
1101? " ENTER "; :INVERSE:? "START"; :NORMAL:? "
ADDRESS"
1108FLASH
1109? " OR 77777 TO READ BLOCK"
1110? " OR 88888 TO HEX CONVERT"
1111? " OR 99999 TO STOP"; :NORMAL:INPUT " "; SA
1112IF SA=88888 THEN GOSUB 1700:GOTO 1100
1113IF SA=77777 THEN GOSUB 1800:GOTO 1100
1115IF SA=99999 THEN POKE 17115, S2:POKE 17126,
S3:TEXT:END
1120? " ENTER "; :INVERSE:? " END "; :NORMAL:? "
ADDRESS"; :INPUT " "; EA
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```
1140IF SA>EA THEN ?:? CHR$(7):FLASH:? " START > END
ADDR":GOTO 1090
1150IF SA<0 OR SA>65535 OR EA<0 OR EA>65535 THEN ?:?
CHR$(7):FLASH:? " ADDRESS OUT OF RANGE":GOTO 1090
1152? " DOUBLE LINE SPACING":? " "; :FLASH:?
"Y/N"; :NORMAL:INPUT " "; A$
1154 LS=1:IF A$="Y" OR A$="y" THEN LS=2
1160? CHR$(7):? CHR$(7):FLASH:? " RETURN WHEN PAPER
READY"; :NORMAL:INPUT " "; A$
1170PR #1: LC=1
1200FOR C=0 TO 15: C$(C)=" ":NEXT C
1210?:IF LS=2 THEN ?
1220? SPC(5-LEN(STR$(SA))); SA; "-";
1230 SV=SA: DV=4096:GOSUB 1600:GOSUB 1650
1240 SV=RV: DV=256:GOSUB 1600:GOSUB 1650
1250 SV=RV: DV=16:GOSUB 1600:GOSUB 1650
1260 RS=RV:GOSUB 1650
1270? TAB(14);
1300FOR C=0 TO 15
1305 V=PEEK(SA+C)
1310 SV=V: DV=16:GOSUB 1600:GOSUB 1650
1320 RS=RV:GOSUB 1650
1330? " ";
1340IF V<32 OR V>126 THEN V=46
1350 C$(C)=CHR$(V)
1360IF SA+C>=EA THEN C0=C: CI=1: C=15
1370NEXT C
1380IF CI=1 THEN CI=0:GOTO 1400
1390 C0=15
1400? SPC(63-(C0*3+16)); :FOR C0=0 TO 15:? C$(C0);
:NEXT C0.
1410IF SA+C>=EA THEN GOTO 1100
1420 SA=SA+16
1430 LC=LC+LS
1440IF LC<60 THEN 1200
1450PR #0
1460? CHR$(7):INVERSE:? " INSERT NEW PAPER":NORMAL
1470GOTO 1160
1600REM BREAKDOWN TO HEX VALUE
1601REM SV IS START VALUE
1602REM DV IS DIVIDE VALUE
1603REM RS IS RESULT
1605REM RV IS REMAINDER(RETURN VALUE)
1610 RS=INT(SV/DV)
1620 RV=SV-RS*DV
1649RETURN
1650REM PRINT OF HEX VALUE
1660? MID$(X$, RS+1, 1);
1699RETURN
1700REM HEX CONVERTOR
1708GOTO 1710
1709FOR LC=0 TO 5000:NEXT
1710TEXT:HTAB (9):INVERSE:? " HEX CONVERTOR "
1715NORMAL:?:?:? " ENTER 1-5 DIGIT HEX NUMBER":?
1720? " ENTER "; :INVERSE:? "HEX"; :NORMAL:? " NUMBER
>>"; :INPUT " "; H$
1725 LH=LEN(H$)
1727IF LH<0 OR LH>5 THEN ?:? CHR$(7):FLASH:? "
INVALID NUMBER OF DIGITS":GOTO 1709
1730 RS=0: DV=0
1740IF DV=LH THEN 1770:REM ALL DIGITS USED
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1745 DV=DV+1: SV$=MID$(H$, DV, 1):REM   GET A HEX
CHARACTER FROM NUMBER
1743IF SV$>="0" AND SV$<="9" THEN RV=VAL(SV$):GOTO
1760
1749REM   ABOVE WAS NOT 0-9, FIND OUT WHICH IT IS
A-F
1750IF SV$="A" OR SV$="a" THEN RV=10:GOTO 1760
1751IF SV$="B" OR SV$="b" THEN RV=11:GOTO 1760
1752IF SV$="C" OR SV$="c" THEN RV=12:GOTO 1760
1753IF SV$="D" OR SV$="d" THEN RV=13:GOTO 1760
1754IF SV$="E" OR SV$="e" THEN RV=14:GOTO 1760
1755IF SV$="F" OR SV$="f" THEN RV=15:GOTO 1760
1758?:? CHR$(7):FLASH:? " INVALID HEX DIGIT ":GOTO
1709
1760 RS=RS+RV*(16^(LH-DV)):REM   HEX VALUE *
POSITIONAL VALUE
1765GOTO 1740
1770?:INVERSE:? " DECIMAL   NUMBER >>"; :NORMAL:? "
"; RS
1772?:FLASH:? " MORE TO CALC Y/N"; :INPUT " "; A$
1775IF A$="Y" OR A$="y" THEN 1710
1799RETURN
1800REM   BLOCK READ FROM TAPE/DISK
1808GOTO 1810
1809FOR LC=0 TO 5000:NEXT
1810TEXT:HTAB (9):INVERSE:? " BLOCK READ "
1815NORMAL:VTAB (4):? " READS BLOCK (1024 BYTES)"
1816? " TO MEMORY 28000 TO 29023":?
1820INVERSE:? " SOURCE   ":NORMAL
1822HTAB (3):INVERSE:? "(1)"; :NORMAL:? " TAPE 1   ";
:INVERSE:? "(2)"; :NORMAL:? " TAPE 2"
1823HTAB (3):INVERSE:? "(3)"; :NORMAL:? " DISK 1   ";
:INVERSE:? "(4)"; :NORMAL:? " DISK 2"
1824HTAB (3):INVERSE:? "(9)"; :NORMAL:? " RETURN   ";
:FLASH:? " CHOICE--> "; :NORMAL
1825INPUT " "; EA
1826VTAB (10):HTAB (15):? "           "
1830IF EA=9 THEN GOTO 1899
1835IF EA<1 OR EA>4 THEN ??: CHR$(7):FLASH:? "
INVALID CHOICE   ":GOTO 1809
1840 DV=255:IF EA=3 OR EA=4 THEN DV=159
1845?:INVERSE:? " ENTER BLOCK DESIRED IN RANGE"
1846? " 0 - "; DV; " "; :FLASH:? "--> "; :INPUT " ";
SA:NORMAL:VTAB (13):HTAB (11):? " "
1848IF SA<0 OR SA>DV THEN ??: CHR$(7):FLASH:? "
INVALID BLOCK NUMBER   ":GOTO 1809
1850REM   BUILD ML DEVICE ADDR IN RV (ASSUME TAPE 1)
1851 RV=8; DN$="TAPE 1"
1852IF EA=2 THEN RV=18; DN$="TAPE 2"
1853IF EA=3 THEN RV=4; DN$="DISK 1"
1854IF EA=4 THEN RV=5; DN$="DISK 2"
1858POKE 27649, RV:REM   POKE ML WITH DEVICE
1860POKE 27657, SA:REM   POKE ML WITH BLOCK TO READ
1862VTAB (15):HTAB (3):? "READ BLOCK "; :INVERSE:? SA;
:NORMAL:? " ON "; :INVERSE:? DN$; CHR$(7)
1864VTAB (16):HTAB (3):FLASH:? "MEDIA INSERTED/READY
Y/N"; :NORMAL:INPUT " "; A$
1865IF A$="Y" OR A$="y" THEN VTAB (16):HTAB (3):? "
":GOTO 1868
1866GOTO 1810
1868VTAB (20):HTAB (5):FLASH:? "WORKING":NORMAL

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1869CALL 27648:REM   CALL ML
1870REM   CHECK IF SUCCESSFUL
1871 RS=PEEK(27999)
1872IF RS=22 THEN ? CHR$(7):VTAB (22):HTAB (3):FLASH:?
"NOT SUCCESSFUL CHECK DRIVE ":NORMAL:GOTO 1809
1875GOTO 1890
1890VTAB (22):HTAB (3):FLASH:? "SUCCESSFUL DUMP
28000-29023":NORMAL:FOR LC=0 TO 5000:NEXT LC
1899RETURN

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DIRECTORY FORMAT BY W. MOTEL

THE TAPE AND DISKS YOU USE ON YOUR ADAM1, CONTAIN VARIOUS TYPES AND FORMATS OF DATA. THIS MONTH'S ARTICLE WILL BEGIN TO EXPLAIN WHAT SOME OF THAT INFORMATION IS AND, WITH THE HELP OF FDUMP2, SHOW YOU HOW TO DECIPHER SOME OF IT FOR YOURSELF.

DATA IS STORED ON TAPE/DISK IN GROUPS OF 1024 BYTES, WHICH IS CALLED A BLOCK. TAPE HAS A CAPACITY OF 256 BLOCKS, DISK IS 160 BLOCKS. THE FIRST BLOCK IS NUMBER 0, THEREFORE TAPE BLOCKS ARE NUMBERED 0 - 255 (HEX 00 - FF). DISK IS 0 - 159 (HEX 00 - 9F). WE WILL DISCUSS THE NORMAL CATALOGED STYLE TAPES/DISKS, NOT THE SUPER GAMES, WHICH DO NOT HAVE DIRECTORIES.

BLOCK 0 IS RESERVED FOR THE LOADER PROGRAM, CALLED BOOT. THE BOOT PROGRAM IS WHAT THE SYSTEM WILL TRY TO EXECUTE WHEN YOU HIT COMPUTER RESET. THE SYSTEM WILL LOOK FOR THE FIRST AVAILABLE DEVICE AND TRY TO BOOT WHATEVER IS ON BLOCK 0. THE TAPES/DISKS, SUCH AS SMARTBASIC, LOGO, SMARTFILER, SMARTCALC, ETC. HAVE A LOADER PROGRAM THAT DIRECTS IT TO READ IN AND EXECUTE A PROGRAM STORED ON THE MEDIA. THE TAPE/DISK CAN ALSO HAVE USER FILES ON IT. THE MAJORITY OF TAPES/DISKS THAT YOU JUST USE TO STORE FILES ON HAVE A VERY SHORT LOADER THAT DIRECTS THE SYSTEM TO GO BACK TO SMARTWRITER. TRY A COMPUTER RESET WITH THIS TYPE OF TAPE/DISK AND YOU WILL SEE THIS FOR YOURSELF. DUMPING OUT BLOCK 0 ON THIS TAPE/DISK WILL SHOW A SHORT MACHINE LANGUAGE PROGRAM IN THE 1ST 3 BYTES, OR SHORTLY THEREAFTER, OF (IN HEX) C3 E7 FC. THIS IS A JUMP TO ADDRESS FCE7 (64743), WHICH IS IN THE JUMP TABLE PORTION OF THE OPERATING SYSTEM. IT DIRECTS THE SYSTEM TO LOAD AND EXECUTE SMARTWRITER.

BLOCK 1 IS ALWAYS RESERVED FOR THE DIRECTORY. DEPENDING ON THE DIRECTORY SIZE IT WILL OCCUPY AT LEAST BLOCK 1 AND POSSIBLY MORE. 1 BLOCK IS LARGE ENOUGH TO STORE THE VOLUME-RECORD AND 38 FILE-RECORD'S. THE ONE EXCEPTION TO THIS IS SMART LETTERS&FORMS WHICH HAVE 4 BLOCKS (BLOCKS 1 THRU 4) FOR THE DIRECTORY, ALTHOUGH ONLY BLOCKS 1 - 3 HAVE FILE-NAMES IN IT.

BEFORE I GO THRU THE FORMAT OF THE DIRECTORY, YOU WILL NEED TO BE ABLE TO DO HEXIDECIMAL/DECIMAL EQUIVALENTS (USE HEX-CONVERT ON FDUMP2) AND BREAK THE HEX CHARACTERS IN A BYTE INTO THE 8 BIT PATTERN (SEE THE BIT PATTERNS IN YOUR BASIC MANUAL - APPX PAGE C-19 UNDER SHAPE-TABLES), BASICALLY, THE 4 BITS HAVE A VALUE OF 8 - 4 - 2 - 1. ALL 4 BITS BEING ON WOULD BE 8 + 4 + 2 + 1 = 15 (HEX F). WHEN LOOKING AT A BYTE, THE

8 BITS ARE NUMBERED (LEFT TO RIGHT) 7 - 0. BITS 7 - 4 FORM THE HI-ORDER HEX DIGIT. BITS 3 - 0 FORM THE LO-ORDER HEX DIGIT.

WHEN LOOKING AT BLOCK 1 (THE DIRECTORY), GROUP THE BYTES INTO GROUPS OF 26 BYTES. THE FIRST 26 IS THE VOLUME-RECORD. THE NEXT GROUPS OF 26 ARE THE FILE-RECORDS. THE LAST FILE-RECORD HAS A FILE-NAME OF BLOCKS LEFT. THIS INDICATES THE END AND ALSO INDICATES HOW MUCH IS LEFT ON THE TAPE/DISK.

VOLUME-RECORD

VOLUME-NAME 12 BYTES

INITIATED NAME THAT SHOWS UP ON CATALOG AS VOLUME.

DIRECTORY-SIZE 1 BYTE

VOLUME ATTRIBUTE BIT 7

VOL. DIRECTORY SIZE BITS 6 - 0

A 1 IN THE ATTRIBUTE INDICATES DELETE PROTECTED.

THE DIRECTORY SIZE IS SHOWN AS # OF BLOCKS.

DIRECTORY-CHECK 4 BYTES

UNIQUE CODE 55 AA 00 FF INDICATES A DIRECTORY EXISTS ON TAPE/DISK.

VOLUME-SIZE 4 BYTES

TOTAL # OF BLOCKS ALLOCATED

UNUSED ? 2 BYTES

DATE (CREATION ?) 3 BYTES

1 EACH FOR YEAR, MONTH, AND DAY

FILE-RECORD

FILE-NAME 12 BYTES

NAME OF FILE, USUALLY FOLLOWED BY FILE TYPE (A.A.H.H), THEN A HEX 03.

FILE-ATTRIBUTE 1 BYTE

1 IN THE BIT POSITION INDICATES TRUE CONDITIONS AS:

7 - PERM. (DELETED) PROTECTED

6 - WRITE PROTECTED

5 - READ PROTECTED

4 - USER FILE

3 - SYSTEM FILE

2 - FILE FLAGGED AS DELETED

1 - EXECUTE PROTECTED (1 IS NO EXECUTE)

0 - NOT A FILE (SEE BLOCKS-LEFT ENTRY)

START-BLOCK 4 BYTES

STARTING BLOCK NUMBER FOR FILE. LEFT (HI-ORDER) BYTE USUALLY HAS THE VALUE, OTHER 3 ARE 00.

ALLOCATED-SIZE 2 BYTES.

NUMBER OF BLOCKS ACTUALLY ALLOCATED.

USED-SIZE 2 BYTES

NUMBER OF BLOCKS USED (FULL + PARTIAL).

BYTES-IN-LAST-BLOCK 2 BYTES

NUMBER OF BYTES IN LAST BLOCK. MAX. VALUE IN HERE IS 00 04. THIS WOULD INDICATE 1024 BYTES (FULL).

DATE (CREATE ?) 3 BYTES

1 FOR YEAR, MONTH, DAY.

NOTE: FOR START-BLOCK, ALLOC/USED SIZE AND BYTES-LAST.

THE 2 BYTES ARE ALWAYS SHOWN AS LO-VALUE/HI-VALUE.

THE VALUE = LEFT BYTE + (RIGHT BYTE * 256). I.E. 00 04 IS 0 + (4 * 256) = 1024.

THIS CODING IS FAIRLY STANDARD IN Z80 CODING.

INSTRUCTIONS CONTAINING ADDRESSES ALSO STORE THEM THIS WAY.

THINGS TO LOOK FOR:

DIRECTORY-SIZE MOST ARE 81 (1000 0001) WHICH INDICATES DELETE PROTECT, 1 BLOCK DIRECTORY.

VOLUME-SIZE TAPE NORMALLY FF 00 OR 00 01, DISK A0. IF USING PACKCOPY, THE COPIED. DISK FROM TAPE GETS THE TAPE FFO0.

FILE-NAME

SOMETIMES YOU SEE PARTS OF THE NAME. BLOCKS-LEFT REMAINING AT THE RIGHT END.

THIS IS IGNORED AS THE SYSTEM READS UP TO THE FIRST HEX 03 (LEFT TO RIGHT). IF IT IS A USER-FILE, THE CHARACTER TO THE LEFT OF THE HEX 03 IS THE FILE-TYPE. SOME SYSTEM FILES HAVE A HEX 02 HERE. THIS SHOWS UP UNDER DISK-MGR AS A CIRCLE WITH BARS IN IT

FILE-ATTRIBUTE

THIS IS WHERE YOU NEED TO BREAK THE HEX INTO THE BIT PATTERNS. THIS IS WHAT THE SYSTEM DETERMINES WHAT FILES ARE PRINTED UNDER CATALOG. DELETED FILES STILL EXIST BUT NOT ACCESSIBLE FROM BASIC. YOU CAN BLOCK-READ THEM AND DUMP THEM OUT. LOCKED FILES SET ON THE FIRST 3 PROTECTS.

START-BLOCK

THIS WILL TELL YOU WHAT BLOCK TO START READING FROM. REMEMBER TO DO A HEX CONV.

WHAT BLOCK TO START READING FROM. REMEMBER TO DO A HEX CONV.

DATE (CREATE) THIS MAY CONTAIN VALUES.
BLOCKS-LEFT

THIS IS THE LAST FILE-NAME ENTRY. IT IS MARKED AS ATTRIBUTE (01) NOT A FILE. THE START-BLOCK SHOWS THE NEXT AVAILABLE BLOCK FOR STORAGE. ALLOC-SIZE SHOWS THE NUMBER OF AVAILABLE BLOCKS LEFT.

Noise Drum Demo BY C. KOLANDER

THINGS TO DO:

1. BLOCK-READ AND DUMP OUT THE DIRECTORIES (BLOCK 1) OF YOUR TAPES/DISKS. FIGURE OUT THE VARIOUS VALUES AND SEE IF YOU CAN SEE SOME PATTERNS. DO A CATALOG ON THE SAME TAPE/DISK AND SEE WHAT THE CATALOG COMMAND DOESN'T SHOW.

REMEMBER, BLOCK-READ SHOWS EVERYTHING

2. BLOCK-READ AND DUMP OUT VARIOUS FILES.
 - A. DETERMINE START-BLOCK I.E. 0A (10 IN DECIMAL)
 - B. DETERMINE USED-SIZE I.E. 02 (2 BLOCKS)
 - C. BLOCK-READ AND DUMP OUT THOSE BLOCKS I.E. BLOCKS 10 AND 11.

NEXT MONTH.

1. INFO ON VARIOUS FILE TYPE STORAGE FORMATS
2. HOPEFULLY, A FORMATTED CATALOG PRINT PROGRAM.

I'VE HOPEFULLY GIVEN YOU THE START TO DO SOME INVESTIGATIONS INTO OUR SYSTEM. LET'S ALL EXCHANGE INFORMATION AND WE MAY KEEP ADAM ALIVE FOR QUITE A WHILE. HOPEFULLY, YOU'LL FIND INVESTIGATING TO BE A EXCITING AS PLAYING GAMES AND WON'T MISS THE LACK OF SOFTWARE.

AS WE GO TO PRESS, I'VE FOUND THAT UNDER DISK-MGR, THE FILES THAT SHOW UP AS RUN HAVE THE FILE-ATTRIBUTE OF SYSTEM-FILE AND A 0 IN THE EXECUTE PROTECT BIT. THEY MAY HAVE OTHER ATTRIBUTES, BUT THESE CONTROL THE FILES THAT SHOW UP UNDER RUN. IF YOU LOOK AT SMART-FILER, BASICPGM (ON THE BASIC AND THE ADAMCALC TAPE/DISK), YOU WILL SEE THESE ATTRIBUTES, THESE ARE RUNABLE UNDER DISK-MGR. LOGO AND FLASHCARD ARE NOT. LOOKING AT THOSE DIRECTORIES, YOU WILL SEE THAT THE SYSTEM FILES ARE NO EXECUTE ALSO.

AS I'M SURE EVERYONE KNOWS ADAM HAS 4 SOUND "VOICES". 3 PRODUCE MUSICAL TONES AND THE LAST ONE PRODUCES NOISE. THE MOST COMMON USE OF THIS 4TH VOICE IS TO MAKE SOUND EFFECTS LIKE EXPLOSIONS AND GUN SHOTS, ECT. THIS PROGRAM SHOWS ANOTHER USE FOR THIS VOICE, THAT IS TO PRODUCE PERCUSSION TYPE NOISES. WHAT I HAVE CREATED HERE IS 2 SOUNDS, THAT OF A BASE DRUM AND A SNARE, TO PRODUCE 3 DIFFERENT BEATS. I'M SURE WITH A LITTLE WORK THAT OTHER SOUNDS, CYMBLES, CLAVES AND OTHER PERCUSSION CAN BE PRODUCED FROM THIS VOICE. THE NOISE CHANNEL HAS 8 DIFFERENT TYPES OF NOISE THAT YOU CAN CHOOSE FROM, FOR THIS PROGRAM I USED A HIGH AND LOW HISS TYPE NOISE. LINES 10 TO 50 SETS UP THE MACHINE LANGUAGE SUBROUTINE THAT MAKES THE COMPUTER MAKE SOUND.

LINE 10000 POKES THE VOLUME AND SOUND TYPE TO THIS ROUTINE AND CALLS IT TO MAKE THE ACTUAL SOUND. LINE 9550 SETS UP WHICH NOISE TYPE 224 + 4 (SNARE) AND 224 + 6 (BASE DRUM). 31 TURNS OFF THE SOUND IN THE CHANNEL. LINE 9700 CALCULATES THE VOLUME AND VOICE. THESE LINES ARE KIND OF BASIC TO MAKING SOUND ON ADAM AND CAN BE USED TO MAKE ANY KIND OF SOUND YOU WANT TO MAKE. TO CONTROL THE SOUND TO MAKE THE TYPE OF SOUNDS I WANTED, I VARIED THE VOLUME IN LINES 8300 TO 8340. ALL 3 BEATS ARE WRITTEN ABOUT THE SAME WAY, THEY JUST HAVE DIFFERENT DELAYS IN ORDER TO CREATE THERE TIMING. IF YOU PLAY AROUND WITH THEM (THE DELAYS) AND THE DATA STATEMENTS YOU WILL BE ABLE TO CREATE NEW BEATS. I HOPE THIS WILL HELP YOU TO UNDERSTAND HOW THIS PROGRAM WORKS, I DIDN'T WANT TO GET TO LONG WINDED. IF YOU WANT TO REALLY LEARN HOW TO PROGRAM SOUND ON ADAM I RECOMMEND THAT YOU DOWNLOAD SOUND.DOC FROM THE FAMILY COMPUTING FORUM OR READ A GOOD BOOK ON ADAM SOUND LIKE THE ADAM STARTER BOOK FROM SAMS.

```

5REM BY C KOLANDER
10LOMEM :28000.
12REM ACCESS SOUND CHIP
20POKE 27510, 62
30POKE 27512, 211
40POKE 27513, 224
50POKE 27514, 201
100HOME
110? "NOISE DEMO---DRUMS"
120?:? "1-BEAT #1"
130?:? "2-BEAT #2"
140?:? "3-BEAT #3"
150?:INPUT "WHICH DO YOU WANT TO HEAR? "; A
160ON A GOTO 5000, 6000, 7000
170GOTO 100
4999 A=0
5000REM BEAT #1
5010FOR X=1 TO 32
5020READ KY
5025IF KY=31 THEN N=255 :GOSUB 10000 :GOTO 5040
    
```



```

5030GOSUB 8300
5040NEXT X
5045RESTORE
5046 A=A+1
5050IF A=4 THEN GOTO 100
5055GOTO 5000
5060DATA 6,31,4,31,6,6,4,31
5070DATA 6,31,4,31,6,6,4,31
5080DATA 6,31,4,31,6,6,4,31
5090DATA 6,31,4,31,6,6,4,31
6000REM BEAT #2
6005 A=0
6010FOR X=1 TO 32
6020READ KY
6030GOSUB 8300
6040FOR Z=1 TO 100:NEXT Z
6050NEXT X
6060RESTORE
6070 A=A+1
6080IF A=4 THEN GOTO 100
6090GOTO 6010
6100DATA 6,31,4,31,6,6,4,31
6200DATA 6,31,4,31,6,6,4,31
6300DATA 6,31,4,31,6,6,4,31
6400DATA 6,31,4,31,6,6,4,31
7000REM BEAT #3
7010 A=0
7020FOR X=1 TO 32
7030READ KY
7035IF KY=31 THEN N=255:GOSUB 10000:GOTO 7060
7040GOSUB 8300
7045IF KY=6 THEN GOTO 7055
7050FOR Z=1 TO 100:NEXT Z
7054IF KY=4 THEN GOTO 7080
7055FOR B=1 TO 12.5:NEXT B
7060NEXT X
7070RESTORE
7080 A=A+1
7090IF A=4 THEN GOTO 100
7100GOTO 7020
7200DATA 4,6,6,4,31,31,4,6
7210DATA 4,6,6,4,31,31,4,6
7220DATA 4,6,6,4,31,31,4,6
7230DATA 4,6,6,4,31,31,4,6
8299REM CREATE DRUM SOUND BY VOLUME
8300 VOL=15:GOSUB 9500
8305FOR Y=15 TO 0 STEP -5:NEXT Y
8310FOR VOL=15 TO 0 STEP -3
8320GOSUB 9500
8330NEXT VOL
8340RETURN
9498END
9499REM SOUND ROUTINE
9500IF KY=31 THEN N=255:GOSUB 10000:RETURN
9550 N=KY+224
9600GOSUB 10000
9700 N=144+(15-VOL)*32
9800GOSUB 10000
9900RETURN
10000POKE 27511, N:CALL 27510:RETURN

```

AS YOU KNOW, YOU CAN HAVE A PROGRAM CALLED HELLO THAT AUTOMATICALLY LOADS AFTER BASIC. THERE IS ONLY ONE CATCH! NO MATTER WHERE BASIC IS LOADED FROM, TAPE OR DISK, THE OPERATING SYSTEM LOOKS FOR THE HELLO PROGRAM ON TAPE DRIVE 1. IF ANY OF YOU HAVE COPIED YOUR BASIC COMPILER ONTO DISK AND NORMALLY LOAD IT FROM THERE, THIS EXPLAINS WHY YOU HEAR THE EMPTY TAPE DRIVE WHIRL AWAY FOR A FEW SECONDS AFTER BASIC IS LOADED.

THE OPERATING SYSTEM WORKS AS FOLLOWS WHEN COMPUTER RESET IS DONE.

1. CHECK FOR DEVICES TO LOAD IN ORDER OF
 - DISK 1
 - DISK 2
 - TAPE 1
 - TAPE 2
2. A. NO VALID DATA FOUND ON A DEVICE, BOOT SMARTWRITER
 - B. VALID DATA FOUND, BOOT IT AND EXECUTE IT.

IF BASIC BOOTED AND LOADED,

1. LOOK FOR HELLO ON TAPE 1
2. LAST DRIVE USED NOW FLAGGED AS TAPE 1

THIS EXPLAINS WHY THE FIRST PROGRAM OR CATALOG YOU WANT FROM DISK 1 MUST BE ENTERED WITH THE IDENTIFIER ,D5.

I.E. LOAD PGM,D5
CATALOG,D5

THE LAST DEVICE IS NOW DISK 1 AND STAYS THAT WAY UNTIL YOU CHANGE IT.

IF YOU HAVE COPIED ANY OF THE VICTORY SOFTWARE OVER ONTO DISK AND THEY ARE THE ONES THAT HAVE BASIC AND THE HELLO PROGRAM ON THEM SO THAT IT SELFS LOADS, YOU WILL HAVE TO DO THE HELLO LOAD YOURSELF.

1. BOOT THE DISK FROM DISK 1
2. YOU GET BACK NORMAL BASIC V1.0 MESSAGE
3. RUN HELLO,D5

YOU ARE NOW INTO THE VICTORY SOFTWARE THE SAME WAY AS IF YOU LOADED FROM TAPE. ACTUALLY, THIS CAN BE AN ADVANTAGE IF YOU WANT TO CHANGE THE TEXT/SCREEN COLORS AS WE DISCUSSED IN THE LAST ISSUE. I PERSONALLY FIND THE BASIC TEXT PROGRAMS OF THEM AND OTHER SOFTWARE MAKERS MUCH MORE READABLE AND INTERESTING IN COLORS OTHER THAN BLACK AND WHITE.

PRIOR TO YOUR RUN HELLO,D5 JUST POKE 17115 AND 17126 WITH THE COLOR CODES YOU WANT. POKE 17115,245 AND POKE 17126,74 GIVES YOU THE WHITE ON BLUE (NORMAL) AND BLUE ON YELLOW (INVERSE) THAT I USE IN FDUMP.

IF YOU WANT TO DO THE SAME THING WHEN LOADING FROM TAPE.

1. BOOT THE COLECO BASIC TAPE
2. DO YOUR POKES FOR COLOR
3. INSERT THE VICTORY (OR OTHER SOFTWARE) AND RUN HELLO

THIS RUNS HELLO THE SAME AS IF YOU BOOTED THE VICTORY TAPE DIRECTLY. THIS ALSO WORKS WITH THE RIB TAPES WE REVIEWED IN THIS ISSUE.

ADAMCALC WORKSHOP

YOU KNOW, EVERY TIME I WORK WITH ADAMCALC I AM AMAZED AT THE QUALITY OF THIS PIECE OF SOFTWARE. THE FUNCTIONS PROVIDED ARE EQUAL TO OR BETTER THEN SPREADSHEET PROGRAMS COSTING FIVE TIMES AS MUCH. ITS ALSO VERY EASY TO USE AND THE HELP FUNCTION ADDS TO ITS UTILITY. WELL, ENOUGH OF THE RANTING AND RAVING (BUT ITS SOOOO GOOD !!).

I WANTED TO REVIEW ONE OF THE FEATURES OF CALC THIS MONTH THAT IS IN MY OPINION, A MUST FOR YOUR EFFECTIVE USE OF CALC'S FUNCTIONS.

"WINDOWS" IS A CONCEPT THAT HAS ONLY RECENTLY COME INTO THE COMPUTER BUZZ WORD VOCABULARY. THIS IDEA IS LIKE MANY OTHER ONES - IT IS A SIMPLE CONCEPT THAT MAKES SO MUCH SENSE YOU ASK "WHY DIDN'T I THINK OF IT" (DIDN'T YOU EVER WONDER WHY YOU DIDN'T THINK OF INVENTING THE HULA HOOP ?).

THE BASIC IDEA OF WINDOWS IS TO PROVIDE THE ABILITY TO VIEW MULTIPLE "SCREENS" ON YOUR VIDEO TERMINAL AT ONCE. THIS IS ACCOMPLISHED BY DIVIDING THE TERMINAL SCREEN INTO MULTIPLE LITTLE "WINDOWS", EACH OF WHICH CONTAINS A SELECTED GROUPING OF DATA. THESE DATA GROUPINGS COULD ACTUALLY BE DIFFERENT PROGRAMS THAT ARE RUNNING SIMULTANEOUSLY IN THE COMPUTER. USUALLY, ONLY ONE "WINDOW" AND HENCE APPLICATION PROGRAM IS ACTIVE AT ONE TIME. IF I REMEMBER CORRECTLY THE XEROX STAR SYSTEM WAS THE FIRST TO INTRODUCE THIS CONCEPT AS AN OFFICE PRODUCTIVITY TOOL. ALL THE MAJOR SOFTWARE VENDORS HAVE COME OUT WITH THEIR "WINDOW" PRODUCTS IN CONJUNCTION WITH INTEGRATED DATA BASE, WORD PROCESSING AND GRAPHIC PROGRAMS.

WHAT ADAMCALC PROVIDES US IS THE APPLICATION OF THIS "WINDOW" TOOL TO HELP THE USER IN GETTING AROUND THEIR SPREADSHEET. OBVIOUSLY, ALL BUT THE VERY SMALL SPREADSHEETS WILL NOT COMPLETELY FIT ON THE ADAM'S SMALL SCREEN DISPLAY AND THIS TYPE OF A USER AID IS REALLY A NECESSITY. LETS SEE HOW IT WORKS:

THE FIRST THING WE NEED TO DO IS DISTINGUISH BETWEEN THE "HOLD/RELEASE" FUNCTION AND "WINDOWS". THE H/R FUNCTION SIMPLY "HOLDS" WHATEVER ROW AND/OR COLUMN YOU SPECIFY ON THE SCREEN AT ALL TIMES AS YOU SCROLL YOUR SPREADSHEETS ROWS/COLUMNS ACROSS THE SCREEN. I RECOMMEND THAT YOU USE THE H/R TO KEEP YOUR ROW AND COLUMN HEADINGS "FIXED" ON THE SCREEN SO THAT YOU KNOW WHAT DATA YOU ARE LOOKING AT. AS AN EXAMPLE, IF YOU HAVE A MONTHLY BUDGET SPREADSHEET YOU WILL WANT TO HOLD THE EXPENSE ITEM NAMES (ROWS) AND THE NAME OF THE MONTH (COLUMNS) ON THE SCREEN SO YOU KNOW WHAT ITEM/MONTH YOU ARE INPUTTING. H/R WORKS WITHIN EACH OF THE WINDOWS YOU MAY SET UP. DEPENDING ON THE

SPREADSHEET YOU ARE WORKING WITH I WOULD SUGGEST YOU SET UP THE H/R OF YOUR TITLE ROWS/COLUMNS ON THE FIRST WINDOW WHICH IS THE WHOLE SCREEN. YOU SEE, EACH OF THE WINDOWS YOU SET UP WILL "LAY" ON TOP OF THE CURRENT SCREEN YOU ARE LOOKING AT, MUCH AS YOU WOULD LAY A POSTAGE STAMP ON TOP OF A PLAYING CARD. THE WINDOW THAT IS "BEHIND" IS AVAILABLE WHEN YOU WANT IT. TO MOVE BETWEEN WINDOWS YOU USE THE ACTIVATE WINDOW SMARTKEY WHICH ALLOWS YOU TO CHOOSE WHICH WINDOW YOU WANT TO WORK WITH. YOU CAN ONLY SCROLL WITHIN OR INPUT INTO ONE WINDOW AT A TIME. HOWEVER, BY SETTING UP YOUR WINDOWS CORRECTLY VIA AVERLAYING THEM YOU CAN SEE MULTIPLE PARTS OF YOUR SPREADSHEET AT ONCE, WHICH IS THE REAL ADVANTAGE OF CALC'S WINDOWS, ESPECIALLY FOR LARGE SPREADSHEETS.

THE INSTRUCTIONS FOR CREATING AND ADJUSTING THE SIZES OF YOUR WINDOWS ARE PRETTY WELL EXPLAINED ON PAGES 41-46 OF THE ADAMCALC MANUAL. HOPE THIS BRIEF INTRODUCTION TO WINDOWING WILL HELP YOU BETTER UTILIZE ADAMCALC.

Learning ADAMCalc Step-by-Step

	1	2	3	
11	Payment:	Principle:	Interest:	Rem:
12	Number:	Payment:	Payments:	Bal:
16	3:	\$151.27	\$37.02	
17	4:	\$152.59	\$35.51	
18	5:	\$154.53	\$33.98	
19	6:	\$155.80	\$32.44	
20	7:	\$157.43	\$30.88	
21	8:	\$158.99	\$29.30	
22	9:	\$160.58	\$27.71	
23	10:	\$162.19	\$26.11	
24	11:	\$163.81	\$24.49	
25	12:	\$165.45	\$22.85	
26	13:	\$167.10	\$21.19	
27	14:	\$168.77	\$19.52	
28	15:	\$170.45	\$17.83	
29	16:	\$172.16	\$16.13	

@29,2 Default
[8,3]-[R,C+1]
LoanSched 107 cells

SORT SEARCH WINDOW OPTIONS HOLD RELEASE NAMES MORE

FIGURE 17: HOLDING THE TITLES OF COLUMNS AND ROWS MAKES A LARGE SPREADSHEET EASIER TO READ

	1	2	3
1	LOAN Schedule Analysis		
2	-----		
3			
4	Loan Amount:		\$4000.00
5	Interest Rate:		+12.0%
6	Number of Payments:		24
7			
8	Monthly Payments:		\$188.29

LOAN Schedule Analysis

@1.1 Text
LOAN Schedule LoanSched 107 cells

SORT SEARCH WINDOW OPTIONS HOLD RELEASE NAMES MORE

FIGURE 18: DIVIDE YOUR SCREEN INTO TWO WINDOWS

LoanSched, which should still be on your screen, provides a good example. First press Home to get to a good starting point. Press WINDOW OPTIONS (III). Notice that a different color border appears, showing the size and location of the present window. The hand points to the upper left corner of the window. You need to change this window to look like the top window in Figure 18.

SMARTLOGO WORKSHOP

"...THE LAND SHALL BE OPEN BEFORE YOU...ACQUIRE
PROPERTY IN IT."

- GENESIS 34:10 (NAS VERSION)

HAVE YOU EVER BEEN FORCED TO USE SMARTBASIC FOR A PROGRAM WHEN YOU WOULD RATHER USE SMARTLOGO. THE ONLY REASON I EVER DID THIS WAS BECAUSE THE I/O STATEMENTS (INPUT AND PRINT) WERE UNAVAILABLE IN SMARTLOGO. THEN I DISCOVERED PROPERTY LISTS.

TUCKED IN THE BACK OF THE SMARTLOGO MANUAL (THE NEXT TO THE LAST CHAPTER IN FACT) IS A CHAPTER ON PROPERTY LISTS. THE MANUAL DOESN'T EXACTLY SAY SO, BUT, THIS IS AN EXCELLENT DATA STRUCTURE FOR KEEPING RECORDS.

FOR EXAMPLE, YOU CAN USE PROPERTY LISTS TO HELP KEEP RECORDS OF CHECKS YOU HAVE WRITTEN (SO LONG AS YOU DON'T WRITE TOO MANY CHECKS PER MONTH). FOR THE SAKE OF DISCUSSION LET'S JUST KEEP TRACK OF FOUR FIELDS: CHECK NUMBER, DATE, DESCRIPTION, AND AMOUNT.

FIRST, WE MUST DESIGNATE A FIELD TO BE THE KEY FIELD (SOUNDS A LITTLE LIKE SMARTFILER, HUH?). THIS CAN BE ANY FIELD SO LONG AS ALL ITS VALUES ARE UNIQUE. LET'S USE THE CHECK NUMBER FIELD. THIS FIELD IS SPECIAL BECAUSE IT IS THE FIELD BY WHICH THE RECORDS WILL BE ACCESSED. ALL THE OTHER FIELDS ARE IMMATERIAL AND WILL BE LUMPED TOGETHER AS A LIST OF (EITHER WORDS OR LISTS). IN OUR EXAMPLE THE DATA FIELD WILL LOOK LIKE THIS:

```
[ [3 12 85] [FIRST INTERSTATE BANK] 123.45 ]
```

DATE	DESCRIPTION	AMOUNT
------	-------------	--------

THE ONLY THING THAT REMAINS IS TO GIVE OUR PROPERTY LIST A NAME (DO NOT CONFUSE THIS NAME WITH THE NAMES OF ANY OF THE FIELDS, THIS NAME WILL BE USED TO IDENTIFY THIS PARTICULAR PROPERTY LIST IN CASE WE USE OTHERS IN THE SAME PROGRAM). LET'S CALL THE LIST CHECK.

NOW, DOWN TO BUSINESS. HERE IS A STATEMENT WHICH YOU COULD USE TO ENTER CHECKS INTO THE PROPERTY LIST:

```
PPROP "CHECK CHECK_NUMBER CHECK_DATA
```

WHERE CHECK_NUMBER IS A PROCEDURE WHICH RETURNS THE NUMBER OF THE CHECK YOU WANT TO ADD (IF IT IS ONE WHICH IS ALREADY IN USE THE CHECK DATA WILL BE REPLACED) AND CHECK_DATA IS A PROCEDURE WHICH RETURNS THE LIST OF CHECK INFORMATION AS DEFINED ABOVE.

ONCE YOU HAVE THAT DONE RETRIEVING RECORDS AND DELETING RECORDS IS DONE EXACTLY AS SHOWN IN THE MANUAL:

```
SHOW GPROP "CHECK CHECK_NUMBER TO PRINT A RECORD
```

```
REMPROP "CHECK CHECK_NUMBER TO DELETE A RECORD
```

SAVING THE RECORDS OUT TO DISK IS JUST AS SIMPLE:

```
SAVEPROPS "MARCH
```

I WORK WITH ONLY A MONTH AT A TIME DUE TO THE LIMITATION THAT A COMPLETE PROPERTY LIST MUST BE IN MEMORY AT ALL TIMES (AND UNFORTUNATELY SMARTLOGO WAS NOT WRITTEN TO TAKE ADVANTAGE OF THE 64K EXPANSION MEMORY).

NOW THAT WE HAVE COVERED THE BASICS LET'S GET A LITTLE FANCIER. HERE IS A PROCEDURE WHICH WHEN CALLED USING THE NAME OF THE PROPERTY LIST ("CHECK IN OUR EXAMPLE) WILL RETURN A LIST OF THE KEY FIELD VALUES (IN THIS CASE CHECK NUMBERS). THIS LIST CAN THEN BE SORTED AND USED TO PRINT THE FILE IN THE CORRECT ORDER NO MATTER WHAT ORDER THE RECORDS WERE ORIGINALLY ENTERED.

```
TO MAKE_LIST :NAME  
  OP MAKE_LIST% PLIST :NAME []  
END
```

```
TO MAKE_LIST% :PLIST :OP  
  IF EMPTY% :PLIST [OP :OP]  
  MAKE "OP LPUT FIRST :PLIST :OP  
  OP MAKE_LIST% BF BF :PLIST :OP  
END
```

IF YOU WILL BE USING MORE THAN ONE PROPERTY LIST AT A TIME (FOR MORE COMPLEX PROCEDURES) IT MAY BE NECESSARY TO SAVE THEM TO DISK OR DDP SEPARATELY. THIS IS NOT POSSIBLE IN SMARTLOGO WITHOUT DEFINING A SPECIAL PROCEDURE:

```
TO MAKE_PROP :NAME  
  MAKE_PROP% :NAME THING :NAME  
END
```

TURTLE TALK

```

TO MAKE_PROP% :NAME :PLIST
  IF EMPTY% :PLIST [STOP]
  PPROP :NAME FIRST :PLIST FIRST BF :PLIST
  MAKE_PROP% :NAME BF BF :PLIST
END

```

USING THIS PROCEDURE IS SIMPLE. THE PROBLEM WE ARE TRYING TO SURMOUNT IS THAT SMARTLOGO CANNOT SAVE INDIVIDUAL PROCEDURES, IT CAN ONLY SAVE ALL PROCEDURES. SO WE WILL HAVE TO TURN EACH OF THE PROPERTY LISTS INTO REGULAR LISTS AND THEN USE THE ABOVE PROCEDURES TO TURN THEM BACK INTO PROPERTY LISTS ONE AT A TIME SO THEY CAN BE STORED SEPARATELY. THE PROCEDURE TO TURN A PROPERTY LIST INTO A REGULAR LIST HAS ALREADY BEEN GIVEN TO US BY SMARTLOGO IT IS THE PLIST COMMAND. SO, TO SAVE THE CHECK PROPERTY LIST ALL YOU HAVE TO DO IS:

```
MAKE "CHECK PLIST "CHECK (REPEAT THIS FOR EACH
PROPERTY LIST)
```

```
ERPROPS (TO ERASE ALL THE PROPERTY LISTS)
```

```
MAKE_PROP "CHECK (TO RESTORE THE CHECK PROPERTY LIST)
```

```
SAVEPROPS "CHECKS (TO SAVE THE PROPERTY LIST TO DISK
OR DDP)
```

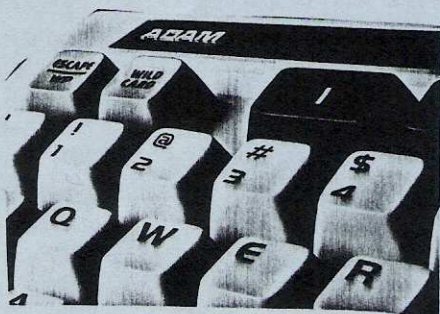
READING IT BACK IN IS JUST AS EASY:

```
LOAD "CHECKS
```

YOU NOW HAVE ENOUGH INFORMATION TO WRITE YOUR OWN CHECKING ACCOUNT PROGRAM (BE VERY CAREFUL ABOUT YOUR USE OF MEMORY). NOW, GO TO IT AND IF YOU COME UP WITH A SET OF PROCEDURES YOU ARE PROUD OF SUBMIT IT TO THE LOGO LIBRARY SO THAT OTHERS CAN BENEFIT.

AND, SPEAKING OF THE LIBRARY A SPECIAL THANKS TO KIP HAMMOND AND FRANK DELANEY FOR THEIR CONTRIBUTIONS.

NEXT MONTH I WILL BE TALKING ABOUT WAYS TO SAVE MEMORY (INCLUDING MODULARIZING YOUR PROGRAM AND CALLING MODULES IN FROM DISK). REMEMBER THIS COLUMN IS FOR YOU. I WOULD LIKE TO RUN A COLUMN THIS SUMMER DEDICATED TO ANSWERING YOUR QUESTIONS AND SHARING YOUR IDEAS, PLEASE SEND ALL SUBMISSIONS TO ME BY JUNE 1.



LOGO INSTANT
BY C. KOLANDER

INSTANTS ARE SINGLE KEYSTROKE SUPERPROCEDURES THAT ALLOW PRESCHOOLERS TO USE LOGO EASILY. INSTEAD OF HAVING TO LEARN LOGO PRIMITIVES AND THEN TYPE THEM ALL OUT, INSTANT LETS YOU ENTER A SINGLE KEY AND DRAWS THEM "INSTANTLY". THIS INSTANT IS A VERY SLIGHTLY CHANGED VERSION OF AN INSTANT YOU CAN FIND IN THE BOOK APPLE LOGO BY HAROLD ABELSON, BYTE BOOKS. THE ONLY THING YOU MAY WANT TO DO IS SAVE THE PROGRAM BEFORE RUNNING IT, AS 'RECORD' MAKES A LIST (HISTORY) SO THAT IF YOU MAKE A MISTAKE YOU CAN TYPE 'U'(UNDO) WHICH WILL CLEAR YOUR LAST MOVE, THIS WOULD BE SAVED WITH THE PROGRAM AND WOULD SAVE THE DRAWING YOU LAST MADE. IF YOU PRESS '^' BEFORE MAKING YOUR NEXT DRAWING IT WILL CLEAR THE HISTORY LIST SO YOU CAN START OVER. IF YOU WOULD LIKE TO INCREASE OR DECREASE THE REPERTOIRE OF THIS INSTANT JUST CHANGE THE COMMAND PROCEDURE TO FIT YOUR NEEDS. HAVE FUN.

SMARTFILER WORKSHOP

LET'S CONTINUE WITH LAST MONTH'S DISCUSSION ON THE SEARCH CAPABILITIES OF SMARTFILER.

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 THAN 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 CHARACTERISTICS 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.

LET'S 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:

<u>FILER FIELD NAMES</u>	<u>YOU ENTER</u>
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 MULTIPLE FILER RECORDS.

YOUR SEARCH SCREEN WOULD LOOK LIKE THIS (NOTE: YOU NEED TO HIT THE COPY LINE SMARTKEY AFTER YOU ENTER MANILOW'S NAME):

<u>FILER FIELD NAMES</u>	<u>YOU ENTER</u>
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:

<u>FILER FIELD NAMES</u>	<u>YOU ENTER</u>
SINGER NAME	B. MANILOW
-OR-	
SINGER NAME	N. DIAMOND
MUSIC TYPE	
RECORD TITLE	
YEAR	1974

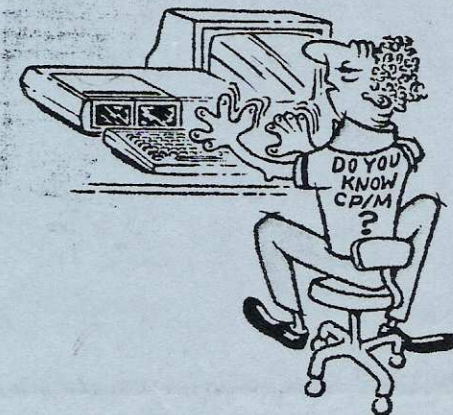
AS YOU CAN SEE, THERE ARE ENDLESS WAYS TO FIND YOUR RECORDS WITH SMARTFILER.

CPM 2.2 WORKSHOP

I'M SURE A NUMBER OF YOU HAVE ORDERED SOME CPM SOFTWARE FROM ELLIAM AND ARE IN THE PROCESS OF TRYING TO FIGURE OUT WHATS USEFUL AND NOT. THIS WILL BE A TIME CONSUMING PROCESS FOR ALL OF US BUT WILL GENERATE A WEALTH OF GOOD SOFTWARE. PLEASE LET ME KNOW HOW YOU ARE COMING ON CONVERTING ANY OF THIS SOFTWARE TO ADAM CPM 2.2. WE WILL HAVE SOME ADDITIONAL CPM SOFTWARE FOR THE NIAD SOFTWARE EXCHANGE NEXT MONTH. WE'RE WORKING ON A COMPREHENSIVE MODEM COMMUNICATIONS PROGRAM, WHICH WILL BE A CONVERSION OF A CURRENT PUBLIC DOMAIN PROGRAM. THIS PROGRAM WILL BE MODIFIED TO USE THE ADAM MODEM AND CPM 2.2. WE NEED THIS TYPE OF TELECOMMUNICATIONS PROGRAM BECAUSE ADAMLINK II WILL NOT WORK FOR THE TRANSFERRING OF CPM EXECUTABLE PROGRAMS. WITH THE COMPLETION OF THIS "ADAM" CPM MODEM TELECOMMUNICATIONS PROGRAM, WE WILL HAVE ACCESS TO THOSE CPM PROGRAMS ON THE COMPUSERVE CPM LIBRARIES AS WELL AS LOCAL BULLETIN BOARDS. THIS WILL GIVE US ANOTHER SOURCE (IN ADDITION TO ELLIAM) FOR CPM SOFTWARE WHICH CAN BE CONVERTED TO RUN ON THE ADAM. THE ADVANTAGE OF USING THIS CPM MODEM SOFTWARE TO OBTAIN CPM SOFTWARE, RATHER THEN ORDER IT FROM ELLIAM IS TWOFOLD - FIRST, IT WILL BE CHEAPER IN THAT YOU WILL ONLY HAVE TO PAY FOR THE BULLETIN BOARD CONNECT TIME AND SECOND, YOU CAN OBTAIN CPM PROGRAMS THAT HAVE ALREADY BEEN CONVERTED TO RUN ON THE ADAM (ONCE

SOMEONE HAS DONE THIS CONVERSION AND UPLOADED IT TO THE BULLETIN BOARD). ADDITIONALLY, YOU CAN REVIEW THE DOCUMENTATION FILES FOR THE PROGRAMS ON THE BULLETIN BOARDS TO DETERMINE WHICH ONES YOU WANT. I RECOGNIZE THAT THIS WHOLE ISSUE OF MODEM TRANSFER IS CONFUSING TO MOST OF YOU, SO NEXT MONTHS ARTICLE WILL CONTAIN A MODEM TRANSFER TUTORIAL WHICH WILL EXPLAIN THE CONCEPT AND GIVE YOU PRACTICAL INSTRUCTIONS FOR UPLOADING AND DOWNLOADING CPM FILES. PLEASE HELP YOUR FELLOW NIAD MEMBERS AND SEND IN ANY PROGRAMS THAT YOU HAVE WRITTEN OR CONVERTED FOR ADAM CPM 2.2

TALKING TO ADAM IN CP/M 2.2



REVIEWS

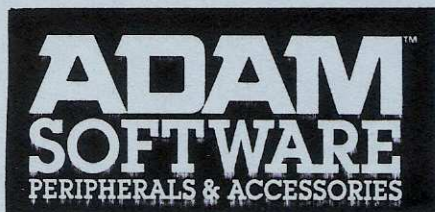
ADAMLINK II BY C. KOLANDER

ADAMLINK II IS THE NEW MODEM SOFTWARE FROM COLECO. IT IS ABOUT THE SAME AS LINK I EXCEPT IT HAS UPLOAD/DOWNLOAD CAPABILITY. I WOULD HAVE LIKED TO HAVE SEEN IT HAVE A PHONE NUMBER STORAGE SO YOU DON'T HAVE TO LOOK UP YOUR NUMBERS ALL THE TIME, BUT I GUESS YOU CAN'T HAVE EVERYTHING. BECAUSE IT IS THE SAME AS LINK I, I WOULD JUST LIKE TO EXPLAIN HOW TO USE THE UPLOAD/DOWNLOAD FOR THOSE WHO HAVE NOT BEEN ABLE TO FIGURE IT OUT. ALL YOU HAVE TO DO IS WHEN YOU FIND A FILE YOU WISH TO TRANSFER, IS PRESS 'WILD CARD'. THIS WILL TAKE YOU BACK TO THE COMMAND MODE, PRESS FILE, AND CHOOSE WHAT YOU WANT TO DO, TRNSMT OR RECEIVE. THEN YOU WILL BE ASKED WHICH DRIVE, MAKE YOUR CHOICE AND THEN GIVE YOUR FILE A NAME. NOW PRESS 'WILD CARD' AGAIN AND YOU WILL BE TAKEN BACK TO THE TERMINAL MODE. ADAM WILL START SAVING WHAT EVER IS ON THE SCREEN. WHEN YOU ARE FINISHED JUST PRESS 'UNDO' AND ADAM WILL CLOSE THE FILE. IF YOU ARE GOING TO UPLOAD SOMETHING REMEMBER THE FILE NAME YOU WISH TO SEND AS THERE IS NO

DISPLAY OF THE FILES ON YOUR DISK OR DATA PACK. THERE IS A DISPLAY OF HOW MUCH FILE ROOM IS BEING USED AND HOW MUCH IS LEFT AT THE BOTTOM OF THE SCREEN WHEN DOWNLOADING. I LIKE THIS SOFTWARE VERY MUCH AND AM GLAD COLECO CAME OUT WITH IT, ALL THOUGH IT SHOULD HAVE COME WITH THE MODEM.

THE ONE LACK IN LINK II IS THAT IT IS NOT A SOPHISTICATED MODEM TRANSFER PROGRAM IN THAT YOU CAN ONLY TRANSFER FILES THAT CAN BE LISTED ON THE TERMINAL AND IT DOESN'T USE ANY TRANSFER ERROR CHECKING LIKE THE MORE SOPHISTICATED TRANSFER PROGRAMS.

RATING - B



RIB I & RIB II By W. MOTEL AND L. MARSCHAND

THIS TWO DATA PACK SET CONTAINS AN INTRODUCTION TO THE CAPABILITIES OF THE ADAM. IT CONSISTS OF BOTH TUTORIALS AND PROGRAMS.

THE TUTORIALS ARE DRIVEN BY A SMARTBASIC PROGRAM CALLED MASTERTEXT. THIS PROGRAM IS USED TO CONTROL THE TUTORIALS. YOU CAN START AT VARIOUS PAGES IN THE TUTORIALS, CHANGE THE SPEED AT WHICH THE TEXT IS DISPLAYED ON THE SCREEN AND DIRECT THE TUTORIAL TO EITHER THE SCREEN OR THE PRINTER. THE TUTORIALS ARE BUILT SO THAT YOU CAN TRY SOME OF THE VARIOUS TOPICS OUT IN THE IMMEDIATE MODE OF SMARTBASIC AND THEN CONTINUE BACK WITH THE TUTORIAL. YOU CAN EVEN CREATE YOUR OWN TUTORIALS TO BE USED BY THIS PROGRAM.

THE TUTORIALS RANGE FROM WORD PROCESSING AND AN INTRODUCTION TO SMARTBASIC THROUGH SPECIFIC SMARTBASIC COMMANDS, TECHNIQUES AND PROGRAM DEVELOPMENT. MANY HELPFUL EXAMPLES ARE PROVIDED INCLUDING RANDOM ACCESS FILE PROCESSING.

ADDITIONALLY, THE FOLLOWING SMARTBASIC PROGRAMS ARE INCLUDED ON THE TAPES:

- . CHECKBOOK - A MENU DRIVEN CHECKBOOK MANAGEMENT SYSTEM
- . GRAPHIC TEXT - JUMBO, HI-RES AND LOW-RES CHARACTER SETS
- . NUMBERS - A VERY GOOD PROGRAM THAT GRAPHICALLY SHOWS THE CONVERSION OF HEXIDECIMAL, BINARY AND DECIMAL NUMBERS
- . MEMORY DUMP PROGRAM
- . TEST - TESTS VARIOUS PIECES OF THE ADAM'S HARDWARE
- . SCRAMBLED - PRINTS ALL COMBINATIONS OF LETTER COMBINATIONS. ALSO, THROUGH THE TUTORIALS, YOU WILL CHANGE THIS PROGRAM.
- . KEYINFO - SHOWS VALUES FOR THE KEYBOARD KEYS
- . UTILITY - ALLOWS YOU TO MERGE SMARTBASIC PROGRAMS AND RENUMBER THE LINES (INCLUDING GOSUB'S AND GOTO'S).

OF THE VARIOUS PROGRAMS, CHECKBOOK AND UTILITY ARE WHAT I FOUND MOST INTERESTING. CHECKBOOK IS A FAIRLY GOOD CHECKBOOK MANAGEMENT SYSTEM. IT ALLOWS YOU TO KEEP TRACK OF DEPOSITS, CHECKS WRITTEN, CHECKS CANCELLED, CURRENT ACCOUNT STATUS, ETC. THE PROGRAM USES RANDOM ACCESS FILES. SINCE YOU CAN LIST THE PROGRAM, YOU GET A GOOD EXAMPLE OF USING RANDOM ACCESS FILES, MENUS, ETC. THE TUTORIAL ON PROGRAM DEVELOPMENT EXPLAINS THE STEPS THEY USED IN DEVELOPING THIS PROGRAM.

UTILITY ALLOWS YOU TO COMBINE SMARTBASIC PROGRAMS AND/OR RENUMBER THEM. IT WILL ALSO CHANGE THE GOTO AND GOSUB'S. THE ONLY PROBLEM I SEE WITH IT IS THAT IT WILL NOT CHANGE "IF...THEN 10". YOU MUST WRITE THESE TYPE OF CONDITIONS AS "IF...THEN GOTO 10". ALSO, THE MERGE PROGRAM/SUBROUTINES MUST END WITH A LINE NUMBER OF 65535. YOU MUST ADD THIS LINE TO ALL PROGRAMS BEFORE YOU USE THESE UTILITY PROGRAMS. THE USE OF THE ADAM AS THE TEXT DISPLAYER IS UNIQUE. THE MASTERTEXT PROGRAM IS VERY NICE AND IS REALLY AN "AUTOMATED" BOOK THAT PACES YOUR READING. THE MIXTURE OF SMARTBASIC EXAMPLES IN THE COMMAND MODE AND THE TUTORIAL APPROACH IS GOOD AND OFFERS ADVANTAGES OVER A BOOK RELATIVE TO CONVEYING INFORMATION. IF YOU ARE LOOKING FOR MEMORY MAP LOCATIONS, SPRITE/SOUND INFORMATION YOU WON'T FIND IT HERE. HOWEVER, THAT IS NOT THE INTENTION OF THESE TAPES. WHAT YOU WILL FIND IS GOOD, SOUND INFORMATION FROM SOMEONE WHO HAS OBVIOUSLY USED THE ADAM A GREAT DEAL AND DEVELOPED AN APPRECIATION FOR ITS CAPABILITIES. THERE ARE SEVERAL TIPS FOR BOTH THE SMARTBASIC AND SMARTWRITER USER THAT I DIDN'T EVEN KNOW. FOR EXAMPLE, HOW MANY OF YOU KNOW HOW TO CHANGE A 5 DIGIT LINE NUMBER COMMAND WITHOUT RETYPING IT OR HOW TO BETTER USE THE SMARTWRITER MOVING WINDOW FOR DOING YOUR TEXT INPUT?

OVERALL, I FOUND THIS TWO TAPE SET TO BE AN EXCELLENT ADDITION TO ANY ADAM OWNERS LIBRARY. THE COMBINATION OF MASTERTEXT, THE PREWRITTEN PROGRAMS THAT ARE PROVIDED AND THE HELPFUL HINTS ARE WELL WORTH THE PRICE. THERE IS A WEALTH OF INFORMATION IN THESE TAPES THAT HAD TO TAKE AN ENORMOUS AMOUNT OF TIME TO DEVELOP AND TEST. YOU WILL FIND A LOT OF USEFUL INFORMATION HERE THAT WILL AID YOU IN BETTER UTILIZING YOUR ADAM. I ALSO HIGHLY RECOMMEND THESE TAPES FOR THE NOVICE ADAM OWNER, SINCE THEY OFFER AN EXCELLENT TUTORIAL APPROACH TO THE BASICS OF THE ADAM. ADDITIONALLY, TAPEWARE TECHNOLOGY IS WORKING ON SOME ADDITIONAL PRODUCTS. WE NEED TO SUPPORT THESE COMPANIES AND THEIR EFFORTS TO PROVIDE QUALITY SOFTWARE FOR THE ADAM.

RATING - A

THIS SOFTWARE ON DISK OR DDP WAS WRITTEN BY EXTENDED SOFTWARE. THE FIRST THING OF NOTE IS THAT YOU GET A MODIFIED VERSION OF SMARTBASIC WITH THIS PACKAGE. ESU OBTAINED A LICENSE FROM LAZER SYSTEMS WHO WERE THE ONES WHO WROTE SMARTBASIC FOR THE ADAM. IF YOU HAVEN'T BOUGHT A COPY PROGRAM YET, YOU GET A DISK VERSION OF SMARTBASIC WITH YOUR PURCHASE.

THE EXTENDED FEATURES ARE PROVIDED BY SOME MACHINE LANGUAGE UTILITIES WHICH ARE AUTOMATICALLY LOADED WHEN YOU BOOT THE EBU DDP/DISK. ESSENTIALLY, THIS ADDS SOME COMMANDS TO THE CURRENT SMARTBASIC COMMANDS.

THESE INCLUDE:

COLOR - THIS FACILITY IS VERY SIMILAR TO THE BT-COLOR PROGRAM IN THE MARCH NIAD ISSUE. YOU CAN SET THE COLORS OF THE SCREEN, BACKGROUND, FOREGROUND, TEXT AND INVERSE. THIS IS VERY NICE AND AS MENTIONED LAST MONTH, ENHANCES THE USE OF SMARTBASIC.

MUSIC - A BUILT IN PROGRAM THAT ALLOWS YOU TO PLAY MUSIC IN BASIC. INSTRUCTIONS ARE PROVIDED ON HOW TO BUILD A MUSIC LIST THAT THIS UTILITY PROGRAM USES.

RENUMBER - A NICE FEATURE THAT ALLOWS YOU TO RENUMBER A BASIC PROGRAM INCLUDING GOTO'S, GOSUB'S, IF..THEN, ON GOTO'S.

HEX/DECIMAL CONVERSION - A UTILITY TO CONVERT FROM ONE TO THE OTHER OR VICE VERSA.

OVERALL, I FOUND THIS EXTENDED VERSION OF SMARTBASIC A GOOD PROGRAM IN THAT IT OFFERS SOME NICE ADDITIONS TO BASIC. THE AUTOLOAD FEATURE THAT LOADS THESE ROUTINES INTO MEMORY WHEN YOU BOOT BASIC IS VERY CONVENIENT. THE ONLY THING I DIDN'T LIKE WAS THAT YOU HAVE TO POKE YOUR CHANGES IN TO SET COLOR, ETC. HOWEVER, THEY TOOK THE CORRECT APPROACH HERE BECAUSE IF THEY HAD ADDED A MENU FUNCTION TO AID THE SELECTION OF COLOR, ETC. IT WOULD HAVE DECREASED THE AMOUNT OF MEMORY AVAILABLE FOR BASIC PROGRAMS.

I WOULD RECOMMEND THIS PRODUCT AS A GOOD PRICE/PERFORMANCE ADDITION FOR THE SERIOUS BASIC PROGRAMMER.

RATING - B+

PACKCOPY BY C. KOLANDER

PACKCOPY IS A UTILITY PROGRAM FROM UNREAL SOFTWARE. IT ALLOWS YOU TO MAKE BACK-UP COPIES OF SMARTFILER, PROGRAMS AND COMMERCIAL SOFTWARE TO DISK OR DATA PACKS. IN FACT IT WILL ALLOW YOU TO MAKE COPIES OF JUST ABOUT ANYTHING EXCEPT MOST OF THE SUPER GAME PACKS. IT COMES AS A 5K BASIC PROGRAM AND A 1K MACHINE LANGUAGE PROGRAM.

THE PROGRAM COPIES THE ENTIRE DATA PACK OR DISK, TO THE SAME DRIVE OR TO ANOTHER. IT DOES THIS BY COPYING 16 BLOCKS AT A TIME, THERE IS A CUE FOR COPYING TO THE SAME DRIVE. THIS PROGRAM IS EXCELLENT FOR MAKING BACK-UPS OF PROGRAMS SUCH AS LOGO OR BASIC, BUT NOT SO GOOD AT COPYING MULTI-LOAD PROGRAMS LIKE THE SUPER GAME PACKS. IT SEEMS THAT THE COPY WILL GET LOST IN FINDING THE DIRECTORY AND WON'T RUN.

IF YOU HAVE TO HAVE COPIES OF MOST OF YOUR COMMERCIAL SOFTWARE AND NEED BACK-UPS OF YOUR SMARTFILER FILES THEN THIS PROGRAM WILL DO THE TRICK, BUT AT \$40.00 YOU MIGHT WANT TO WAIT AND SEE IF SOMETHING BETTER COMES ALONG. IT IS MY THOUGHT THAT THIS PROGRAM SHOULD HAVE BEEN PUBLIC DOMAIN.

RATING - D+

STRATEGY PACK 1 BY W. MOTEL

THIS NEW RELEASE BY VICTORY SOFTWARE CONTAINS 4 GAMES, ALL WRITTEN IN BASIC. ALSO INCLUDED ON THE TAPE IS THE BASIC COMPILER AND A HELLO PROGRAM, WHICH IS THE INITIAL PROGRAM. A FLICK OF THE COMPUTER RESET AUTOMATICALLY LOADS BASIC AND THE HELLO PROGRAM WITHOUT YOU HAVING TO LOAD/RUN ANYTHING ELSE. (SEE MY ARTICLE ON HELLO QUIRKS). THE 4 GAMES ARE:

1. HI-IQ - 1 PLAYER

THE TRADITIONAL PEG-BOARD GAME, THE OBJECT IS TO JUMP YOUR PEGS OVER ONE ANOTHER, REMOVING THE ONE JUMPED OVER, TRYING TO GET DOWN TO 1 PEG LEFT.

2. JUMP - 1 PLAYER

SIMILAR TO HI-IQ, EXCEPT THE BOARD IS 8X8. THE OUTSIDE 2 ROWS ARE FILLED WITH PEGS, THE INNER 16 SQUARES ARE EMPTY. THE OBJECT IS THE SAME, HOWEVER, HERE THE MOVES ARE DIAGONAL ONLY.

3. OHELLO - 1/2 PLAYER

LO-RES GRAPHICS USED TO DISPLAY RED/BLUE PIECES ON 8X8 BOARD. OBJECT IS TO TRY TO HAVE MORE OF 64 SQUARES CAPTURED THAN YOUR OPPONENT. 2 PLAYER OR 1 AGAINST THE COMPUTER.

4. PAYOFF - 1/4 PLAYERS INCLUDING COMPUTER

USING A 6X6 BOARD, THE OBJECT IS TO SCORE POINTS BY CLAIMING SQUARES THAT ARE ADJACENT TO YOUR ALREADY CLAIMED SQUARES. 3 DICE ARE ROLLED BY THE COMPUTER AND THE NUMBERS DETERMINE WHICH SQUARES YOU CAN CLAIM. I.E. DICE ROLL OF 3-5-6, YOU CAN CLAIM SQUARE 35, 36, 53, 56, 63, OR 65.

OVERALL, THE GAMES ON HERE ARE NORMAL BOARD/PENCIL-PAPER TYPE GAMES. NOTHING EARTH SHATTERING, BUT A NICE RELAXING WAY TO PASS THE TIME OF DAY, IF YOU LIKE THIS KIND OF GAME. OF THE 4, I FOUND PAYOFF TO BE THE MOST FUN, SINCE THE DICE ROLL DOES ADD SOME RANDOMNESS TO THE GAME. HI-IQ AND JUMP ARE GAMES IN WHICH YOU HAVE TO FIND THE RIGHT MOVES TO GET DOWN TO 1 PEG. (THEY WILL SEND YOU THE SOLUTION FOR HI-IQ).

RATING: B

THIS CARTRIDGE FROM COLECO, WRITTEN BY SYDNEY DEVELOPMENT OF CANADA WILL GO DOWN AS A "CLASSIC" IN MY OPINION. IT IS A MUCH IMPROVED COMBINATION OF INTELLIVISION'S B17 BOMBER, ACTIVISION'S SPACE SHUTTLE AND RIVER RAID.

THE CONCEPT OF THE GAME IS BASED ON THE SPECIAL MISSIONS FLOWN BY THE 617 RAF SQUADRON WITH A MODIFIED LANCASTER MKIII BOMBER. THESE MISSIONS WERE FLOWN IN 1943 FROM ENGLAND WITH THE OBJECTIVE OF DESTROYING STRATEGIC DAMS IN GERMANY.

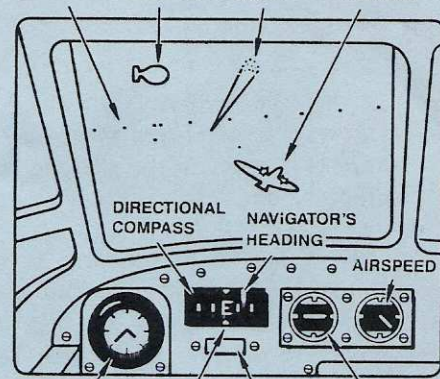
THE CONCEPTUALIZATION OF THIS GAME IS FANTASTIC. THE INSTRUCTION MANUAL CONTAINS MAPS OF EUROPE, DRAWINGS OF THE LANCASTER, AN EXPLANATION OF HOW THE DAMBUSTER BOMBING METHOD WAS DEVELOPED, ETC. I LIKED AND AM IMPRESSED BY THE WORK THAT WENT INTO THE DESIGNING OF THE GAME TO INSURE ITS AUTHENTICITY.

DUE TO THE COMPLEXITY OF THIS GAME AND THE COMPREHENSIVENESS OF THE INSTRUCTIONS I WON'T (CAN'T IS MORE HONEST) GIVE A FULL REVIEW IN THIS ISSUE. THE OBJECTIVE IS TO FLY A MISSION ACROSS THE ENGLISH CHANNEL (YOU CHOOSE FROM VARIOUS MISSIONS) AND INTO ENEMY TERRITORY, AT WHICH POINT YOU WILL ENCOUNTER ENEMY FIRE IN THE FORM OF FLAK ATTACKS (GUIDED BY SEARCH LIGHTS), BARRAGE BALLONS AND ME 109 FIGHTERS. ONCE YOU GET TO THE DAM (NO, I HAVEN'T MADE IT YET) YOU MUST MANEUVER AND FLY A VERY PRECISE PATTERN AND THEN DROP THE DAMBUSTER BOMB AT JUST THE RIGHT POINT. THERE IS A PILOT SCREEN WHICH IS USED TO SET/MAINTAIN AIR SPEED AND ALTITUDE VIA GAUGES; A FRONT AND REAR GUNNER SCREEN TO SHOOT THE TWIN 303 CALIBRE F.N.5 MACHINE GUNS COMPLETE WITH TRACER ROUNDS; A BOMBER SCREEN TO SET AND DROP THE BOMB AND TWO ENGINEERING SCREENS TO CONTROL THROTTLES, BOOSTERS, FIRE EXTINGUISHERS, FLAPS, RUDDER AND LANDING GEAR. NOW, I HOPE YOU HAVE THE IDEA THAT THIS IS NOT A SIMPLE GAME BECAUSE IT CERTAINLY ISN'T. ITS COMPLEX AND REQUIRES A COMBINATION OF STRATEGY, SKILL AND INGENUITY TO MASTER.

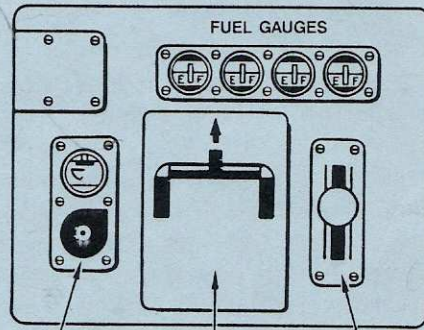
I AM VERY IMPRESSED BY THIS GAME AND PREDICT THAT IT WILL DEVELOP A REAL FOLLOWING DUE TO ITS REALISTIC SITUATION AND CHALLENGE.

I WILL PROVIDE A MORE DETAILED REVIEW NEXT MONTH.

HORIZON LIGHTS BARRAGE BALLOON SEARCH LIGHT ME 109 NIGHT FIGHTER

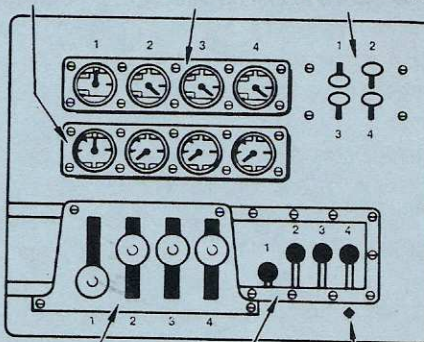


ALTIMETER COMPASS HEADING INTERCOM ARTIFICIAL HORIZON



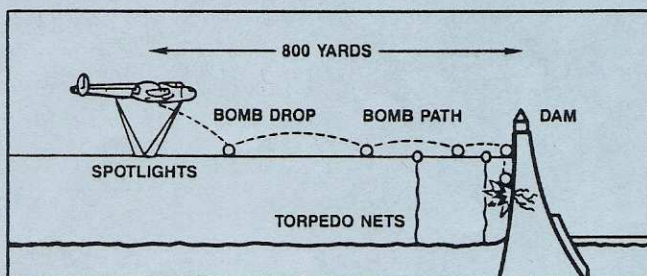
FLAP CONTROL INDICATOR LANDING GEAR RUDDER TRIM

THROTTLE GAUGES BOOSTER GAUGES FIRE EXTINGUISHERS



THROTTLES BOOSTERS CONTROL DOT

VICTORY!



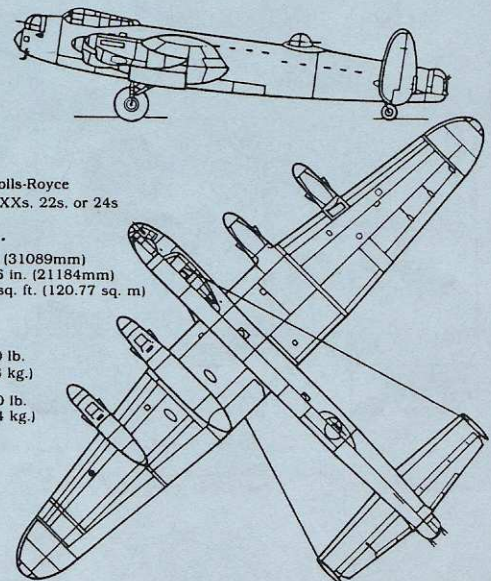
PERSPECTIVE VIEW OF BOMB RUN

If the release of the bomb is within the acceptable limits described by B.N. Wallis (see Mission Guide), the bomb skips across the water above the torpedo nets, hits the crest of the dam and sinks to a depth of 30 feet. The hydrostatic pistons ignite, detonating the bomb, and the dam is destroyed! You are promoted in rank and go on to the next, tougher round of play.

LANCASTER Mk I (Early)

Specification

Crew	Seven
Powerplant	Four Rolls-Royce Merlin XXs, 22s, or 24s
Dimensions	
Span	102 ft. (31089mm)
Length	15 ft. 6 in. (21184mm)
Wing Area	1,300 sq. ft. (120.77 sq. m)
Weights	
Empty	37,000 lb. (16783 kg.)
Normal Load	65,000 lb. (29484 kg.)



BC'S QUEST FOR TIRES II GROG'S REVENGE™

CARTRIDGE INSTRUCTIONS

THIS CARTRIDGE IS THE SEQUEL TO BC QUEST FOR TIRES. IT HAS BEEN RELEASED BY COLECO, BUT WAS DEVELOPED BY SYDNEY DEVELOPMENT. IT CONTAINS THE SAME GREAT CARTOON GRAPHICS, BUT WITH A MUCH MORE EXCITING GAME.

THE OBJECT OF THE GAME IS TO FIND THE MEANING OF LIFE, BY WINDING THRU A MAZE OF MOUNTAIN PATHS AND DARKENED CAVES, GATHERING CLAMS. 100 ARE NEEDED TO PAY PETER, THE TOLL TAKER TO ADVANCE TO THE NEXT MOUNTAIN. HE WILL ALSO SELL YOU AN EXTRA TIRE (TURN) FOR EVERY EXTRA 25 CLAMS YOU HAVE. IT IS NECESSARY TO TRAVEL THRU THE CAVES TO GET TO THE TOLL BOOTH. THE CAVES ARE DARK, BUT THOR'S HEADLIGHT HELPS HIM GATHER CLAMS AND LOOK OUT FOR STALAGMITES.

ONCE OUT OF THE CAVE, THOR MUST BE WARY OF ROCKS, POTHOLES AND "TIREDACTYLS" ALONG THE PATH. THESE FUNNY CREATURES WAIT FOR THOR TO PASS BY SO THAT THEY CAN EAT HIS TIRES.

THE BIGGEST HAZARD IS GROG. BESIDES EATING CLAMS, WHICH DIMINISHES THE SUPPLY FOR THOR TO GATHER, IF HE COMES ON THE SCREEN WITH THOR, THE GAME IS OVER.

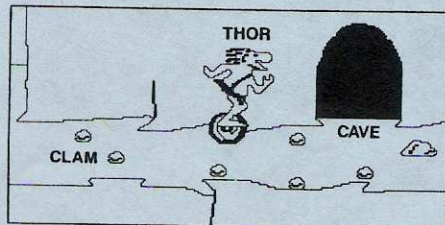
THE SCREEN IS DIVIDED INTO A PLAYING AREA, A SCORE AREA, AND A "PREVIEW AREA". THIS IS A RADAR AND MAP AREA SHOWING YOUR POSITION, GROG'S POSITION, AND A MAP OF THE MOUNTAIN (CAVES, PATHS, AND THE TOLL BOOTH LOCATION).

BESIDES THE NORMAL PLAY ACTION, YOU MUST ALSO LEARN THE CORRECT PATHS AND CAVES TO USE TO REACH EACH MOUNTAIN TOLL-BOOTH. CLUES ARE ALSO GIVEN TO HELP YOU FIND THE CORRECT CAVE AND CORRECT KEYPAD SEQUENCE TO ENTER TO AUTOMATICALLY ADVANCE TO THE NEXT HIGHER MOUNTAIN (LEVEL).

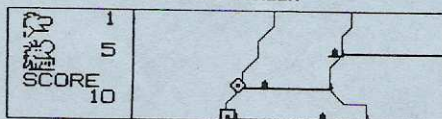
THE CARTRIDGE HAS 1/2 PLAYER OPTION WITH 6 MOUNTAINS (LEVELS). THERE ARE NO SKILL LEVELS, NOR IS THERE A PAUSE. YOU GET 4 TIRES TO START WITH, AND THE GAME IS OVER WHEN YOU RUN OUT OF TIRES OR GROG GETS YOU.

THIS IS A GREAT GAME AND FUN FOR ALL AGES. IT IS DIFFERENT AND MUCH BETTER THAN THE ORIGINAL. HIGHLY RECOMMENDED.

RATING: GRAPHICS/SOUND A
 PLAY A



PLAYING SCREEN



SCORE SCREEN

PREVIEW SCREEN



ILLUSTRATIONS BY W. MOTEL

THIS IS ONE OF THE LATEST GAME CARTRIDGES BY COLECO ELECTRONICS, ALTHOUGH A COMPANY NAMED NICE IDEAS ACTUALLY WROTE THE GAME. THE INSTRUCTIONS CONSIST OF A 3 PAGE POEM CALLED "THE SAGA". YOU DERIVE YOUR CLUES FROM HERE, AND IF YOU STILL NEED HELP, THERE IS A SEALED SHEET CALLED "THE KEY". THE INSTRUCTION BOOK DESIGN AND PRINTING REMIND ONE OF SOMETHING OLD AND MYSTICAL, SIMILAR TO DRAGON'S LAIR BOOK DESIGN.

THE GAME CONSISTS MAINLY OF 2 SCREENS, THAT ARE REPEATED. THE FIRST IS A 45 DEGREE SLANTED FLOOR DESIGN, VERY SIMILAR TO A CRYSTAL CASTLE DESIGN. THE GAME PLAY AMOUNTS TO YOU FORCING YOUR GLEEB'S TO COMBINE INTO 1 UNIT, SO THAT YOU CAN PASS THRU A MIRROR TO THE NEXT SCREEN. YOU MUST ALSO EITHER AVOID ROAMING LIZARDS AND BIRDS AND FIND WAYS TO NEUTRALIZE THEM. RUNNING INTO THEM CAN CAUSE YOU TO EITHER LOSE TIME OR GET MORE GLEEB'S, WHICH MUST ALSO BE COMBINED. THERE IS ALSO WAYS IN WHICH YOU CAN GAIN EXTRA TIME TO COMPLETE YOUR MISSION.

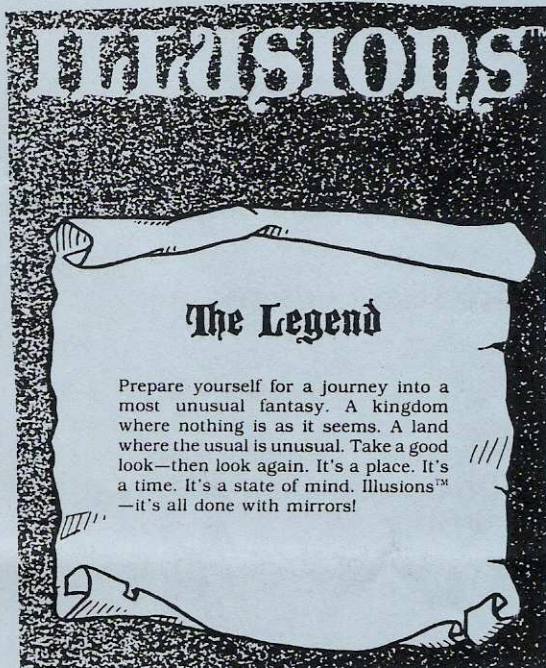
THE SECOND SCREEN IS A GIRDER CUBE-LIKE DESIGN (SIMILAR TO MARVIN'S MAZE) IN WHICH YOU MUST NOW CAUSE YOUR GLEEB TO SEPERATE INTO AT LEAST 4 GLEEB'S TO PASS THRU THE MIRROR, BACK INTO THE FIRST SCREEN.

THE KEY TO BOTH SCREENS IS IN LEARNING WHERE "JUMP" AND "SEPERATOR" POINTS ARE TO ASSIST YOU IN YOUR EFFORTS. THE LEFT/RIGHT FIRE BUTTONS CONTROL THESE ACTIONS AND ARE "SAVED" UNTIL YOU ACTUALLY REACH ONE OF THESE POINTS. THEREFORE, YOU HAVE A POSSIBLE DELAYED ACTION TO CONTEND WITH.

SCORING IS BASED ON THE MERGEING/SEPERATING AND TIME REMAINING AT THE END OF EACH ROUND (SCREEN). WHEN ALL TIME IS UP, THE GAME IS OVER. THE GAME CONTAINS THE USUAL 1-2 PLAYERS/4 SKILL OPTIONS, WITH PAUSE.

THE GAME IS DIFFERENT, THE GRAPHICS/SOUND ARE FAIRLY WELL DONE, BUT I DON'T THINK IT HAS THE STAYING POWER FOR A LOT OF REPEATED PLAYS. I DIDN'T FIND ENOUGH DIFFERENCE TO KEEP ME INTERESTED, BUT YOU MAY. THIS IS NOT A BAD CARTRIDGE, BUT BASED ON THE OTHER NEW RELEASES FROM COLECO, IT IS NOT THE BEST.

RATING: GRAPHIC/SOUND B+
PLAY C



SPY HUNTER BY W. MOTEL

SPY HUNTER, THE BALLY ARCADE GAME, IS FINALLY HERE FROM COLECO ELECTRONICS. IT HAS 2 PLAYER/4 SKILL OPTION WITH PAUSE. IT ALSO PROMPTS YOU AS TO WHETHER YOU ARE USING THE STANDARD OR SUPER-ACTION CONTROLLERS. DUE TO THE VARIOUS WEAPON CHOICE, THE 4 BUTTON SUPER CONTROLLERS MIGHT BE EASIER TO USE THAN THE STANDARD CONTROLLER USE OF LEFT/RIGHT AND KEYPAD COMBINATIONS.

THE GAME CONSISTS OF YOUR SPY HUNTER VEHICLE TRACKING DOWN SPIES. YOU ARE ALWAYS EQUIPED WITH MACHINE GUNS, AND AT VARIOUS POINTS ALONG THE ROAD, YOU CAN MERGE UP WITH A SUPPLY VAN TO REPLENISH/ENHANCE YOUR WEAPONS WITH OIL SLICKS, SMOKE SCREENS, AND/OR MISSLES. AS THE GAME PROGRESSES, YOU TRAVEL OVER BOTH ROAD AND (AROUND 40,000 POINTS) ON THE WATER. YOU MUST BE CAREFUL TO AVOID HARMING OR CRASHING INTO INNOCENT MOTORCYCLES AND CARS. THE ROADS TWIST AND TURN AND THERE ARE FORKS IN THE ROAD FOR YOU TO DECIDE WHICH TO TAKE. THE ROADS ARE ALSO SOMETIMES ICY AND YOU ARE IN DANGER OF SKIDDING. THE WATERWAYS SOMETIMES BECOME SHALLOW, WHICH MUST ALSO BE AVOIDED. THE ENEMY VEHICLES HAVE DIFFERENT MEANS OF ATTACKING

YOU AND THEY ARE ALSO NOT ALL EFFECTED BY THE SAME WEAPONS.

POINTS ARE ACCUMULATED FOR DISTANCE TRAVELED AND ENEMIES ELIMINATED. YOU CAN CONTROL THE SPEED/BRAKING OF YOUR VEHICLE, AS WELL AS THE RIGHT/LEFT STEERING.

THE GAME GRAPHICS REMIND YOU OF BUMP & JUMP, BUT ARE MUCH BETTER AND MORE DETAILED. THE PETER GUNN THEME IS EXCELLENT.

THIS IS A GREAT GAME WITH ENOUGH OF EVERYTHING TO KEEP IT ONE OF YOUR FAVORITES FOR A LONG TIME.

RATING: GRAPHICS/SOUND A++
PLAY A

SPY HUNTER™ (Bally/MIDWAY)

EXTERNAL POWER SUPPLY BY L. MARSCHAND

WELL, SOMEONE HAS GIVEN US A NEW HARDWARE ACCESSORY FOR THE ADAM. JOE ZINGALE, AN EARLY NIAD MEMBER HAS STARTED A COMPANY NAME ADAM TECH AND HAS THIS AS HIS FIRST PRODUCT.

THE CONCEPT HERE IS TO EXTERNALIZE THE POWER SUPPLY FOR THE ADAM WHICH IS NOW IN THE PRINTER. THIS WILL FREE THE ADAM OWNER FROM HAVING TO DEPEND ON THE PRINTER FOR THE POWER TO RUN THE WHOLE SYSTEM. ADDITIONALLY, SHOULD YOU WANT TO TRANSPORT YOUR ADAM, YOU WOULDN'T HAVE TO LUG ALONG THE PRINTER. HOWEVER, THE REAL NEED FOR AN EXTERNAL POWER SUPPLY WILL BE WHEN A RS232 INTERFACE IS DEVELOPED WHICH WILL ALLOW US TO INTERFACE THE ADAM TO ANOTHER PRINTER. THE USE OF ANOTHER PRINTER WILL REQUIRE AN EXTERNAL POWER SUPPLY TO POWER THE ADAM CONSOLE AND KEYBOARD. UNTIL SUCH TIME, AN EXTERNAL POWER SUPPLY WILL BE USEFUL FOR THOSE ADAM OWNERS WHO DO NOT USE THE PRINTER AT ALL OR ONLY VERY INFREQUENTLY. IT IS ALSO A GOOD BACKUP POWER SOURCE IN THE EVENT YOUR PRINTER GOES OUT.

THE POWER SUPPLY CONSISTS OF A 5"x6"x4" BOX THAT PLUGS INTO THE SIDE OF THE ADAM CONSOLE WHERE THE POWER CORD FROM THE PRINTER NOW PLUGS IN. THIS BOX HAS A SWITCH WHICH IS USED TO TURN THE ADAM ON/OFF. THIS BOX HAS A WIRE THAT RUNS TO ANOTHER SMALL BOX THAT CONTAINS A FUSE AND REGULATOR AND A STANDARD CORD TO PLUG INTO YOUR ELECTRICAL OUTLET. I HAD NO PROBLEMS HOOKING THE POWER SUPPLY UP AND RUNNING THE SYSTEM. JOE HAS TESTED IT OUT ON ALL TYPES OF SOFTWARE WITHOUT ANY PROBLEMS. HE HAS ALSO TESTED IT WITH VARIOUS COMBINATIONS OF DATA DRIVES AND DISKS, INDICATING THAT ALL WORKS FINE BUT THAT HE WOULD NOT RECOMMEND IT BE USED WITH A TWO DATA DRIVE SYSTEM IF BOTH DRIVES WOULD BE USED SIMULTANEOUSLY.

I USED IT FOR TWO DAYS WITH NO PROBLEMS AND WOULD RECOMMEND IT FOR THOSE ADAMITES THAT NEED THE CONVENIENCE AND DON'T USE THE ADAM PRINTER. AGAIN, THIS WILL BE A REQUIREMENT IF YOU HOOK THE ADAM TO ANOTHER PRINTER WHEN THE RS232 INTERFACE COMES OUT.

ADAM TECH
P.O. Box 41434
PHOENIX, AZ 85080

INTRODUCTORY PRICE OF \$54.95 PLUS SHIPPING (\$5.00 MAX). COMES WITH 30 WARRANTY

MEMBER COMMENTS/ QUESTIONS & ANSWERS

. THERE HAS BEEN MUCH RECENT CONSTERNATION ON COMPUSERVE ABOUT THE USE OF THE FAMILY COMPUTING FORUMN (FAM-200) AND THE CREATIVE COMPUTING FORUMN (CRE). EVIDENTLY, IT STARTED WITH SOME "WORDS" BETWEEN SOME ADAMITES AND ONE OF THE FAM SYSOPS, AT WHICH TIME A NUMBER OF ADAMITES WENT LOOKING FOR A HOME AND WERE INVITED TO CONGREGATE AT CRE. AT THIS POINT, FAM HAS GIVEN ADAMITES OUR OWN SECTION FOR LEAVING MESSAGES AND A PLACE TO UPLOAD/DOWNLOAD SOFTWARE. CRE HAS BEEN JUST AS GRACIOUS. I PERSONALLY DON'T CARE WHERE WE MEET, BUT WOULD RECOMMEND WE CHOOSE ONE PRIMARY FORUMN. WHAT DO YOU THINK ?

. THE PEOPLES CHOICE IS A NEW CENTRAL INFORMATION SERVICE LIKE COMPUSERVE. THEY EVIDENTLY HAVE SET UP AN ADAM SIG AND ARE CHEAPER PER CONNECT HOUR THEN COMPUSERVE. ANYONE TRIED THEM OR HAVE ANY INFORMATION ?

. RECEIVED MY ADAMLINK II LAST WEEK. AT FIRST I THOUGHT IT WAS GOING TO BE GREAT, BUT ONCE I TRIED USING IT TO ACCOMPLISH THE THINGS THST I PURCHASED IT FOR, WAS I DISAPPOINTED. IT WON'T DOWNLOAD CPM PROGRAMS!! IT ESSENTIALLY JUST TAKES THE SCRIPT OFF OF THE SCREEN AS IT APPEARS. THIS IS GREAT IF YOU DON'T WANT TO USE THE MODEM TO DOWNLOAD THE PD PROGRAMS.

COLECO THEN TELLS ME THAT THEY DIDN'T PUT AN I/O STATEMENT IN CP/M TO ACCESS THE MODEM. I NOTICE THAT THEY DID PLACE AN I/O STATEMENT TO GET TO THE PS232 IF WE EVER GET ONE. I GUESS THTA MEANS THAT EVERYONE WHO WANTS TO DOWNLOAD CP/M WILL HAVE TO PURCHASE ANOTHER MODEM WHEN THE RS 232 INTERFACE IS AVAILABLE.... M. MULLER

WELL, AS OUR REVIEW OF ADAMLINK II INDICATES IT DID FALL SHORT OF WHAT AT LEAST I HAD HOPED FOR. HOWEVER, YOU CAN USE IT TO UP/DOWNLOAD SMARTBASIC FILES AND CPM 2.2 FILES THAT ARE TEXT FILES, THAT IS THE .ASM FILES THAT THEN MUST BE CLEANED UP AND ASSEMBLED TO PRODUCE .HEX FILES WHICH CAN BE LOADED TO PRODUCE THE .COM FILES THAT ARE EXECUTABLE UNDER CPM 2.2. SEE THE CPM 2.2 WORKSHOP THIS MONTH FOR SOME INFORMATION ON HOW TO UP/DOWNLOAD WITH ANOTHER MODEM COMMUNICATIONS PACKAGE.

.THE LAKE ERIE ADAM USERS GROUP IS A LOCAL USERS GROUP IN OHIO THAT IS LOOKING FOR MORE MEMBERS. THEY ARE CONSIDERING STARTING A BBS. FOR MORE INFORMATION WRITE J. FLIGNER; 2110 W. 36TH ST; LORAIN, OH 44053 OR CALL 216-282-8467.

. SOME MEMBERS HAVE ASKED ABOUT THE ADVANTAGES OF THE ADAM DISK DRIVE OVER THE DDP DRIVE. THE MAJOR ADVANTAGE IS SPEED OF OPERATION IN THE SAVING AND RETRIEVING OF DATA. THE DISK DRIVE IS MUCH FASTER THEN THE DATA DRIVE. ALSO, THE LONG TERM RELIABILITY OF THE DISK WILL BE BETTER THEN THE DATA DRIVE FOR THE HEAVY USERS OF THEIR ADAM. HOWEVER, THE DISKS ONLY HOLD 160K OF INFORMATION WHEREAS THE DDP'S HOLD 256K, HENCE YOU CAN'T GET AS MUCH ON A DISK AS THE DDP. DISKETTES ARE CHEAPER THEN THE DDP'S SO THIS IS ABOUT A WASH. OVERALL, I THINK IT DEPENDS ON YOUR USE OF THE ADAM - IF YOU ARE NOT A HEAVY USER I WOULDN'T INVEST IN THE DISK DRIVE. ON THE OTHER HAND, IF YOU USE YOUR ADAM ALOT THE DISK IS A MUST, ESPECIALLY FOR THE MORE ADVANCED SOFTWARE LIKE CPM 2.2.

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 LIBRARIES ARE:

SMARTBASIC >>>>>>>>> C. KOLANDER
1295 A PEARL AVE
GLENDALE HTS, IL 60139

SMARTLOGO >>>>>>>>> BARRY WALLIS
2140 BESSANT ST
SAN BERNADINO, CA 92404

ADAMCALC. >>>>>>>>> L. MARSCHAND

UTILITIES, CPM 2.2

SOFTWARE EXCHANGE RULES:

IN ORDER TO RECEIVE ALL THE LIBRARY PROGRAMS IN A SPECIFIC LIBRARY SEND A DDP OR DISK (DISK ONLY FOR CPM 2.2) WITH ONE PROGRAM FOR THE LIBRARY (ALL PROGRAMS SHOULD BE TESTED AND WELL DOCUMENTED VIA A SEPARATE "README" FILE) TO THE LIBRARIAN. INCLUDE A SELF ADDRESSED AND STAMPED RETURN MAILER. THE LIBRARIAN WILL COPY THE ENTIRE LIBRARY ON YOUR DDP OR DISK AND RETURN IT TO YOU.

NOTE: I HAVE HAD SOME COMPLAINTS ABOUT THE REQUIREMENT OF SUBMITTING ONE PROGRAM TO GET THE SOFTWARE LIBRARY. PLEASE BE ADVISED THAT THESE PROGRAMS DON'T HAVE TO BE WRITTEN BY YOURSELF. THEY CAN BE ANY NON-COPYRIGHTED PROGRAM THAT YOU MAY GET FROM A BOOK OR MAGAZINE. YOU NON-PROGRAMMERS CAN DO US ALL A GREAT SERVICE BY TYPING IN THESE PROGRAMS, RUNNING THEM TO MAKE SURE THEY WORK AND SENDING THEM IN. I DON'T THINK THIS IS

TOO MUCH TO ASK FOR WHAT YOU WILL RECEIVE.
EVERYONE, PLEASE SUBMIT YOUR PROGRAMS TO CREATE AN
EXPANSIVE LIBRARY FOR NIAD.

LIBRARY INDEX:

SMARTBASIC

- . BLOCKS - GRAPHIC 3D BLOCKS
- . CANON3 - PLAYS A THREE VOICE CANON (MUSIC)
- . DRUMDEMO - PLAYS THE DRUMS
- . FONTEDITOR - ALLOWS THE CREATION OF YOUR OWN CHARACTER SET. COMES WITH FATFONT
- . FDUMP2 - BLOCK SELECT AND MEMORY DUMP/PRINT IN HEX/DECIMAL/ASCII FORMAT
- . BTCOLOR - ALLOWS THE SETTING OF ALL COLORS IN BASIC

(BACKGROUND, FOREGROUND, TEXT, FLASH)

- . CONVERT - NUMBERS FROM VARIOUS BASES TO OTHERS
- . BARGRAPH - SUBROUTINE TO DRAW BARGRAPHS
- . KBEXAMPLE - SCANS FOR KEYS PRESSED, LOWRES DRAWING PGM INCLUDED
- . NOISEMAKER - SOUND GENERATOR
- . MATH - ADD, SUBTRACT, MULT/DIVIDE FOR DRILL FOR KIDS
- . HANGMAN - GRAPHICS/ WORD GAME
- . ICECREAM - GRAPHICS OF A CONE
- . LIBERTY BELL - GRAPHIC BELL

SMARTLOGO

COMPILER - A SET OF PROCEDURES TO TRANSFORM ALL PROCEDURES IN MEMORY INTO A DISK FILE WHICH WHEN LOADED WILL NOT DISPLAY THE DEFINING... SYSTEM MESSAGE.

IMENU - A SET OF PROCEDURES TO DISPLAY MENUS AND ACCEPT ANSWERS.

ROCKET - A GAME (THE OPENING SCREEN IS A GOOD EXAMPLE OF LOGO ANIMATION).

BOMB - A NIFTY SOUND EFFECTS PROGRAM.

KEYBOARD - A PROGRAM TO PLAY MUSIC ON YOUR KEYBOARD.

LOGOTITLES - A SAMPLE OF SOME FANCY TITLING USING LOGO.

TURTLEHOP - A GAME LIKE FROGGER

ADAMCALC

- . MONTHLY BUDGET
- . TAXFORM
- . MONTHLY CHECKBOOK
- . CIS LOG - KEEPS TRACK OF YOUR TIME ON COMPUSERVE

UTILITIES

- . FDUMP2 - SOPHISTICATED BLOCK READ (FROM DDP OR DISK), MEMORY DUMP ON PRINTER

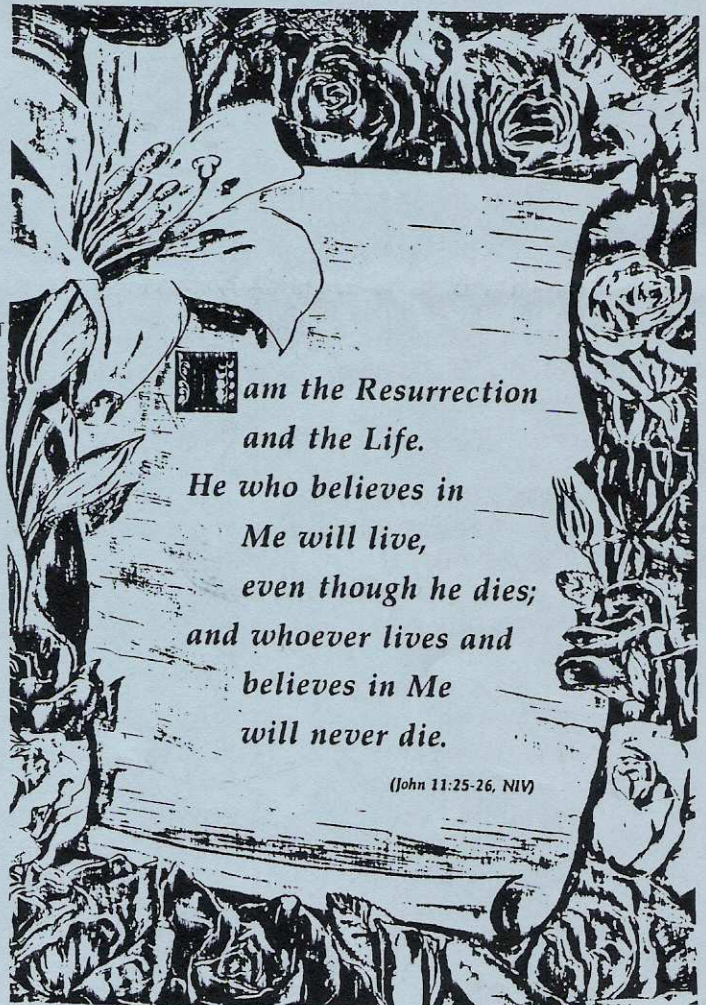
CPM 2.2

- . SDDU - COPY PROGRAM USING TWO DISKS IN THE SAME DRIVE

BOOKS

I HAVE A NEW BOOK TO ADD TO THE LIST OF ADAM BOOKS.
DISCOVERING SCIENCE ON YOUR ADAM W/25 PROGRAMS
TALCOTT MOUNTAIN SCIENCE CENTER
TAB BOOKS

ADDITIONALLY, I PICKED UP WHAT I THOUGHT WAS A GOOD BOOK - MASTERING THE ADAM BY KENT PORTER (NEW AMERICAN LIBRARY). IT HAS AN EXCELLENT SECTION ON GRAPHICS AND IS THE FIRST BOOK I HAVE SEEN THAT GETS INTO THE DETAILS ON HOW THE COLORS ARE DISPLAYED AND WHAT CAUSES A BLUE LINE TO TURN ORANGE AS IT IS DRAWN IN SMARTBASIC. EVEN BETTER IT DESCRIBES HOW TO PREVENT THIS FROM HAPPENING WHEN YOU USE COLOR GRAPHICS.



PRODUCT LIST

**** NIAD BUYING SERVICE PRODUCT LIST ****

HARDWARE/ ACC'S	PRICE
ADAM DISK DRIVE 7817	\$195.00
ADD'L DATA DRIVE 2409	\$135.00
MODEM 7818	\$ 69.95
ADDRESS BOOK/AUTO	
DIALER 7815	\$ 31.95
64K EXPANDER 2562	\$150.00
COLECO DATA PACKS 2564	\$ 4.75 n
COLECO DATA PACKS (10)	\$ 39.95
FAST FORWARD DDPS	\$ 3.55 n
FAST FORWARD DDPS (10)	\$ 29.95
RIBBONS 7806	\$ 4.95
PRINTER WHEELS (QUME)	\$ 5.55
SPECIFY FONT DESIRED	
MONITOR CABLE 7830	\$ 8.95
FDK DISKETTES (Box of 10)	\$ 17.95
COMPUERVE STARTER KIT	\$ 25.95

This is an example of Script 12 # 89762, a Qume Superstrike print wheel.

This is an example of Gothic 12 # 89750, a Qume Superstrike print wheel.

This is an example of Elite 12 # 89753, a Qume Superstrike print wheel.

THIS IS AN EXAMPLE OF ORATOR 90 # 89757, A QUME SUPERSTRIKE PRINT WHEEL.

This is an example of Courier 72 # 89761, a Qume Superstrike print wheel.

SOFTWARE (DDP UNLESS NOTED)

SMART LOGO 7600	\$ 51.95
EXPERTYPE 7602;9610 DSK	\$ 31.95
SMART FILER 7813;9656 DSK	\$ 15.95
RECIPE FILE 7814;9657 DSK	\$ 15.95
SMART LTRS/FORMS	
7805;9613 DSK	\$ 20.95
FLASHCARD MAKER 7662	\$ 20.95
FLASHFACTS (TRIVIA 2902,	
HISTORY 2901,VOCAB 2900)	\$ 11.95 n
ADAMCALC 7831	\$ 31.95
R. SCARRY'S WORDBOOK 7658	\$ 20.95
DRAGONS LATR 2683	\$ 24.95
WACKY WORD GAME 7834	\$ 15.95
CPM 2.2 & ASSEMBLER	
7832	\$ 49.95
SUPER ZAXXON 2623	\$ 24.95
BEST OF BRODERBUND: AE &	
CHOPLIFTER 7850	\$ 24.95
*2010: TEXT ADVENTURE	
GAME BY MGM/UA 7849	\$ 20.95
*FAMILY FEUD 7710	\$ 20.95
*JEOPARDY 7716	\$ 20.95

CARTRIDGE SOFTWARE

DAMBUSTERS 2686	\$18.95
ILLUSTONS 2621	\$18.95
BC II: Grog's	
REVENGE 2620	\$18.95
SPYHUNTER	\$18.95
TAPPER	\$18.95

OTHER SOFTWARE - SPECIFY DDP OR DISK

BOUNTY HUNTER VS4048	\$19.95
ADVENTURE PK I VS4011	\$19.95
ADVENTURE PK II VS4015	\$19.95
TREK VS5004	\$19.95
SAVINGS & LOAN VS5051	\$19.95
VIDEOTUNES (DDP ONLY)	\$26.95
(FUTUREVISION)	
RIB I/ II (DDP ONLY)	\$26.95
EXT BASIC UTILITIES	\$18.95
BASIC BONANZA	\$29.95
DIABLO	\$21.95
STRATEGY PACK I	\$16.95

PRICES VALID 4/22 TO 5/22/85

*ITEMS NOT YET AVAILABLE