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Finally, some news you can use.....from Apple-users, for Apple-users.

92 disks full of
FREE Software
in C.L.C.'s
Public Domain Library
Including 31 Different
EAMON ADVENTURES.

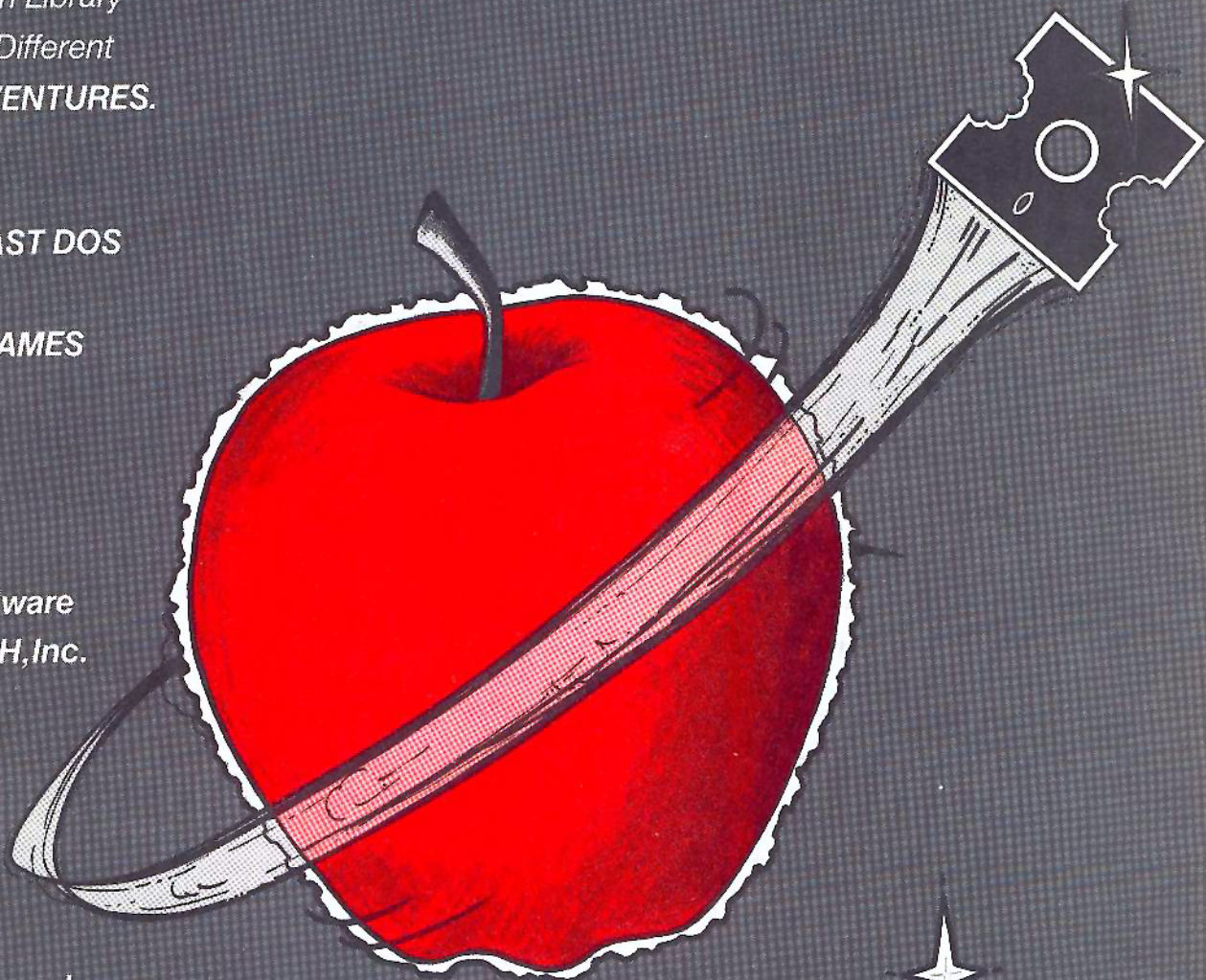
A REALLY FAST DOS

TWO NEW GAMES

**Lots of Hardware
from ARDATH, Inc.**

**Two Magazines
For The Price Of One:**

**CORE and
HARDCORE COMPUTIST**



PLUS . . .
Articles and program listings
from the back issues of
HARDCORE Computing.

ESQUIRE, January 1982
"Secrets of the Software Pirates"
by Lee Gomes

"When some Apple enthusiasts in Washington state heard about the boycott (of Locksmith advertisements), they decided that it was nothing but censorship and another example of the magazines' ignoring the average Apple user to placate their advertisers. So they started their own publication, **HARDCORE COMPUTING**, which with

its first issue came to play the role of iconoclastic underground magazine battling the industry's stodgy straight press."

TIME, February 8, 1982

"Roaming Hi-Tech Pirates."

"... **HARDCORE COMPUTING**, a small magazine in Tacoma, Washington, warns pirates about the latest technology that companies are using against them."

THE SOFT-SELL FOR HARDCORE

"or Why You Should Subscribe"

"... **HARDCORE COMPUTING**, a small magazine in Tacoma, Washington, warns pirates about the latest technology that companies are using against them."

HARDCORE is a magazine dedicated to the Apple-user. There are a lot of computer magazines, but **HARDCORE** prints the information that the other magazines refuse to print, information vital to you as a computer user:

How to make back-up copies of uncopyable commercial software.

How to remove the copy-protection so that you can modify the programs.

How to modify and customize locked-up software.

If you're tired of being hand-fed information that other magazines feel is safe for you to know, while being withheld information that they feel you shouldn't know, then **HARDCORE** is the magazine you should know about.

The very first issue attacked the other computer magazines, charging them with out-right censorship of information vital to hardcore computists, information about "how to do" and "how to undo" copy-protection.

Its interview with Dave Alpert of Omega Microware, publisher of a program that lets users make back-up copies of their copy-protected disks (and one of the victims of this censorship), brought to light a very serious trend toward information suppression practiced by magazines.

HARDCORE single-handedly tried to battle this movement, and published information and advertisements that filled the information gap created by the other magazines.

HARDCORE's own advertisement was refused publication in *Creative Computing* (CC) because the ad said **HARDCORE** shows you how to "back up any disk, do and undo copy-protection." CC became known to the **HARDCORE** staff as Censored Computing.

The old **HARDCORE COMPUTING** has been transformed into two magazines:

The **CORE** Special Issues.

The New **Hardcore Computist**.

CORE Special Issues

Core, the colorful quarterly, will have each issue dedicated to a single topic. The premiere issue, "All about Graphics," is already printed. It covered text, low and high resolution, color, vector, block and animated graphics with new charts, tables, and programs not published elsewhere.

The next issues will each be larger and packed with more new information and program listings:

"All About Utilities," Core 2, will come with a two by three foot fold-out utility poster of charts, tables, lists and tips.

"All About Data Bases," Core 3, will cover storage, transfer, encryption and security of data.

"All About Games," Core 4, the gala holiday issue, will have a special feature on Eamon (see the ad in this flyer).

Hardcore Computist

Hardcore Computist, Core's companion magazine, comes out eight times a year. For information on the continuing controversy revolving around copy-protection, including how to do and undo it, this is the magazine to read. **Hardcore Computist** even has the copy parameters for all the leading bit-copy programs. It also shows you how to put locked programs onto normal, copyable DOS disks so that you can list and customize them, or pack them onto fewer disks.

For those interested in games, **Hardcore Computist** gives tips, hints, and sometimes even ways to out-right cheat (see this flyer for APT to Castle Wolfenstein).

Since many computer stores refuse to sell magazines, and the few that do sell them will probably not carry **Hardcore Computist** (even if you threaten to take your business and money elsewhere), you'll probably find that a subscription is not only a good deal (you get \$40 worth of magazines for only \$20), but the only deal in town.

This promotional ad and the next few pages will try to sell you on the idea of subscribing. If you can't find an issue at your store, send \$5 to us and we'll ship you a copy first class. Or just send a check to SoftKey for \$20, and tell them that **BOBBY SENT YOU!** ◆

**"Menu," "Castle Wolfenstein," "Use Both Sides of Your Disks?,"
"Unlistable Programs," "Time Bomb," and "Run and Run and Run,"
are all excerpts from Hardcore Computing.**

Subscription form for Core/Hardcore can be found on page 8.

Menu is a program that will automatically read a disk catalog and display each file name with a number. Using a split screen format, up to 40 names can be displayed at once. If there are more than 40 names, MENU will split them into pages.

Any program can be run by simply entering its index number. You no longer need to type those long file names.

MENU can be used to replace the "HELLO" pro-

gram on your disk, saving you time and keystrokes. Just save it to your disk using the "HELLO" name that the disk was initialized with.

File names starting with a "^" are not displayed by the MENU program. This allows files that should not be RUN, BRUN or EXECed to be easily hidden. Just append a "^" to the beginning of the file name. (i.e. HELLO becomes ^HELLO)

The MENU program requires 48K, Applesoft in ROM, and a 3.3 DOS.

```

10 TEXT : HOME : UTAB 12: HTAB 1
   2: PRINT "ALIGNING MEMORY": GOTO
   63000
20 FOR Y = 1 TO 40: PRINT "="; NEXT
   : RETURN
30 INVERSE : PRINT X;: NORMAL : HTAB
   5: PRINT A$(X): RETURN
40 PRINT " ";: INVERSE : PRINT X
   ;;: NORMAL : PRINT " ";: HTAB
   6: PRINT LEFT$(A$(X),15): RETURN
60 UTAB 1: GOSUB 20: UTAB 22: GOSUB
   20: POKE 34,1: UTAB 2: RETURN

80 POKE 33,21: POKE 32,19: UTAB
   2: HTAB 1: PRINT : RETURN
85 POKE 33,40: POKE 32,0: UTAB 2
   3: HTAB 1: PRINT : RETURN
90 GOSUB 85: UTAB 23: PRINT "IS
   YOUR PROGRAM LISTED HERE? Y/
   ";;: INVERSE : PRINT "N";: NORMAL
   : PRINT " ";: GET A$: PRINT

100 IF A$ = "Y" THEN MAX = N - 1
   :N = 105: POP : GOTO 2000
110 UTAB 23: CALL - 958: POKE 3
   4,2: POKE 35,21: HOME : POKE
   35,24: RETURN
1000 GOSUB 60:X = 0
1010 FOR N = 1 TO 105
1015 IF MID$(N$(N),8,1) = "="
   THEN N = 105: GOTO 2000
1020 IF ASC ( MID$( N$(N),8,1)
   ) < 65 THEN 2000
1023 IF ASC ( MID$( N$(N),8,1)
   ) = 94 THEN 2000
1025 X = X + 1

1027 A$(X) = MID$( N$(N),8,30)
1028 T(X) = ASC ( MID$( N$(N),2
   ,1))
1030 IF X < 20 THEN GOSUB 30: GOTO
   2000
1040 IF X = 20 OR X = 58 OR X =
   96 THEN GOSUB 80
1050 IF X < 39 THEN GOSUB 40: GOTO
   2000
1060 IF X = 39 OR X = 77 THEN GOSUB
   90
1070 IF X < 58 THEN GOSUB 30: GOTO
   2000
1080 IF X < 77 THEN GOSUB 40: GOTO
   2000
1090 IF X < 96 THEN GOSUB 30: GOTO
   2000
1100 GOSUB 40
2000 NEXT
2001 MAX = X
2005 GOSUB 85: POKE 34,22
2010 UTAB 23: CALL - 958
2020 INPUT "SELECT A FILE BY NUM
   BER (X TO END->);":A$: IF A$ =
   "X" THEN TEXT : HOME : END

2021 A = VAL (A$): IF A > MAX THEN
   2010
2025 IF A < 1 THEN RUN
2040 IF T(A) = 66 THEN T$ = "BRU
   N "
2050 IF T(A) = 84 THEN T$ = "EXE
   C "
2060 IF T(A) = 65 OR T(A) = 73 THEN
   T$ = "RUN "
2062 TEXT

2065 UTAB 23: PRINT T$(A)
2070 UTAB 23: PRINT D$(A$(A))
62999 END
63000 DIM NAMES$(105),A$(105),T(1
   05)
63010 FOR X = 1 TO 38:BS = BS +
   "=": NEXT
63020 FOR X = 105 TO 1 STEP - 1
   :NAMES$(X) = BS: NEXT
63030 NAMES$(0) = LEFT$(BS,19)
63040 DS = CHR$(4)
63045 UTAB 12: HTAB 12: INVERSE
   : PRINT "READING CATALOG": NORMAL
   : UTAB 12: HTAB 29
63050 FOR X = 768 TO 816: READ X
   %: POKE X,X%: NEXT X
63060 DATA 169,34,141,83,170,169
   ,3,141,84,170,169,45,141,85,
   170,169,3,141,86,170,160,8,1
   77,107,141,38,3,200,177,107,
   141,39,3,96,234,41,127,141,3
   5,3,238,38,3,208,3,238,39,3,
   96
63065 ONERR GOTO 63075
63070 CALL 768: PRINT D$"CATALOG
   "
63075 POKE 216,0: PRINT D$"PR#0"
   : PRINT D$"IN#0": PRINT
63080 IF LEFT$(NAMES$(0),1) = " "
   THEN UTAB 12: CALL - 868:
   PRINT "!!! ERROR - UNABLE T
   O READ DIRECTORY !!!": END
63100 HOME : GOTO 1000
63999 PR# 1: PRINT "/N": LIST 0,
   63998: PR# 0

```


UnLISTable Programs * Bomb * Run and Run

UnLISTable Programs

If you use DOS and would like to baffle your friends or protect your program listings from casual viewing, then type the following line (exactly) into one of your programs. When you get to the exclamation mark, type in a control D (it should not print) then FP. Don't list it yet!

The line on your screen should look like this:

```
Ø REM IT'S NO FAIR IF YOU PEEK!FP
```

Save the program before you list it. When you finally do list it, it should look like this:

```
Ø REM IT'S NO FAIR IF YOU PEEK!
```

That's all you should get. If you try to list it again, you should get nothing. WHY?

If you count the characters from the Ø to the !, you'll get 33 (include the spaces, of course). Applesoft tries to list the program using 33 columns instead of the full 40. The 34th character is "wrapped around" and printed on the next line. DOS takes control when this happens and normally returns con-

trol to Applesoft. If that character is a control D, DOS will think it has been given a command and will process the remainder of the line. The FP tells DOS to reset the Applesoft pointers (which has the same effect as NEW in Applesoft). . . the program is gone.

Try it with other DOS commands, such as CATALOG, or . . .

TIME BOMB

Zero page location 214 (\$D6) is the RUN flag for Applesoft. If the number stored there is greater than 127 (\$80) then the program in memory will auto-run each time you try to issue a command. In order to list the program or change a program line, the number in location 214 would have to change to a value smaller than 128. This means you can make your program "bomb" when it is altered!

Put line 2 at the beginning of your program.

```
2 POKE 214,255
```

Then insert the following line into your program in several places (with

appropriate line numbers), and it would be difficult for the uninformed computerist to tamper with or change your program.

```
IF PEEK(214) < > 255 THEN NEW
```

RUN AND RUN AND RUN . . .

This technique is often used to prevent tampering with programs. It's a neat trick to play on a friend. Just insert the following lines into the beginning of a program.

```
Ø ONERR GOTO 1  
1 POKE 214,128  
2 POKE 1010,102  
3 POKE 1011,213  
4 POKE 1012,112
```

Line Ø locks out the control C. Line 1 sets the RUN flag and lines 2 through 4 change the Reset Vector to point at the Run flag. Now the program will restart each time reset or control C is used. You can put all the pokes on a single line. ◆

Use both sides of your disks?

With most floppy-disk drives, you have the option of using both sides of the diskette. That means that you'll have double the storage

capacity. All you need to accomplish this feat is a standard hole punch . . . but should you use both sides?

part one: Flip Your Floppy

The only thing that prevents you from using both sides of your single-sided diskettes is that one side is effectively write-protected. In other words, there is no notch for the write-enable switch to slip through, so you can't write on that side unless you 1) disable the switch, or 2) make a notch on the other side.

Take two floppies and flip one over so that they are facing each other, front to front, and use the hole punch to make notches where indicated by the notches already present on the facing diskette.

Now all you have to do is INITIALize it. Sometimes the side is flawed and you must use a special program (like Diskprep or Scanner) to mark off the flawed sectors so that they are never used.

part two: Don't flip it!

Some makers of floppies and diskette drives do not recommend that you use both sides of your one-sided diskettes if you have a one-head drive because:

1. When the drive head is applied to one side, a felt pad is pressed against the other side. That pad will accumulate oxide particles that may scour the reverse side. When flipped, the contaminated pad may then scour the prime side as well. This may lead to premature loss of data. And the "read errors" may go unnoticed.

2. The direction of rotation is reversed when the diskette is flipped and this may dislodge oxide particles that accumulated on the liner material. The results would be similar to the above problem.

Neither problem occurs on a two-headed drive. ◆

Public Domain Software

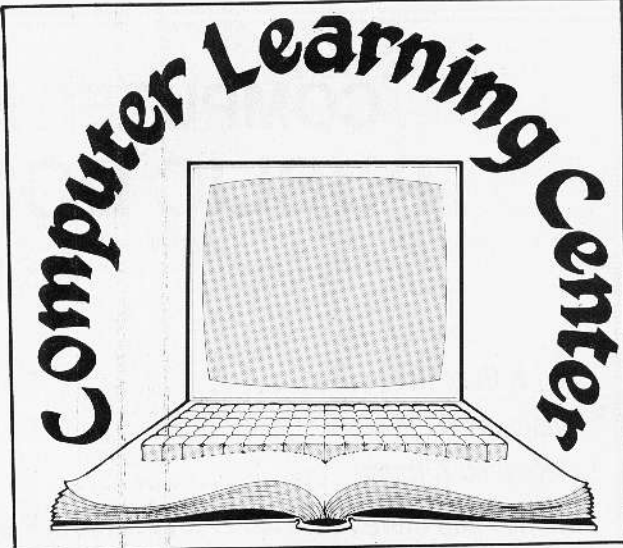
for Apple I, II & III

Use your Apple
for

Pleasure

for
Business

for
Learning



This is the Computer Learning Center's Catalog of Public Domain Software.

What is a Public Domain Library? It is a collection of programs that have been donated to the public and therefore have no copyrights attached. Such programs may be copied and distributed by anyone without regard for origin or ownership since they are owned by the public at large.

Public Domain software is also known as **FREEWARE** because it is essentially free. The charges levied by the CLC are to cover the costs involved in copying, labeling, packaging, mailing and other related expenses. These programs are unique in a number of ways. Some are the early versions of copyrighted programs donated by the author(s). Some are simple versions of more complex programs available at much higher prices. Some are even the actual routines that were later combined into a larger program now selling for a great deal of money.

Most are in BASIC so that you can modify them and use them in your own programs. And best of all, they are

not copy-protected. You can make as many copies as you want, and give, trade or sell them to whomever you please.

Clubs find them a valuable source of original programs and program ideas and routines. Schools use them for instruction and example. And individuals use them for study, collection, and inclusion into their own programs.

Start your own library of public domain software. The CLC has a wide assortment for you to choose from at prices that rival **BLANK** Disks!

This catalog lists the volume titles (composed of a name and a volume number that you use in ordering that volume) and a sample of the program titles on that disk. The program type is indicated by **A** (requires Applesoft to run), **I** (requires Integer BASIC language to run), **T** (a text file) and **B** (a binary file). The three digits next to it tell you how many sectors long that program is.

Use the **Catalog Index** when searching for specific categories like games, business, math . . .

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Your choice of disk(s) _____

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APPLE TUTOR

APPLE TUTOR 001

I	004	BASIC PROGRAMMING
I	036	BASIC PROGRAMMING 1
I	047	BASIC PROGRAMMING 2
I	048	BASIC PROGRAMMING 3
I	044	BASIC PROGRAMMING 4
A	004	BASIC-INTEGER
B	022	BASIC-INTEGER.X
I	019	CONVENTIONS
I	016	CPU 6502
I	002	HELLO SAMPLE
I	030	MICRO 6502 SIMULATION
I	051	MINI ASSEMBLER TUTORIAL
A	022	RANDOM DRILL TUTOR 3.2 ONLY
I	007	SWEET 16 DISASSEMBLER
I	004	SWEET 16 SPEED ?
B	026	^ SWEET 16 SPEED.X
I	026	TOP DOWN PROGRAMMING

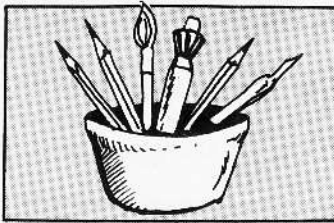
APPLE TUTOR 002

A	021	APPLE II DEMO
A	004	BASIC EXERCISE
I	043	BASIC-APPLESOFT
I	093	DISK AIDE.13
I	038	DISK AIDE DOCUMENTATION
B	003	DISK AIDE.X
A	028	DOS SYSTEM INSTRUCTION
A	013	PILOT VERSION I
I	054	PROGRAM DEVELOPMENT PACKAGE
A	014	SUPPLEMENT MINI ASSEMBLER
B	006	SUPPLEMENT.X
I	003	TEXT FILE READ
I	003	TEXT FILE WRITE
I	009	TEXT HELLO
T	009	TEXT HOW TO
T	010	TEXT INTRO
T	006	TEXT PEEK POKE CALL
T	010	TEXT PROGRAMMING
T	007	TEXT REDBOOK
T	011	TEXT SOFTWARE
A	002	BUZZ

APPLE TUTOR 003

A	002	APPLESOFT TUTORIAL (C)
A	023	^ HELP
B	034	^ LOGO
A	024	MENU

A	144	^ PT.1
A	086	^ PT.2
A	017	^ STRT



ART & GRAPHIC

ART & GRAPHIC 004

I	009	ART + TONE
I	014	ART 3D ROTATION
I	004	ART ACNE
I	030	ART ALPHABET 2
I	003	ART BIT BIN 1
I	008	ART BIT BIN 2
I	004	ART COLOR EATER
I	005	ART CRAZY
I	010	ART CURVES
I	009	ART DEMO 1
I	018	ART DRAW A FACE
I	034	ART DRAW LETTERS
I	008	ART EGG
I	002	ART EGG DOC
I	012	ART FACES
I	004	ART KALEIDOSCOPE 1
I	021	ART LIFE ARENA
I	004	ART LINES
I	003	ART MAGIC QUILT
I	002	ART MODERN LINES
I	003	ART MOSIAC CROSS
I	006	ART MUSIC CLOSE ENCOUNTER
I	009	ART NATL PRIDE 1
I	006	ART NUMBERS
I	006	ART PLAID LOOP
I	007	ART PLOTTING
I	002	ART RANDOM LINES
I	004	ART RIGHT ANGLES
I	009	ART ROM THE ROBOT
I	002	ART SQUARES
I	018	ART TAPESTRY
I	003	ART TWINE 1
I	008	ART TWINE 2- NEEDS WORK

I	002	ART TWINE DOC
I	004	ART WINDOW
I	005	ART WORM-> NEEDS WORK
I	006	CLOCK 1
I	007	CLOCK 2 WEINSTOCK
I	009	CLOCK 4 MASSIMO
I	013	CLOCK 5 COHN
B	006	HIRES GR MESSAGE (C00.3FF)
B	018	HIRES GR MESSAGE (C00.FFF)
I	018	HIRES GR MESSAGE-> NEEDS WORK
I	006	JOYSTICK ?
I	002	MEMORY ORGANIZATION
I	005	TV CONVERGENCE
I	008	TV PATTERN GENERATOR

ART & GRAPHIC 005

A	004	ART 3D HYPERBOLOID
A	002	ART BITS
A	005	ART BOUNCING BALL
A	011	ART COLOR BAR
A	002	ART COLOR PATTERN
A	006	ART DAY-> NEEDS WORK
A	015	ART DISPLAY
A	012	ART DRAW
A	015	ART DRAW SHAPES
A	009	ART DRAW SHAPES ADDER
A	018	ART DRAW SHAPES WITH &
A	012	ART ENTERPRISE
B	034	ART ENTERPRISE.X
A	004	ART FLOWERS
A	014	ART FLUTTER BY
B	010	ART FLUTTER.W
B	005	ART FLUTTER.X
B	005	ART FLUTTER.Y
B	034	ART FLUTTER.Z
A	009	ART GIFTED
A	004	ART HORIZ BARS
A	003	ART HYPER I
A	003	ART HYPER II
A	002	ART ILLUSION
B	011	^ ART ILLUSION.X
A	002	ART IMPACT
A	003	ART KALEIDO KEYS
A	004	ART KALEIDO SHAPE
A	002	ART KALEIDOSCOPE
A	005	ART MANDALA
A	003	ART METER
A	003	ART MULTICOLOR 1
A	004	ART PACIFIER

ART & GRAPHIC 006

I	018	ART APPLE LOGO
I	006	ART APPLEGRAPHICS
I	005	ART BUTTERFLIES
I	003	ART COLOR SHOW
I	002	ART DAZZLER
B	003	^ ART DAZZLER.X
I	003	ART DOTS OR LINES
I	007	ART DRAWING
I	007	ART GRA SPEED
I	003	ART GRAPHIC
I	003	ART KOFTINOFF
I	008	ART MODERN PAINTING
I	003	ART MOSIAC
I	015	ART NATL PRIDE 2
I	002	ART PLAID COLORS
I	010	ART ROCKET
I	009	ART SHAPE BUILDER
B	006	^ ART SHAPE BUILDER.X
I	006	ART SNOWFLAKES
I	017	ART VARIATIONS
I	005	ART WALLS
I	004	ART WORM
I	006	BAR GRAPH
I	002	BILLBOARD
I	007	CAR ANIMATION
I	008	CLOCK 3 MASSIMO
I	014	CLOCK 6 TARNOFF

I 020 DOODLE
 B 002 DOODLE.X
 I 050 HOLIDAY PAK
 I 018 LINCOLN
 I 002 LINCOLN-NEED HIRES END
 B 006 LINCOLN.X
 I 003 PULSAR
 B 010 PULSAR.1
 B 010 PULSAR.2
 B 010 PULSAR.3
 B 010 PULSAR.4
 B 010 PULSAR.5
 B 010 PULSAR.6
 B 010 PULSAR.7
 B 010 PULSAR.8
 I 010 VIDEO TEST
 I 011 WASHINGTON
 I 002 WASHINGTON-NEED HIRES END

B 006 ^WASHINGTON.X
 I 002 DAZZLER

ART & GRAPHIC 007

A 023 ART 3D EXTRAVAGANZA
 A 004 ART 3D PLOT AND SAVE
 A 012 ART 3D PROJECTIONS
 A 050 ART APPLE
 A 013 ART APPLE CORPS
 A 004 ART APPLE ROSE
 A 005 ART CIRCLES
 A 004 ART CIRCLES AND PDL'S
 A 002 ART DAZZLE
 B 003 ^ART DAZZLE.X
 A 005 ART FLIP IT
 B 034 ^ART FLIP IT.X
 A 002 ART HERRINGBONE
 A 002 ART HERRINGBONES
 A 002 ART HONEYCOMBS
 A 003 ART HYPER III
 A 003 ART HYPER IV
 A 003 ART HYPER V
 A 005 ART IMPOSSIBLE
 A 002 ART ONE LINER I
 A 002 ART ONE LINER II
 A 003 ART PERSPECTIVE-> NEEDS WORK
 A 003 ART PLAY
 A 009 ART RANDOM WALK
 A 002 ART ROSE PLASTIC
 A 003 ART SHAPES
 A 002 ART SPIRAL I
 A 003 ART SPIRAL II
 A 006 ART SPIO II
 A 006 ART STRING
 B 034 ^ART STRING.1
 A 002 ART SUNBURST
 A 015 ART XMAS SCENE
 A 002 BILLBOARD ROUTINE
 A 016 CLOCK GRANDFATHER
 A 006 GRAPH I
 A 009 GRAPH II
 A 007 GRAPHING
 A 006 POSTER LOVE I
 A 020 POSTER NCSU WOLF
 A 040 POSTER PIZZA MAN
 A 015 SPACE FILLING CURVES

ART & GRAPHIC 008

I 013 ART DEMO 3
 I 005 ART KALEIDOSCOPE 2
 I 005 ART LADY BUG
 I 006 ART MOOSE
 I 002 ART ONE LINER
 A 002 ART ONELINER 11
 I 011 ART PARROT
 I 004 ART RAT

I 007 ART SLIDE SHOW
 B 033 ART SLIDE.V
 B 036 ART SLIDE.W
 B 033 ART SLIDE.X
 B 033 ART SLIDE.Y
 B 034 ART SLIDE.Z
 I 024 ART TRAINS
 A 003 ART TRIANGLES
 I 007 INSPIRATION
 B 007 INSPIRATION.X
 B 098 INSPIRATION.Y
 A 002 PICTURE LOADER
 I 014 POSTER SNOOPY
 I 015 TYPE CHARACTERS?

ART & GRAPHIC 009

A 003 ART BOX PADDLES
 A 002 ART BOXES
 A 003 ART BOXES 3D
 A 005 ART BY BEN
 A 003 ART CURVES
 A 003 ART FIREWORKS
 A 004 ART IDIOT DELIGHT
 A 020 ART JUMP
 A 003 ART LINES
 A 004 ART MULTICOLOR 2
 A 007 ART STARS
 A 007 ART TESSERECT
 A 003 ART TRIANGLE ILLUSION
 A 003 ART TWIST I
 A 015 AUTO SPACE WAR I
 A 026 BARN 3D
 A 016 CHARACTER TABLE GENERATOR

A 002 CHARACTER TABLE NOTE
 B 003 CHARACTER TABLE.X
 B 010 CHARACTER TABLE.Y
 B 002 CHARACTER TABLE.Z
 A 004 DOLLAR COPY
 B 003 DOLLAR COPY.?
 B 002 DOLLAR COPY.X
 B 034 DOLLAR COPY.Y
 A 015 PIE CHART I
 A 015 PIE CHART II
 B 003 PIE CHART.X
 B 006 PIE CHART.Y
 A 015 POSTER BANJO-> NEEDS WORK

ART & GRAPHIC 010

A 012 POSTER SNOOPY
 A 010 SAVE A SKETCH
 A 023 SHAPER-> NEEDS WORK
 A 018 SHAPER INSTRUCTIONS
 A 002 STAR SHIP
 B 034 STAR SHIP.X
 B 034 STAR SHIP.Y
 A 017 SURFACE 3D

ART & GRAPHIC 011

I 002 ART DISPLAY COLORS
 B 002 ART DISPLAY COLORS.X
 I 012 ART WINDMILL
 I 002 CONTOURS
 B 034 CONTOURS.1
 B 034 CONTOURS.10
 B 034 CONTOURS.11
 B 034 CONTOURS.2
 B 034 CONTOURS.3
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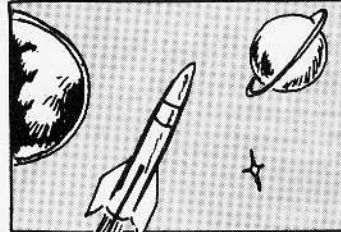
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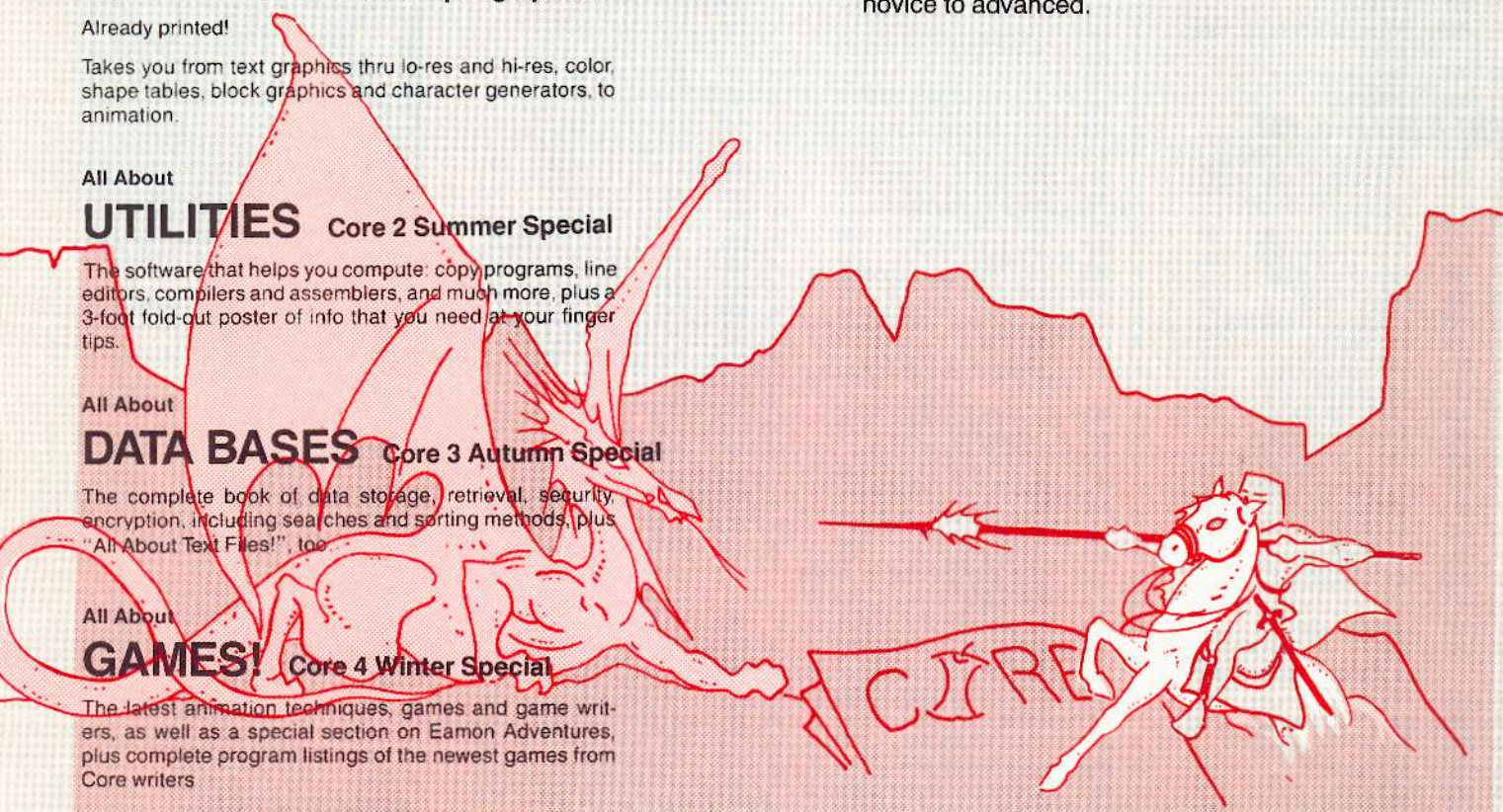
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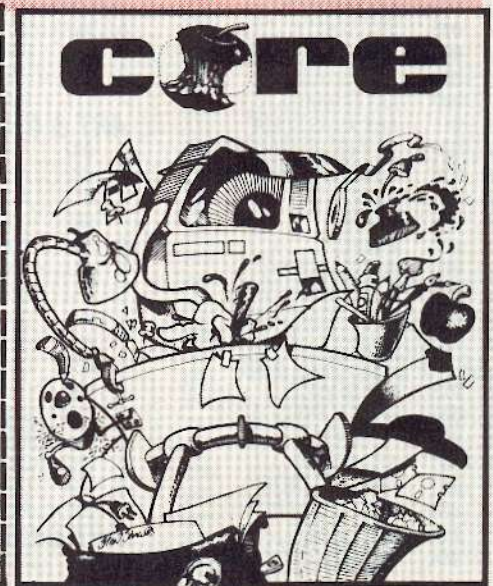
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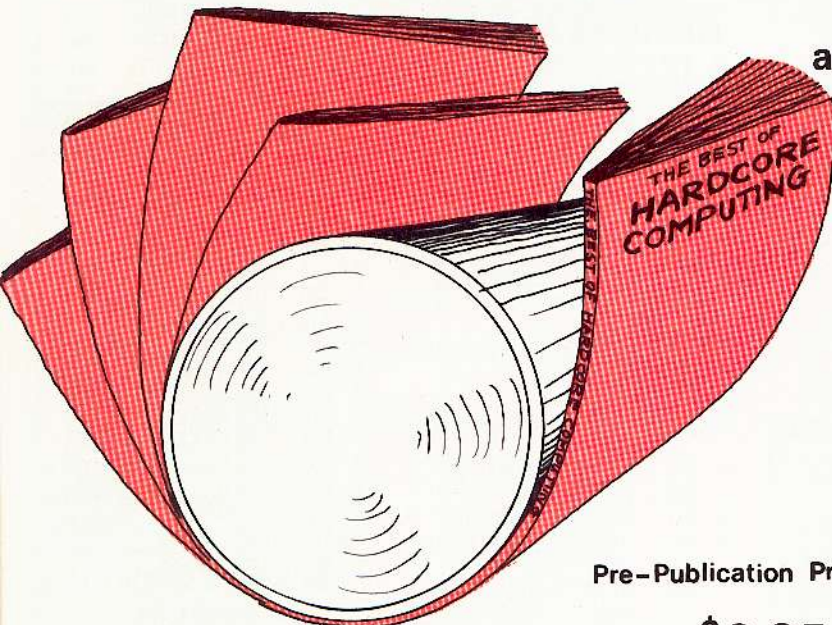
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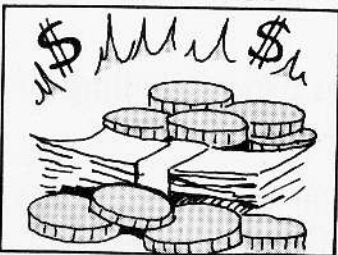
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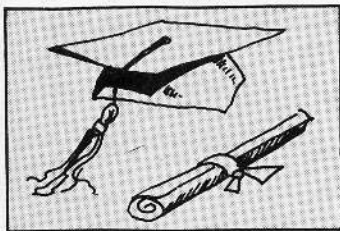
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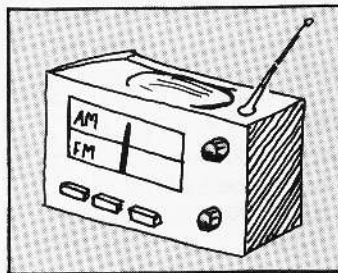
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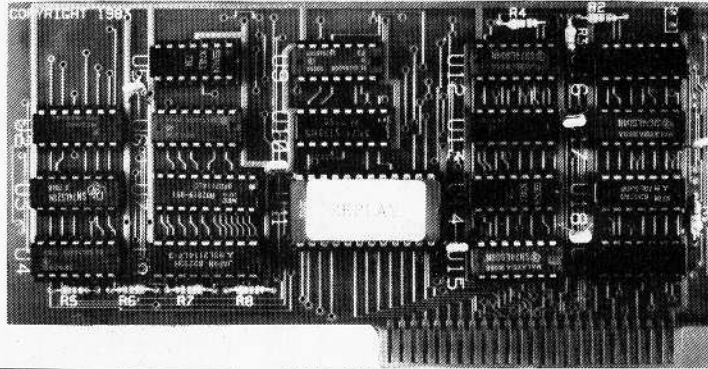
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REPLAY II is an interface card that is slot independent. Users can stop a program, examine and change memory, or copy the program, and restart. Control of the APPLE is obtained by pressing the remote switch which comes on an 18-inch cord outside the APPLE. REPLAY II does not copy the original disk, rather it copies the program executing in memory. If a copy is desired a blank disk is inserted in drive 1 and the options on the menu are contained in the eeprom on the REPLAY II card, no other disk needs to be booted for copying, unlike other copy cards. The very act of booting another disk alters memory which is detectable by some protected software.

REPLAY II does not change ANY memory. Extra memory is buffered to allow copying and analysis without altering the original memory contents. REPLAY II faithfully reproduces the lower 48K of memory in a fast load format. The upper 16K can also be copied for a 64K copy. Standard DOS 3.3 files can be created for storage on floppy or hard disks. A RAM card is needed for this.

REPLAY II is fully documented in a 60 page manual. Utility programs supplied with the REPLAY II card include Program Analysis, Comparisons, Packing, and Compression. A language card is not needed to run packed program copies. Because most programs are written in Assembly language, the user should be familiar with Assembly in order to fully utilize the advanced Analysis and Packing programs.

REPLAY II can automatically move protected APPLESOFT programs to a standard DOS 3.3 disk for listing or modification.

Now game players can save a game at any level and QUICKLY restart with the REPLAY II card. Users can freeze games, change variables to obtain unlimited ships or power, etc., then restart the program. Saving high scores is easy!

Minimum requirements are an APPLE II and a single disk drive.

REPLAY II is a card designed for many different uses. It can be used to copy programs executing in memory for backup purposes. The backup can then be used and the original kept in a safe place.

The Replay Card can also be used for program development or analysis. Since all memory is preserved the Replay card can be used to develop or analyze programs with the knowledge that using the card does not effect the original program.

A program can be stopped at any point desired. The following menu will appear when the user stops a program by pushing the button on the Replay card.

```

[*] REPLAY II [*]
C) COPY
M) MONITOR
B) BOOT 16 SECTOR DISK
E) BOOT REPLAY DISK
R) RESTART
V) SCREEN [1]   S) RAM/ROM/SLOT [ ]
L) VIEW SCREEN
  
```

All of the options are contained in the eeprom on the Replay card. While Replay is in control the original memory is not altered unless requested by the user. A monitor is one of the options of the menu. If that option is selected the following screen will appear.

```

[*] REPLAY MONITOR [*]   PC = xxxx
ON STACK = xxxx  xxxx HOOK IN = xxxx OUT = xxxx
A = xx, X = xx Y = xx SP = xx
                               SV*BDIZC
$3F2 RESET VECTOR = xxxx STATUS = xxxxxxxx
M,P,L,S,W,Q,##,##,##W,##,##,##:A]
  
```

M = display this screen
W = clear memory
P = APPLESOFT ptrs displayed
L = display memory as hex and ASCII
: = set memory to entered value
/ = search memory for entered value

Stack and input/output hooks displayed
Reset vector shown.
Status flags visible and labelled

There are monitor commands for displaying, searching or changing memory. APPLESOFT BASIC pointers can also be displayed in the format shown below.

```

[*] APPLESOFT POINTERS [*]
PROGRAM START [$67]=xxxx   END [$AF]=xxxx
VARIABLE END =xxxx   STRING END =xxxx
FREE MEM =xxK   CURRENT LINE =xxxx
  
```

ENHANCED versions of the Replay eeprom will be released in the future with more options for development and analysis. Remember that memory is preserved so that these options are transparent to the program being worked with.

Why the REPLAY II card is better:

1. Accurate copy of memory. Extra memory is buffered in to obtain an accurate copy of memory for your backup. Other cards alter memory. Even a slight change in memory can change the operation of your program when it restarts.
2. Language card not needed to copy or run. When using the REPLAY II card the language card is not needed. Copies can be made and executed by the Replay card. A language card allows some enhancements but is not required in the minimum configuration.
3. FAST copy and restart. The user can = =
 - A. Stop a program
 - B. Copy lower 48K
 - C. Restart program

In under ** 15 ** seconds!!! 64K copies take only slightly longer. Game players have instant freeze, copy, restart for fast play. Restart of a previous copy is fast, also.

4. Analysis programs and 60 pages of documentation. The user is supplied with extensive documentation covering many different uses of the card.
5. Copy system in eeprom, no need to booth other disks at copy time. This eliminates the need to keep a separate disk immediately on hand just to load in the copy software. Loading in the copy software also alters memory irrevocably!

Standard DOS 3.3 files of the copied program are created automatically. Two standard binary files are created of the lower 48K program memory.

Some uses of the Analysis programs are:

- A) searching copied programs for code/ASCII areas
- B) condensing copied programs to minimum size.
- C) comparing copies of programs for differences
- D) comparing standard DOS to nonstandard DOS, find differences
- E) disassemble copied programs for analysis and modification

Memory resident programs are those programs that totally load into memory to execute. Many programs such as spreadsheet programs and games usually fall into this category.

Multiple access programs such as large adventure games or multiple module programs are copyable by users with experience. The Replay card can be used as a tool to analyze the software. Suggestions are given in the documentation.

FOOD

FOOD #35

- B 004 ALPHA#
- A 026 CALORIE COUNTING PROGRAM
- A 014 CALORIE RQMTS
- A 029 FOOD VALUES
- A 033 IDEAL BODY WEIGHT
- A 031 LIFE EXPECTANCY
- I 026 LIFE EXPECTANCY TEST
- A 017 METRIC KITCHEN
- A 043 RECIPE BOX
- T 002 INDEXRECIPE FILE
- T 002 RECIPE FILE
- A 042 RECIPE CALORIE COST
- A 003 RECIPE COST
- A 026 RECIPE COST PER SERVING

GAME #38

- I 020 BATTLESTAR
- I 003 CHESS 2
- B 042 CHESS 2.X
- I 055 CONCENTRATION
- I 033 DRAGON MAZE 3
- I 035 FIRE
- I 027 FISHING->NEEDS WORK
- I 025 GOLF SCORE & HANDICAP
- I 025 PINBALL SUPER
- I 023 POKER STUD
- B 020 POKER STUD.X
- I 007 SIMON
- I 008 SOLITAIRE CHECKERS BW
- I 022 STORY TELLER
- I 012 TAX MAN
- I 009 TIME BOMB
- I 025 WUMPUS 2

GAME #39

- I 017 CAPITALS OF STATES BW
- I 054 CASINO ROYALE
- B 020 CASINO ROYALE.X
- I 009 DARTS
- I 023 FOOTBALL
- I 046 GIN RUMMY
- B 020 GIN RUMMY.X
- B 014 GIN RUMMY.Y
- I 014 HI LO
- I 041 ROLL EM
- I 024 SAUCER INVASION
- I 014 SIMON SAYS SUPER
- I 006 WALL BUILDER
- I 052 YAHTZEE

GAME #40

- I 017 CAPITALS OF STATES BW
- I 054 CASINO ROYALE
- B 020 CASINO ROYALE.X
- I 009 DARTS
- I 023 FOOTBALL
- I 046 GIN RUMMY
- B 020 GIN RUMMY.X
- B 014 GIN RUMMY.Y
- I 014 HI LO
- I 041 ROLL EM
- I 024 SAUCER INVASION
- I 014 SIMON SAYS SUPER
- I 006 WALL BUILDER
- I 052 YAHTZEE

GAME #41

- A 008 ANIMAL
- A 055 ART AUCTION
- A 006 BALL CATCHER
- A 017 BOMBARDMENT
- A 021 BOXED IN
- A 008 DEPTH CHARGE
- A 010 DOGFIGHT
- A 008 DOORS
- A 016 ELEVATE
- A 036 FORT I
- A 020 GOLF I
- A 014 KLINGON CAPTURE
- A 029 MONSTER CHASE
- A 007 NUMBER GUESS
- A 014 OBSTACLE
- A 007 PETALS ROUND THE ROSE
- A 004 ROLL DICE
- A 010 ROTATE
- A 070 STAR TREK SUPER
- A 018 STOCK MARKET GAME
- A 015 WORD PUZZLE

GAME #42

- A 008 EXTERIOR BALLISTICS

- A 021 FACTOR GAME
- A 025 FIND HURKLE
- B 006 FIND HURKLE.OBJ
- A 043 FOOTBALL NFL
- A 027 FOOTBALL->NEEDS WORK
- A 010 HANGMAN I
- A 009 HANGMATH
- A 032 HOCKEY II
- A 033 MONOPOLY I
- A 023 OREGON
- A 041 OREGON.X
- B 015 OREGON.Y
- A 010 PIZZA
- A 026 SAIL PLANE LANDER
- A 031 SWORDS AND SORCERY I
- A 032 SWORDS AND SORCERY II

GAME #43

- I 056 ADVENTURE 2
- I 019 BLACK BOX
- I 011 BOMBARDMENT 2->NEEDS WORK
- I 013 BREAKOUT 2
- I 016 CAPITALS OF STATES
- I 021 CHASE
- I 033 CIVIL WAR QUIZ
- I 017 CONNECTION PDLs
- I 018 GAME PAK 5
- I 013 HISTORY QUIZ
- I 042 HORSE APPLE DOWNS
- I 003 HORSE RACE 1
- I 019 KWAK STAK
- B 016 KWAK STAK.X
- I 038 LEGACY->NEEDS WORK
- I 008 OFF THE WALLS
- I 014 QUIZ BUILD
- I 002 QUIZ->NEEDED
- I 032 TREASURE

GAME #44

- I 020 ACEY DEUCY FOR TWO
- I 024 AIR SIMULATOR
- I 009 CODE BREAKER
- I 013 CRAZY EIGHTS
- I 002 GAMMON 1
- B 026 GAMMON 1.X
- I 002 GAMMON 2
- B 034 GAMMON 2.X
- I 003 GUESS A NUMBER
- I 031 HORSE RACE 3
- I 011 MEMORY MADNESS
- I 017 PINBALL SLOW
- I 018 PING PONG
- I 012 PING PONG 2 PLAYER 2
- I 011 PING PONG OR HANDBALL 2
- I 005 ROCK PAPER SCISSOR
- I 054 SELL PLANTS OR LEMONADE
- I 015 SIMON SAYS WOW
- I 007 SPEED RACER
- I 005 TENNIS
- I 040 TIC TAC TOE
- I 008 TIC TAC TOE BW
- I 023 TIC TAC TOE PDL 0

GAME #45

- I 007 AIRPORT
- I 033 ALIEN UFO MAZE
- I 037 BATTLESHIP
- I 015 BLACKOUT
- I 006 BOMBS AWAY
- I 009 BREAKOUT 1
- I 011 BRICKOUT 2 PLAYERS
- I 013 BRICKOUT 3 SPEED
- I 008 DODGEBALL
- I 014 DON'T FENCE ME IN
- I 009 DRAGON MAZE 1

GAME #46

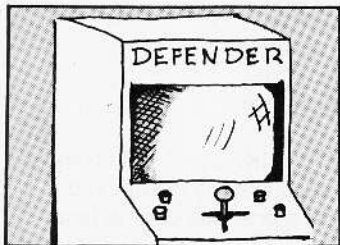
- I 020 BAGELS 3
- I 051 BLACKJACK
- I 010 BLACKJACK BW
- I 030 BLACKJACK TUTOR
- I 014 CHECKERS 1
- I 052 CHECKERS 2
- I 002 CHESS 1
- B 026 CHESS 1.X
- I 022 CLOSE THE SQUARE
- I 009 CRAPPS
- I 013 CUBIC 1
- I 014 CUBIC 2.3
- B 006 CUBIC 2.3.X
- I 005 HORSE RACE 2
- I 009 LUNAR LANDER BW
- I 036 POKER DRAW 1
- I 035 POKER DRAW BW
- B 022 POKER DRAW.X
- I 010 ROULETTE
- I 008 SOLITAIRE BW

GAME #47

- I 011 ABSTRACT
- I 007 ACEY DEUCY
- I 014 APPLEJACK 21
- B 020 APPLEJACK 21.X
- I 002 BREAKOUT 3
- B 022 BREAKOUT 3.X
- I 010 CARD TRICK 2
- I 005 CHEMIST
- I 008 COLOR RAYS
- I 018 CONNECTION REV
- I 013 DRIVER
- I 008 GO MO KU
- I 002 GUIDED MISSILES
- B 018 GUIDED MISSILES.X
- I 011 HANGMAN->NEEDS WORK
- I 013 JUGGLE
- I 011 MAZE RACE
- I 058 OREGON TRAIL 2
- I 014 SAUCERS AND STARS
- I 013 SHOOT OUT
- I 025 SHOOTING GALLERY
- I 007 SHOOTING STARS 1
- I 011 SHOOTING STARS 2
- I 033 SHOW DOWN
- I 014 STOCK MARKET
- I 013 SUB
- I 012 WUMPUS 1

GAME #48

- I 015 ANTI AIRCRAFT
- I 025 APPLE WARS 1
- I 019 APPLE WARS 1.1
- I 007 BAGELS 1
- I 017 BINGO AUTO->NEEDS WORK



GAMES

GAME #36

- A 027 BLACKJACK STRATEGY
- A 012 COMBAT
- A 017 CRAPS BW
- A 035 CRIBBAGE I BW
- A 028 FOOTBALL PREDICTIONS
- A 011 FOX AND HOUNDS
- A 026 FRENCH MILITARY GAME
- A 020 GOLD MINE
- A 022 GOLF II
- A 016 HI Q
- A 027 HOCKEY I
- A 021 HORSE RACE III
- A 031 KINGDOM
- A 008 LITERATURE QUIZ
- A 026 MAROONED IN SPACE
- A 004 PING PONG
- A 010 ROBOT BW
- A 016 SURVIVE
- A 018 TWONKY I
- A 018 WORD MAZE MAKER
- A 003 FOOTBALL PREDICTIONS.NOTE

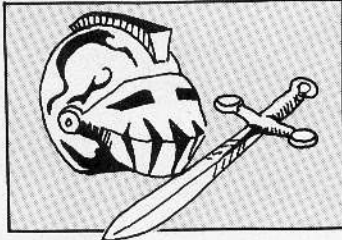
GAME #37

- I 045 BOWLING 2
- B 016 BOWLING.X
- I 007 CARD TRICK 1
- I 013 CARD TRICK 3
- I 036 CHESS MINI
- I 014 CONNECTION
- I 035 GAME PAK 2
- I 048 GAME PAK 3
- I 015 HANGMURABI
- I 020 KENO 2
- I 007 MAZE GENERATOR
- I 013 MAZE RACE TIMED
- I 024 PARACHUTE
- I 006 SIMON SAYS
- I 053 TREK APPLE 2
- I 019 TREK APPLE 2 INSTR
- I 023 WUMPUS HUNT

Public Domain Software, continued

- I 040 BULLS AND BEARS
- I 055 GAME PAK NIGHTMARE
- I 017 GUIDED AIRPLANE
- I 008 HIDDEN MOUSE 2
- I 025 INTERSTELLAR
- I 005 KENO 1
- I 019 SLOT MACHINE \$2 + SOUND
- I 010 SPACE PILOT
- I 015 SPACE WAR FOR TWO
- I 014 STAR SHIP ATTACK
- I 012 STAR TREK MINI
- I 007 STAR WARS
- I 024 STAR WARS FOUR
- I 009 TREK
- I 047 WAR LORDS

- I 029 STOCK MARKET GAME
- I 006 TALKING NUMBER GUESS
- B 023 TALKING NUMBER GUESS.X
- I 027 THIEF
- I 004 TOWERS



GAME 049

- I 020 AIR ATTACK
- I 002 ALIVADER
- B 080 ALIVADER.X
- I 014 BAGELS 2
- I 019 BASEBALL
- I 018 BINGO
- I 007 BINGO CARD
- I 014 BOMBER
- I 012 BOXING
- I 018 CARRYING BALLOON
- I 025 CRYPTOGRAM
- I 015 DEATH STAR
- I 020 FLY KILLER
- I 039 GAME PAK 4
- I 011 PINBALL
- I 013 PINBALL MARBLE
- I 020 SLOT MACHINE LOTTERY
- I 018 SPACE WAR 5
- I 007 SUB COMMAND
- I 021 SUBMARINE

GAME 052

- A 009 ARTILLERY I
- A 018 ARTILLERY II
- A 011 BOMBING MISSION
- A 018 BULLFIGHT
- A 014 CAPITALS OF COUNTRIES
- A 023 CAPITALS OF NATIONS
- A 004 CAPITALS OF STATES I
- A 016 CAPITALS OF STATES II
- A 017 CAPITALS OF STATES III
- A 017 CAPITALS OF STATES IV
- A 017 CAPITALS OF STATES V
- B 012 CAPITALS OF STATES V.X
- A 021 FUR TRADER
- A 011 HORSE RACE II
- A 010 LUNAR LANDING
- A 010 ROCKET
- A 020 ROULETTE BW
- A 081 READING SPEED
- A 010 TARGET
- A 054 TREASURE HUNT

GAME 050

- A 017 BATTLE
- A 015 CENTURY 51
- B 002 CENTURY 51.X
- A 020 CHECKERS II
- A 021 COMMODITY MARKET
- A 016 CRAPS I
- A 013 CRYPTOGRAMS
- A 017 FRUSTRATION
- A 027 GEOGRAPHY II
- A 015 HANGMAN II
- A 022 LUNAR LANDING BW
- A 061 MARKET CRASH
- B 005 MARKET CRASH.X
- A 009 NAME THE STATES
- A 018 PUZZLE GENERATOR
- A 007 SOLITAIRE CHECKER PUZZLE
- A 010 SPELL THE STATES
- A 052 SPELUNKER
- A 012 SUBSCAN FOR TWO
- B 002 SUBSCAN.X
- A 031 WORLD WAR

GAME 053

- I 010 BACKGAMMON
- I 013 BOWLING 1
- I 013 CUBIC 3
- I 030 FOOTBALL NFL
- I 066 GOLF PAR
- I 024 HAUNTED MANSION
- I 014 KILL A LINE
- I 060 OREGON TRAIL 3
- I 034 OTHELLO 2
- B 015 OTHELLO 2.X
- I 009 PING PONG OR HANDBALL 1
- I 006 REVERSE NUMBERS
- I 010 ROBOT CHASE
- I 049 SALVO
- I 017 SHOOTING STARS 3
- I 018 SPACE CRAFT LANDING
- I 004 WORDS BOUNCING

GAME 051

- I 009 BOMBARDMENT 1
- I 009 CASINO
- I 023 CHASE REAL TIME
- I 062 CRIBBAGE
- I 012 LUNAR LANDER
- I 056 OREGON TRAIL 1
- I 037 POKER DRAW 2
- B 022 POKER DRAW.X
- I 008 RUSSIAN ROULETTE
- I 008 SEA HUNT
- I 027 SELL APPLES
- I 018 SHOOTING STARS 4
- I 013 SLOT MACHINE COLOR

GAME 054

- A 047 ACEY DEUCY CARDS
- I 051 APPLE HORSE (C)
- A 020 BOGGLE II
- A 036 EAMON CHAR BUILDER
- A 014 ECONOMIC SIMULATION
- A 023 FOOTBALL APPLE
- I 046 GAME PAK 1
- I 039 GAME PAK 4
- T 002 ROCKET PILOT
- I 003 ROCKET PILOT INSTR
- I 010 RP
- B 002 RP1
- B 002 RP2
- B 002 RP3
- A 032 ROULETTE
- A 002 TASK FORCE

- A 031 TASK FORCE.1

GAME 055

- T 001 ADESCRIP
- I 002 ADVENTURE HELLO
- T 002 ADVENTURE.EX
- I 003 ADVENTURE.EX MAKER
- I 121 ADVENTURE.PROGRAM
- T 001 AITEMS
- T 001 AMESSAGE

GAME 056

- T 001 ADESCRIP
- A 058 ADVENTURE
- A 004 ADVENTURE HELLO
- A 010 ADVENTURE START-UP
- T 011 AITEMS
- T 125 AMESSAGE
- T 021 AMOVING
- A 003 EDIT AMESSAGE
- A 059 STARWARS ADVENTURE
- A 003 VIEW AMOVING

GAME 057

- T 020 ADVDIR
- A 006 ADVENTURE HELLO
- A 067 ADVENTURE JII
- B 006 ADVHELP-1
- B 006 ADVHELP-2
- B 006 ADVINST-1
- B 006 ADVINST-2
- T 011 ADVITEM
- T 002 ADVMOVE
- B 005 ADVOCAB.B
- T 034 ADVSXT
- T 227 ADVTXT

HELLO AND MENU

HELLO AND MENU 058

- A 003 BILLBOARD ROMANO
- A 003 BILLBOARD SINEWAVE
- A 008 CATALOG MANAGEMENT
- A 027 CATALOG MANAGEMENT EDIT
- A 009 CLOCK CARD HELLO
- A 009 CLOCK CARD HELLO I
- A 013 CLOCK CARD TIME KEEPER
- A 005 HELLO ALLEN I
- A 017 HELLO ALLEN II
- A 003 HELLO AND ART
- A 002 HELLO APPLE DAYTON
- B 008 HELLO APPLE DAYTON.X
- A 004 HELLO APPLE LOGO
- B 034 HELLO APPLE LOGO.X
- A 004 HELLO APPLE PI DOM
- B 034 HELLO APPLE PI.X
- B 008 HELLO APPLE PI.Y
- A 002 HELLO APPLE-VENTION
- B 008 HELLO APPLE-VENTION.X
- I 006 HELLO APPLNET
- B 010 HELLO APPLNETX
- B 006 HELLO APPLNET.Y
- A 004 HELLO AUTO SELECT
- A 004 HELLO AUTO SELECT I
- B 003 HELLO AUTO SELECT.X
- A 005 HELLO BROWN
- A 002 HELLO FRAME
- A 006 HELLO FREEMAN DAVIS
- A 004 HELLO FROM CAC
- B 034 HELLO FROM CAC.X
- A 007 HELLO IAC
- A 009 HELLO MASSIMO
- I 034 HELLO TITLE DEMO
- A 006 HELLO WAGNER
- A 007 MENU IDEA GOLDING



You could take some unimaginative trip by some everyday byway in your quite ordinary vehicle to some commonplace resort.

2

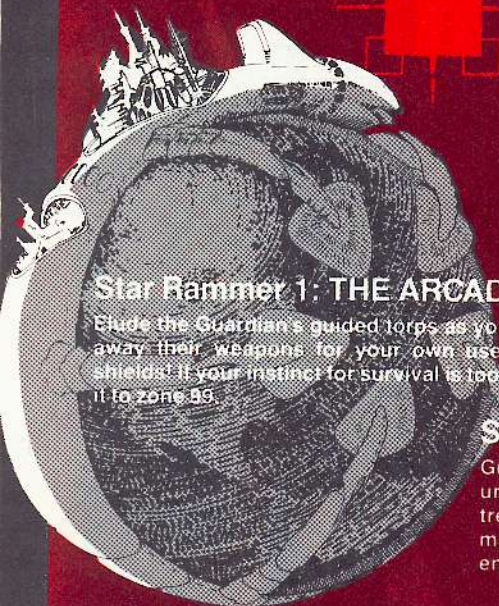
63
WOW

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3 games in one

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An arcade, an adventure, and a strategy game.



Star Rammer 1: THE ARCADE

Guide the Guardian's guided torps as you try to board and take away their weapons for your own use. But don't lose your shields! If your instinct for survival is too low, you'll never make it to zone 99.



Star Rammer 2: THE ADVENTURE

Guide your ship through the star-maze and unveil the star-treasures in each of the 99 zones. Remember, you must have certain treasures before the others can be captured. Use the Starmaze map and fill in the unknown treasures. Use the space warps to enter hyperspace for bonus stargems.



Star Rammer 3: THE STRATEGY GAME

Unlike the other two versions, this lets you contemplate your actions without the frenetic activity of real-time action. Move with care and forethought and you can discover how to go beyond zone 99. This version requires a separate player disk you make with the master.

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Black Holes,

flashing Pulsars, Time Tunnels, Stargates, Space Warps, and

Escape From

Castle Wolfenstein



REQUIREMENTS:

The IOB program
MUFFIN from the DOS master disk
Castle Wolfenstein by Muse
Two disk drives

Inside Castle Wolfenstein

Castle Wolfenstein is an arcade/adventure game using hi-res graphics. You are an escaped prisoner of war, trapped in a castle full of Nazi guards and SS troops. You must find the path to freedom and maybe a set of war plans that are also in the castle.

The game is enjoyable and very addictive. Unfortunately it has one rather annoying routine—every time you run into a wall the screen flickers and a horrible noise issues from the speaker.

After playing quite a few games, I became frustrated by this sound and resolved to eliminate it. The first problem that I encountered was our old enemy, software protection.

The Lock

Castle Wolfenstein is on a modified 13-sector disk that will boot on 13- or 16-sector Apples. The only protection used is the writ-

ing of even sector numbers to the disk. This means that the sectors step by two (i.e. 0,2,4,6,8,10). The first problem (13-sector DOS) could be solved with Muffin. Muffin is a program that transfers 13-sector disks to 16-sector. However, Muffin will not handle even-numbered sectors. So, I decided to use the IOB program, with a little help from Muffin.

Within Muffin is an image of the 13-sector RWTS. You will use this image when you make your copy. The IOB program must be modified so that the 13-sector DOS in Muffin is called when you read the Castle Wolfenstein disk, and the normal 16-sector DOS is called when you want to write to your copy disk.

The Key

NOTE: Type in the IOB program before performing these steps.

- 1) Turn on your Apple and boot from the DOS Master disk.
- 2) Put a blank disk in drive 2 and initialize the blank disk with the name "Hello":
INIT ^HELLO, D2
- 3) Load the Muffin program:
BLOAD MUFFIN, D1
- 4) Enter the monitor and add a short routine that sets up the RWTS call:

CALL -151

18F0:08 78 20 00 1E B0 03 28

18F8:18 60 28 38 60

5) Return to Applesoft:

3D0G

6) Load the IOB program. This will overwrite the first part of Muffin but does not affect the RWTS part.

7) Insert your copy of Castle Wolfenstein in drive 1 (check that the initialized disk is still in drive 2), and RUN the program.

SOFTKEY - IOB

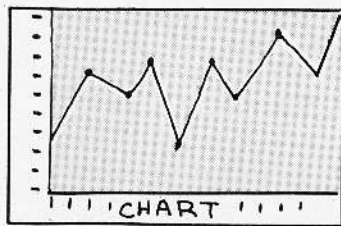
- ```
10 TEXT : HOME : LOMEM: 16385: GOSUB
63000: GOTO 100
20 HOME : UTAB 12: HTAB 12: PRINT
"TRACK "TK" SECTOR "ST: RETURN

30 HTAB 20 - (LEN (A$) / 2): PRINT
A$;: RETURN
40 HOME : UTAB 12: GOSUB 30: UTAB
14:A$ = "PRESS ANY KEY TO CO
NTINUE ": GOSUB 30: GET AN$:
RETURN
50 POKE BUF,32: POKE CMD,CD: POKE
TRK,TK: POKE SCT,ST: POKE DR
V,DV: POKE VOL,VL: RETURN
```

(Continued on page 26 )



- A 004 MENU IDEA I
- A 005 MENU IDEA II
- A 005 MENU IDEA III
- A 008 MENU IDEA IV
- A 005 MENU IDEA MUNARRIZ
- A 012 MENU IDEA V
- T 001 PROG.LIST
- A 012 CLOCK CARD HELLO II
- A 003 MENU LOCK
- B 004 MENU LOCK\*



**MATH & STATISTICS**

**MATH & STATISTICS #59**

- A 008 ANGLO TO METRIC I
- A 011 ANGLO TO METRIC II
- A 003 ARCSIN ARCCOS
- A 016 CALCULATOR
- A 007 CALCULUS I
- A 013 CALCULUS II
- A 007 CASH REGISTER
- A 005 CIRCLE AREA CIRCUM
- A 009 COMPOUND INTEREST
- A 010 CRITICAL PATH ANALYSIS
- A 006 CURVE FIT I
- A 013 CURVE FIT II
- A 013 CURVE FIT III
- A 003 DERIVATIVE OF EQUATION
- A 010 DIFFERENTIAL EQN SOLVER
- A 015 EQUATION SOLVER
- A 005 EQUATIONS I
- A 014 EQUATIONS II
- A 014 FACTOR
- A 003 FIBONACCI NUMBERS
- A 012 FOOT CANDLE ANALYSIS
- A 010 FOURIER
- A 011 FOURIER TRANSFORM
- A 009 MATRIX OPERATION
- A 016 MEAN VARI STDR DEVIA II
- A 007 MODE FINDER
- A 003 N FACTORIAL
- A 007 PLOT CONSECUTIVE REACTIONS
- A 006 PLOT FUNCTIONS OF X
- A 003 PROG CHART ?
- A 011 ROBOT MOTOR DESIGN
- A 005 SINE FUNCTION
- A 010 STATISTICS I
- A 014 STATISTICS II
- A 014 T TEST STDN DEVIATION
- A 004 TIME SPEED DISTANCE EXERCISE
- A 006 TIME SPEED DISTANCE FUEL
- A 014 TRIANGLE SOLVER
- A 011 UNPAIRED GROUP COMPARISON

**MATH & STATISTICS #60**

- I 009 ADDITION AND GRAPHICS
- I 004 ADDITION AND SOUND 1
- I 005 ADDITION AND SOUND 2
- I 008 ADDITION DRILL
- I 014 BESSEL FUNCTIONS
- I 034 BRAIN BUSTERS

- I 005 COIN TOSS
- I 003 FRACTION TO DECIMAL
- I 008 LIGHT PEN 3 DEMO
- I 014 LIGHT PEN MATH DEMO
- I 026 MATH AND MUSIC
- I 005 MATH DIVISION 2
- I 007 MATH DIVISION 3
- I 008 MATH DIVISION CALC 1
- I 010 MATH DIVISION CALC 2
- I 030 MATH DRILL EASY
- I 031 MATH DRILL HARD
- I 025 MATH FLASH CARD
- I 009 MATH HEX QUIZ
- I 009 MATH IN COLOR 1
- I 012 MATH IN COLOR 2
- I 009 MATH MULTIPLY 2 NUMBERS
- I 004 MATH MULTIPLY CALC
- I 053 MATH SUPER
- I 021 MATH TUTOR
- I 008 NUMBER LOGIC
- I 008 PI 1
- I 009 PI 2
- I 005 SQUARE & CUBE A NUMBER

**MATH & STATISTICS #61**

- A 003 ANGLE CONVERSION
- A 012 ANGLO TO METRIC III
- A 003 AREA OF POLYGON
- A 008 BINOMIAL DISTRIBUTION
- A 004 BLACKBODY
- A 003 CHI SQUARE DISTRIBUTION
- A 004 CHI SQUARE TEST
- A 004 COORDINATE CONVERSION
- A 008 COORDINATE PLOT
- A 003 CURVILINEAR INTERPOLATION
- A 002 DERIVATIVE
- A 016 DFIT
- A 011 DIFFERENTIAL EQN SOLVER DEMO
- A 004 EXPONENTIAL REGRESSION
- A 004 F DISTRIBUTION
- A 004 GAUSSIAN QUADRATURE I
- A 003 GEOMETRIC MEAN
- A 004 GEOMETRIC REGRESSION
- A 004 GREATEST COMMON DENOMINATOR
- A 005 HISTOGRAM
- A 003 LINEAR INTERPOLATION
- A 007 LINEAR PROGRAMMING
- A 004 LINEAR REGRESSION
- A 005 MANN WHITNEY U TEST
- A 022 MATH DRILL III
- A 019 MATH MULTIPLY DRILL
- A 019 MATH-> NEEDS WORK
- A 013 MATRICES
- A 004 MATRIX INVERSION I
- A 004 MATRIX MULTIPLICATION
- A 004 MATRIX OPERATION SIMPLE
- A 004 MEAN VARI STDR DEVIA I
- A 007 MULTIPLE LINEAR REGRESSION
- A 004 NORMAL DISTRIBUTION
- A 006 NTH ORDER REGRESSION
- A 004 NUMBER COMBINATIONS
- A 002 PARABOLA PLOT
- A 003 PERMUTATION COMBINATION I
- A 007 PERMUTATION COMBINATION II
- A 003 POISSON DISTRIBUTION
- A 006 POLAR EQUATION PLOT
- A 011 POLYFIT
- A 013 POLYNOMIAL REGRESSION

- A 006 POWER CURVE FIT (C)
- A 003 PRIME FACTORS I
- A 006 PRIME FACTORS II
- A 003 QUADRATIC FORMULA
- A 006 QUADRATIC SURFACE
- A 015 RIGHT TRIANGLE SOLVER
- A 016 ROOT FINDER
- A 005 ROOTS OF POLY HALF
- A 005 ROOTS OF POLYNOMIALS
- A 004 SIMPSON'S RULE
- A 004 SIMULTANEOUS EQUATIONS
- A 004 T DISTRIBUTION
- A 005 T DISTRIBUTION TEST
- A 003 TRAPEZOIDAL RULE
- A 005 TRIANGLE FACTORS
- A 007 TRIANGLE PARTS
- A 003 TRIG POLYNOMIAL
- A 004 VECTOR ANALYSIS
- A 003 VECTOR OPERATIONS

**MATH & STATISTICS #62**

- I 006 ADDITION QUIZ
- I 015 COIN TOSS & BINOMIALS
- I 014 EQUATIONS
- I 004 GROUP AVERAGES
- I 003 MATH DIVISION 1
- I 016 PRIMES & FACTORS-> NEEDS WORK

**MATH & STATISTICS #63**

- A 005 AVERAGES
- A 007 CHESS BOARD
- A 009 COMPOUND INTEREST TABLES
- A 007 COMPRESSION RATIO
- A 007 CONSECUTIVE REACTIONS
- A 005 CYCLOID
- A 006 EQUIPROBABLE
- A 012 FOURIER TRANSFORM HIRES
- A 005 FUNCTION PLOT I
- A 005 FUNCTION PLOT IA
- A 006 FUNCTION PLOT II
- A 012 FUNCTION PLOTTER I
- A 013 FUNCTION PLOTTER II
- A 006 FUNCTION ZEROS
- A 012 GAMBLERS RUIN
- T 003 GRANTS 100
- T 006 GRANTS 400
- T 002 GRANTS 50
- A 015 HISTOGRAM PLOT
- A 008 HYPERBOLA
- A 016 INTEGRATION
- A 006 LISSAJOUX
- A 005 MATH TOTALS
- A 020 MATH WILLIE WORM
- A 017 METRIC AREA
- A 004 METRIC GAS PRICE
- A 005 METRIC KELVIN TEMP
- A 017 METRIC KITCHEN
- A 015 METRIC LENGTH
- A 004 METRIC TEMP
- A 020 METRIC TEMP OR WEIGHT
- A 007 METRIC TEMPERATURE
- A 026 METRIC VOLUME
- A 005 MONTE CARLO
- A 003 POLAR ANGLES
- A 007 POLAR COORDINATES
- A 006 POLL
- A 005 ROSETTE
- A 014 SIMULTANEOUS EQN AND MATRIX
- A 006 SPHERICAL
- A 023 SPIRAL2

**MUSIC & SOUND**

**MUSIC & SOUND #64**

- I 002 MUSIC ALLEY CAT
- B 004 MUSIC ALLEY CAT.X
- I 056 MUSIC APPLE ORGAN
- I 025 MUSIC APLEODION
- I 013 MUSIC BACCH
- B 020 MUSIC BACH
- I 014 MUSIC BACH SQUARES 1
- I 017 MUSIC BACH SQUARES 2
- I 003 MUSIC BUGLE
- I 021 MUSIC CHILDRENS
- I 018 MUSIC FLAG
- I 009 MUSIC ODE TO JOY
- I 037 MUSIC PAK 1
- I 016 MUSIC POTPOURRI
- I 019 MUSIC SMALL WORLD
- I 012 MUSIC SYNTHESIZED
- I 012 MUSIC TEMPERED SCALES
- I 016 MUSIC VOICE
- I 021 MUSIC WRITER 1
- I 024 MUSIC WRITER 2
- I 002 MUSIC WRITER 2 DOC
- I 007 SOUND EFFECTS MUZAK
- I 009 SOUNDS BY HART
- I 004 SOUNDS ROUTINE
- A 005 XMAS SONG PRINTED

**MUSIC & SOUND #65**

- I 005 AAB MESSAGE
- T 003 AMERICA
- I 012 HANON ETUDE #1 IN C
- T 002 HAPPY BIRTHDAY
- A 015 HARMONIC ANALYSIS
- I 019 MUSIC COMPUTER
- I 036 MUSIC FUNCTIONS
- I 011 MUSIC GEE
- I 023 MUSIC IN IB
- I 014 MUSIC MAKER
- I 017 MUSIC MOZART THEME
- I 007 MUSIC RIGBY
- I 026 MUSIC STAIRWAY TO HEAVEN
- A 004 MUSIC START
- I 030 MUSIC TWO VOICES
- I 022 MUSIC WRITER 3
- I 008 MUSICAL KEYBOARD
- B 002 MUSICAL KEYBOARD.X
- A 017 MUSICAL MEMORY
- I 010 NAME THAT TUNE
- I 007 SOUND EFFECTS DEMOS
- A 005 SOUND EFFECTS HOW TO
- I 007 SOUND EFFECTS RANDOM
- A 003 SOUND ROUTINE
- I 011 SOUNDS AND MUSIC STARWARS
- I 006 SWANEE RIVER
- T 038 TUNES



**MUSIC & SOUND #66**

- I 018 MAESTRO INTRO
- B 037 MAESTRO.DATA1
- B 037 MAESTRO.DATA2
- B 037 MAESTRO.DATA3

**Public Domain Software, continued**

B 037 MAESTRO.DATA4  
 B 037 MAESTRO.DATA5  
 I 026 APPLEODIAN 2 < -NEEDS WORK  
 A 004 TONE TEST  
 B 002 TONE TEST.X

**PASSION**

**PASSION 067**

A 002 FORM 0 STARTUP  
 B 034 FORM 1  
 B 034 FORM 2  
 B 034 FORM 3  
 B 034 FORM 4  
 B 034 FORM 5  
 B 034 FORM 6  
 B 034 FORM 7  
 B 034 FORM 8  
 B 034 FORM 9  
 A 005 HOT APPLES I  
 A 006 HOT APPLES II  
 A 013 TOUCH I  
 A 013 TOUCH II  
 I 013 ZOOM 1  
 I 013 ZOOM 2

**PASSION 068**

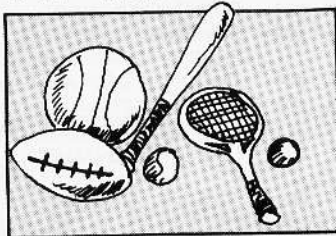
I 005 AAB MESSAGE  
 A 006 PASSION STARTUP  
 I 034 APPLE PET  
 I 002 CUBIK 1  
 I 003 CUBIK 2  
 I 028 CUBIK-1  
 B 017 CUBIK-1 (A\$0800/L\$0FB3)  
 I 002 EXERCISE 1  
 I 002 EXERCISE 2  
 I 002 EXERCISE 3  
 I 002 EXERCISE 4  
 I 002 EXERCISE 5  
 I 002 EXERCISE 6  
 I 002 EXERCISE 7  
 I 002 FR  
 B 034 FRENCH  
 I 002 GE  
 B 034 GERMAN  
 I 002 IR  
 B 034 IRISH  
 I 002 IT  
 B 034 ITALIAN  
 I 002 RANDOM HELLO  
 B 034 RANDOM.OBJ  
 I 002 RU  
 B 034 RUSSIAN  
 I 002 SP  
 B 034 SPANISH  
 I 002 SW  
 B 034 SWEDISH

**PASTIME & OTHER**

**PASTIME & OTHER 069**

A 028 ANALYST ELIZA  
 A 013 ANALYST HECTOR  
 A 003 BABY NAMES  
 A 034 BIO CYCLE  
 A 003 BIRTHDAY PROBABILITY  
 A 015 BOOZE N YOU  
 A 008 CALENDAR I  
 A 023 CALENDAR II  
 A 004 DAY OF THE WEEK I  
 A 006 DAY OF THE WEEK II  
 A 005 DAYS BETWEEN TWO DATES  
 A 017 DECISION MAKER I  
 A 028 DECISION MAKER II

A 014 ELECTRICITY COST (C)  
 A 007 ESP TEST  
 A 030 FREUD  
 A 019 GRAMMAR MAD LIB  
 A 006 GREETINGS  
 A 023 HOUSE PLANTS  
 A 007 JUMBLES MNEMONIC  
 A 003 LADDER ANGLE SAFETY  
 A 010 LIFE BAKER  
 A 010 MAP CHECK  
 A 006 MIND READER  
 A 002 ONE LINER 2 ?  
 A 003 SAILBOAT STAYS  
 A 015 TOUT  
 A 003 VOWEL FINDER  
 A 008 WATER CONSERVATION  
 A 021 WEATHER FORECAST  
 A 014 WEEKDAY FROM 1582



**PASTIME & OTHER 070**

I 005 AAB MESSAGE  
 I 016 AD LIB 1  
 I 032 ANALYST COMPUTER 2  
 I 040 ANALYST ELIZA  
 I 010 CALENDAR PERPETUAL  
 I 052 COMPUTER RALPH  
 I 009 CROSS WORD  
 I 022 DECISION MAKER  
 I 008 HOW DO I LOVE THEE  
 I 009 IQ TEST  
 I 006 LIFE COLOR  
 I 019 LIFE CONWAY  
 I 011 LIFE GANDERS 1  
 I 020 LIFE GANDERS 2  
 I 015 LIFE HERTZFELD  
 I 003 MIRROR PRINT IMAGE  
 I 005 PHONE MNEMONIC 2  
 I 026 POET  
 I 006 RANDOM WORDS 2  
 I 003 STOP WATCH  
 I 003 TEASER  
 I 039 TRILLION STORIES  
 I 035 TRILLION STORIES- > NEEDS WORK  
 I 003 UNBELIEVABLE

**PASTIME & OTHER 071**

A 048 BIORHYTHMS  
 A 011 CALENDAR ONE MONTH  
 A 007 CALENDAR PERPETUAL  
 A 020 CALENDAR REMINDER  
 I 020 COLOSSUS  
 A 011 DECISION MAKER III  
 I 063 DIRTY TRICKS BEWARE  
 A 025 DIRTY TRICKS II  
 B 018 DIRTY TRICKS.X  
 I 020 HOROSCOPE  
 A 026 MILES PER GALLON RECORD  
 I 074 NUMEROLOGY  
 I 002 PHONE MNEMONIC 1  
 B 003 PHONE MNEMONIC 1.X  
 A 010 PROBABILITY  
 A 021 RANDOM INSULTS  
 I 002 RANDOM WORDS 1

**PASTIME & OTHER 072**

I 003 SYN TAX  
 I 008 TIMER  
 I 005 AAB MESSAGE  
 I 016 ANALYST COMPUTER 1  
 I 006 CALENDAR  
 I 002 CLASSIFIER  
 B 044 CLASSIFIER.X  
 I 011 EASTER DATES  
 I 055 ENGLISH QUIZ  
 I 007 GRAMMAR AND BEAUTY  
 I 033 HAIKU POETRY  
 I 021 LIFE OPERATING SYSTEM  
 B 003 LIFE OPERATING SYSTEM.X  
 I 009 LIFE SUPER  
 B 006 LIFE1.LIFE  
 B 006 LIFE2.LIFE  
 B 006 LIFE3.LIFE  
 B 006 LIFE4.LIFE  
 B 006 LIFE5.LIFE  
 I 009 MEMORY AID  
 I 077 MULTI-> NEEDS WORK  
 I 008 PEN 4 ?  
 I 021 PENTOMINO  
 I 016 PHOTO COLOR QUIZ  
 I 025 PHOTO FILTER QUIZ

**UNKNOWN**

**UNKNOWN 073**

I 005 AAB MESSAGE  
 B 010 ASCII ?  
 B 022 ASM A2048 L5119  
 B 004 CATALOG  
 B 002 CMP D1 & D2 AFTER COPY  
 B 005 DATA MOVER A2048 L768  
 B 002 DRIVER  
 B 002 FINDERX  
 B 006 HIRES ?  
 B 002 INT LINE X-REF(CALL2048)  
 B 007 LAZARUS-RECOVER A PROGRAM  
 B 002 LIST.CODE  
 B 002 LOCK  
 B 002 MEM.DUMP  
 B 071 MEMORY VERIFY  
 B 011 MEMSEARCH  
 B 071 MEMTEST A21583 L17860  
 B 003 MEMTEST A640 L384  
 B 007 ONE ON ONE A2080 L1285  
 B 002 PRINTER  
 B 003 RENUMBER MACH  
 A 003 ROTATING CROSS  
 B 003 SOFSYMREF  
 B 012 SOFSYMFREFS  
 I 012 SUPER HIRES GRAPHICS ?  
 B 006 SUPER HIRES GRAPHICS.X  
 B 002 TEST  
 B 007 TEST1  
 B 004 VARIABLE TABLE PRINTOUT

**UTILITY**

**UTILITY 074**

A 003 ALPHABETIZE  
 A 003 APPEND FILE  
 A 002 AUTOBOOT 16  
 B 004 AUTOBOOT 16.X  
 I 043 BASIC-APPLESOFT  
 A 005 BSTAT HOW TO  
 A 002 BSTAT II  
 A 003 CATALOG SORTER  
 A 003 COMMAND GENERATOR

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**Public Domain Software, continued**

|       |                              |       |                            |
|-------|------------------------------|-------|----------------------------|
| B 002 | COMMAND GENERATOR.X          | I 003 | COPY BINARY FILE 1         |
| A 002 | COMP-X MONITOR (C)           | I 005 | COPY BINARY FILE 3         |
| B 016 | COMP-X MONITOR.X             | I 018 | COPY GWB 1                 |
| A 006 | DEBUGGING AID                | I 018 | COPY GWB 2                 |
| A 004 | DECIMAL POINT                | I 002 | COPY LHS                   |
| A 004 | DOS COMMAND FINDER           | B 009 | COPY LHS.X                 |
| A 005 | DOS COMMAND FINDER<br>REV    | I 013 | DISK MARK                  |
|       |                              | I 002 | DOS VERSION?               |
| A 012 | DOS SHORT COMMANDS           | I 004 | DUMP HIRES PIC             |
| B 002 | DOS SHORT COMMANDS.X         | B 002 | DUMP HIRES PIC.X           |
| B 002 | DOS SHORT.RESTORE            | B 004 | DUMP HIRES PIC.Y           |
| A 014 | DUMP TRACK AND SECTOR        | I 008 | ED0 DOC                    |
| T 002 | EXEC FILE                    | B 002 | ED1                        |
| A 013 | EXEC FILE GENERATOR          | I 004 | ED2                        |
| A 005 | FREE SECTORS DOS PATCH       | T 002 | ED3                        |
| A 002 | JUMP POINTS DOS 3.2          | I 013 | EDIT ASSM                  |
| B 002 | JUMP POINTS DOS 3.2.X        | B 022 | EDIT/ASSM                  |
| T 009 | LIBRARY 1                    | I 004 | EXEC FILE CREATE           |
| I 017 | LIBRARY REVIEW INPUT         | I 006 | FRESH DOS                  |
| A 004 | LIBRARY INPUT<br>CORRECTOR   | I 002 | HIT ANY KEY TO CONTINUE    |
|       |                              | I 004 | LIST PAGE                  |
| A 019 | LIBRARY REVIEW               | I 002 | LIST SLOW 1                |
| B 006 | LIBRARY REVIEW.X             | B 002 | LIST SLOW 1.X              |
| T 002 | LITERAL                      | I 002 | LIST SLOW 2                |
| A 005 | LITERAL INPUT                | B 003 | LIST SLOW 2.X              |
| A 004 | LOMEM HIMEM AB               | I 005 | LIST STOP IB               |
| A 008 | MEMORY AVAILABLE RAM<br>ONLY | I 002 | LIST VERY SLOW             |
|       |                              | B 002 | LIST VERY SLOW.X           |
| B 004 | MEMORY CHECK 6502            | I 004 | LOMEM HIMEM IB             |
| A 003 | MEMORY CLEAR                 | I 002 | LOOP                       |
| I 008 | MOTOR SPEED                  | I 003 | NO VOL ID CHK 3.1 ONLY     |
| A 003 | MOTOR SPEED DOC              | I 005 | PADDLE SWITCH TEST         |
| T 002 | NAMES                        | I 005 | PDL SWITCH COLOR TEST      |
| A 007 | NAMES FILE CREATE            | I 002 | POKE MACH LANG INTO<br>MEM |
| A 005 | NAMES FILE EXCH              |       |                            |
| A 007 | NAMES FILE READ              | I 017 | RAM TEST 48K               |
| A 004 | PRINT USING I                | I 006 | REPLACE CRASHED DOS        |
| A 005 | PRINT USING II               | I 004 | SHORTEN COMMANDS           |
| A 005 | REMOVE STRING SPACES         | I 032 | TAPE DATA DISPLAY          |
| A 012 | SORT NUMBERS WOODRUM         | I 002 | TITLE CENTERING ROUTINE    |
| A 009 | SORT QUICK ALPHA             | I 003 | TYPING VERTICAL            |
| A 006 | SORT QUICK NUMBER            | I 006 | UPPER LOWER CASE           |
| A 005 | SORT WORDS II                |       |                            |
| A 005 | STRING REVERSE<br>FUNCTION   |       |                            |
| A 007 | STRING SAVE DEMO             |       |                            |
| A 009 | SUPER CATALOG BUILDER        |       |                            |
| B 002 | SUPER CATALOG BUILDER.X      |       |                            |
| A 005 | SYSTEM CONFIGURATION         |       |                            |
| A 004 | TAPE RECALL DATA             |       |                            |
| A 004 | TAPE STORE DATA              |       |                            |
| A 003 | THRATTLE                     |       |                            |
| A 004 | TOKEN ADDRESS TABLE II       |       |                            |
| A 005 | TOKEN ADDRESS TABLE III      |       |                            |
| A 006 | VARIABLES DISPLAY            |       |                            |
| A 013 | YES NO AND PAUSE             |       |                            |

**UTILITY 076**

|       |                             |
|-------|-----------------------------|
| A 003 | BASE CONVERSION CHART I     |
| A 003 | BASE CONVERSION CHART<br>II |
| A 006 | BASE CONVERT **             |
| A 005 | BASE CONVERT BEYMER         |
| A 012 | BASE CONVERT ELLMERS        |
| A 005 | BASE CONVERT JENKINS        |
| A 029 | BASE CONVERT MASSIMO        |
| I 043 | BASIC-APPLESOFT             |
| A 007 | BINARY TO FP                |
| A 053 | CALENDAR AND POSTERS        |
| A 002 | CAPTURE A PROGRAM           |
| A 005 | CATALOG PRINTER             |
| A 003 | CLEAR MEMORY                |
| A 004 | COPY TEXT FILE I            |
| A 004 | COPY TEXT FILE II           |
| A 004 | COPY TEXT FILE III          |
| A 004 | CTRL CHAR CATALOG           |
| A 003 | CTRL CHAR REVEAL            |
| A 003 | DUMP ASCII MEMORY           |
| A 002 | ERASE HIRES SCREEN          |
| A 011 | FORMAT #                    |
| A 003 | FREE SECTORS ALDRICH        |
| A 004 | FREE SECTORS BROWN          |
| B 002 | FREE SECTORS BROWN.X        |
| A 019 | ILLEGAL COMMANDS            |
| A 005 | LIST PAGE DIAZ              |
| A 005 | LIST PAGE WY SOCKI          |
| B 002 | LIST PAGE WY SOCKI.X        |
| B 002 | LIST PAGE.X                 |
| A 007 | MACH TO POKES CONV          |

**UTILITY 075**

|       |                                |
|-------|--------------------------------|
| I 005 | AAB MESSAGE                    |
| I 013 | APPEND B TO AB FILES           |
| I 006 | BASIC INTERPRETER SET          |
| A 004 | BASIC-INTEGERS                 |
| B 022 | BASIC-INTEGERS.X               |
| I 007 | CATALOG TRACK LISTER           |
| I 003 | CHARACTER GENERATOR<br>INSTR   |
| I 017 | CHARACTER GENERATOR<br>PROGRAM |
| I 015 | CHARACTER GENERATOR<br>SAMPLE  |
| I 015 | CHARACTER GENERATOR<br>YOURS   |
| I 011 | COPY ALDRICH 1                 |
| I 013 | COPY ALDRICH 2                 |
| I 014 | COPY ALDRICH 3                 |

|       |                                |
|-------|--------------------------------|
| A 002 | MUSICAL KEYS                   |
| B 002 | MUSICAL KEYS.X                 |
| A 013 | PHONE DIALER                   |
| A 003 | POINTERS                       |
| A 002 | PR#6 ON RESET                  |
| A 003 | RANDOM SENTENCE                |
| B 002 | REM STRIPPER                   |
| A 003 | REM STRIPPER DOC               |
| T 001 | REN/MRG                        |
| A 006 | RENUMBER                       |
| A 004 | RENUMBER MERGE                 |
| B 010 | RENUMBER MERGE.X               |
| A 003 | REVERSE PRINT                  |
| A 018 | SORT CATALOG                   |
| A 003 | SORT CATALOG->NEEDS<br>WORK    |
| B 002 | SORT CATALOG.X                 |
| A 015 | SSM AIO BOARD                  |
| A 004 | STRING COMPARATOR              |
| A 004 | STRING IN A STRING<br>SEARCH   |
| A 004 | TEXT FILE EDIT                 |
| A 003 | TEXT FILE PEEK                 |
| A 003 | TEXT FILE READ                 |
| A 003 | TEXT FILE READ AND PRINT<br>I  |
| A 005 | TEXT FILE READ AND PRINT<br>II |
| A 005 | TEXT FILE WRITE                |
| A 004 | TOKEN ADDRESS TABLE I          |
| A 005 | UTILITY STATEMENTS             |

**UTILITY 077**

|       |                        |
|-------|------------------------|
| A 005 | AAB MESSAGE            |
| A 007 | AUTO NUMBER I          |
| B 002 | AUTO NUMBER I.X        |
| A 005 | BASE CONVERT EDMUNDS   |
| I 043 | BASIC-APPLESOFT        |
| A 003 | BENCHMARK              |
| A 003 | BSTAT I                |
| T 002 | BUTCH                  |
| A 003 | BUTCHER                |
| A 010 | CHARACTER DECODER      |
| A 023 | DUMP MEMORY AND ALTER  |
| A 002 | DUMP PAGE              |
| B 004 | DUMP PAGE.X            |
| A 029 | EDIT FILE              |
| A 023 | EDIT FILE DOC          |
| A 003 | FORMAT \$              |
| A 006 | FORMAT \$ AND CTS      |
| A 005 | FORMAT %               |
| A 005 | IB TO AB               |
| A 027 | INTEGER @ \$6000-TAPE  |
| A 027 | INTEGER @ \$A000-TAPE  |
| A 006 | INVISIBLE SIGNATURE    |
| A 005 | LIST STOP AB           |
| A 008 | RESTORE DELETED FILES  |
| A 005 | RESTORE LINE           |
| A 006 | ROMAN NUMBERS          |
| A 009 | SORT ALPHA             |
| A 006 | SORT ALPHA OR NUMBR I  |
| A 008 | SORT ALPHA OR NUMBR II |
| A 005 | SORT ALPHA SHEL-METZ   |
| A 009 | SORT AMPERSAND         |
| B 008 | SORT AMPERSAND.X       |
| B 033 | SORT AMPERSAND.Y       |
| A 007 | SORT HEAP              |
| A 008 | SORT HEAP REV          |
| B 008 | SORT ML                |
| A 003 | SORT NUMBERS           |
| A 005 | SORT NUMBR SHEL-METZ   |
| A 003 | SORT SHEL-METZ         |
| A 007 | SORT WORDS I           |
| A 003 | TAPE SPEED TABLE       |
| A 008 | TYPE SETTER            |

**UTILITY 078**

|       |                                  |
|-------|----------------------------------|
| I 005 | AAB MESSAGE                      |
| I 006 | AUTHORSHIP                       |
| I 005 | BASE CONVERSION CHART            |
| I 008 | BASE CONVERT                     |
| I 007 | BASE CONVERT GARSON              |
| I 005 | BASE CONVERT WILLIAMS            |
| I 006 | BASE CONVERT WILLIAMS<br>GOLDING |
| I 003 | BASIC-> MONITOR                  |
| A 004 | BASIC-INTEGERS                   |
| B 022 | BASIC-INTEGERS.X                 |
| I 007 | CATALOG BUILDER                  |
| I 003 | CATALOG LISTER                   |
| I 004 | COPY BINARY FILE 2               |
| I 007 | COPY SINGLE DRIVE 1              |
| I 005 | COPY TEXT FILE                   |
| I 002 | CTRL CHAR FIND                   |
| B 002 | CTRL CHAR FIND.X                 |
| I 009 | DISK SPACE SUMMARY               |
| I 011 | DISK TO TAPE ALDRICH             |
| I 003 | DISK TO TAPE DUMP                |
| B 003 | DISK TO TAPE DUMPX               |
| B 012 | DISK TO TAPE DUMPY ?             |
| I 005 | DISK TO TAPE SAVE 6              |
| I 006 | DISK TO TAPE SAVE 6 REV          |
| I 005 | DISK TO TAPE WRITE               |
| I 011 | DOS COMMAND CHANGER              |
| I 014 | DUMP DISK OR TRACK               |
| I 011 | DUMP DISK OR TRACK (C) 1         |
| I 018 | DUMP DISK OR TRACK (C) 2         |
| I 028 | DUMP DISK OR TRACK (C)<br>REV    |
| I 005 | FILE HANDLER SAMPLE              |
| I 004 | FORMAT REMARKS                   |
| I 002 | IB CAPTURE                       |
| I 003 | IB TO AB 1                       |
| I 003 | IB TO AB 2                       |
| I 004 | IB TO AB ALDRICH                 |
| I 002 | LIST STOP                        |
| B 002 | LIST STOPX                       |
| I 008 | MAP SECTORS PAYMAR 1             |
| B 002 | MAP SECTORS PAYMAR 1.X           |
| I 008 | MAP VTOC                         |
| I 011 | MASTER KEY->NEEDS<br>WORK        |
| I 013 | MEMORY SPYING                    |
| I 004 | MEMORY TEST FAST                 |
| I 004 | MEMORY TEST SLOW                 |
| I 004 | MOVIT BYTES                      |
| I 002 | MUSICAL KEYS                     |
| B 002 | MUSICAL KEYS.X                   |
| I 008 | PASSWORD KEY                     |
| I 005 | PATTERN SEARCH                   |
| I 013 | SECTOR RECOVER                   |
| I 007 | SECTOR RECOVER DOS               |
| I 008 | STRING CONCATENATION             |
| I 004 | TEXT FILE CREATE                 |
| I 003 | TEXT FILE READ                   |
| I 005 | TEXT FILE READ OR<br>WRITE 1     |
| I 006 | TEXT FILE READ OR<br>WRITE 2     |
| I 003 | TEXT FILE WRITE                  |
| I 007 | TEXT TOKEN FIND                  |
| B 002 | TEXT TOKEN FIND.X                |
| B 007 | VTOC RECONSTRUCT                 |
| I 003 | VTOC RECONSTRUCT DOC             |

**UTILITY 079**

|       |                  |
|-------|------------------|
| I 005 | AAB MESSAGE      |
| I 006 | AUTO NUMBER      |
| A 004 | BASIC-INTEGERS   |
| B 022 | BASIC-INTEGERS.X |
| I 004 | BSTAT DECIMAL    |

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- **READS a TEXT file 4 to 6 times faster (depending on record lengths).**
- **Displays UNUSED SECTOR COUNT during CATALOGS.**
- **Allows BSAVE of binary file images up to 48K in length.**
- **Allows the INIT command and blank diskette formatting to be used.**
- **Allows CATALOG to be terminated with a CTRL-C.**

## **ADDITIONAL UTILITIES:**

**HD.QUICK MENU:** When CATALOG is interrupted or terminates, a DOS function menu is displayed which allows single letter invocation of the LOAD, RUN, BRUN, VERIFY, LOCK, UNLOCK, SAVE, and BSAVE functions for any file name currently on the screen.

**HD.FAST STRING ARRAY INPUT:** A machine language subroutine package which can be called from an Applesoft program to do a high-speed read of a disk text file into an Applesoft string array or a high-speed read of a single line from a text file into an Applesoft string variable.

**HD.WRITER:** a utility to transcribe the DOS currently in memory directly to a standard DOS 3.3 diskette without reINITing it.

**HD.REFORMATTER:** A utility to format diskettes which allows the DOS sectors to be freed for use by data, and allows the catalog to be reformatted for improved speed.

**HD.EASY COPY:** A friendly machine language fast-copy utility which will write two copies from a single input master and will optionally verify each written track before repositioning the heads. Use this program where absolute accuracy of back-up copies is required. This utility is also very neat for producing volume copies of diskettes. It will copy only standard DOS 3.3 disks and has all the usual DOS functions. Additionally, it will scan a disk for flaws and lock out the bad sectors so they cannot be used.

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I 009 BSTAT GOLDING TAYLOR 1  
 I 009 BSTAT GOLDING TAYLOR 2  
 I 006 BSTAT HERTZFELD FONG 1  
 I 005 BSTAT HERTZFELD FONG 2  
 I 007 BSTAT HERTZFELD FONG  
 HOAG  
 I 009 BSTAT LHS 1  
 I 017 BSTAT LHS 2  
 I 002 BSTAT LHS 3  
 B 008 BSTAT LHS 3.X  
 I 002 BSTAT LHS 4  
 B 008 BSTAT LHS 4.X  
 I 002 BSTAT LHS 5  
 B 009 BSTAT LHS 5.X  
 I 012 BSTAT TUBS  
 I 014 CATALOG INPUT  
 I 004 CATALOG LAZY  
 I 020 CATALOG PROCESS  
 B 003 CATALOG PROCESS.X  
 I 006 DELETE FILES  
 I 002 DISK FULL FLASHING  
 I 002 DISK FULL INVERSE  
 I 019 DISK HELPER  
 I 002 DUMP PAGE  
 B 004 DUMP PAGE.X  
 I 003 EDIT 2  
 B 002 EDIT 2.X  
 I 005 EDIT SUBJECT  
 I 003 FREE SECTORS  
 I 002 FREE SECTORS OR SO  
 B 002 FREE SECTORS OR SO.X  
 I 010 FREE SECTORS PORTER  
 I 003 INVERSE FLASHING  
 I 005 LIST AND LOCATE-> NEEDS  
 WORK  
 I 003 LIST SLOW PDL 0  
 I 005 LIST STOP DUNMIRE  
 I 013 LISTER  
 I 006 LOCK FILES  
 I 009 LOWER CASE INPUT DEMO  
 I 002 MAP SECTORS LHS  
 B 005 MAP SECTORS LHS.X  
 I 010 MAP SECTORS PAYMAR 2  
 I 017 MAP SECTORS-> NEEDS  
 WORK  
 I 008 MEMORY AVAILABLE 32K  
 ONLY  
 I 004 MEMORY TEST WAXER  
 I 003 RAM TO ROM AB  
 I 012 RENUMBER  
 I 008 RENUMBER APPEND  
 I 004 RENUMBER WARNING  
 I 002 SECTOR COUNT FIX  
 B 005 SECTOR COUNT FIX.X  
 I 005 SECTOR READ WRITE  
 B 003 Z APPEND  
 I 003 Z APPEND MEMTEST  
 VERIFY DOC  
 B 003 Z MEMTEST  
 B 002 Z VERIFY

A 002 AUTOSTART ROM EDITOR.X  
 A 006 BACKWARD MEMORY MOVE  
 A 007 BASE CONVERT  
 T 002 BINADR  
 A 003 BINADR CREATE  
 A 007 BINARY LINK TO AB  
 B 002 CMP D1 & D2 AFTER COPY  
 A 002 COPY LHS  
 B 009 COPY LHS.X  
 A 004 CREATE RESTORE LN  
 A 007 CTRL CHAR FIND  
 A 002 CURSOR DASH  
 A 003 CURSOR NO FLASH  
 B 002 DFIND  
 A 003 DFIND & FIND INSTR  
 B 002 FIND  
 A 004 GARBAGE  
 A 005 HIDE PROGRAM NAME  
 T 004 INTEGER TO TEXT (EXEC)  
 B 002 KEYEDIT  
 A 034 KEYEDIT & UTILITY DOC  
 T 002 LINE INPUT  
 A 005 LINE INPUT IMPROVED  
 B 005 LIT  
 B 002 LIT@  
 A 009 MEM/DUMP TO TEXT FILE  
 A 006 MEMORY INTERPRETER  
 A 004 POKE FILE  
 A 009 RAM TEST 48K  
 B 005 REF  
 B 002 REF@  
 A 004 REM FORMATTER  
 I 007 TEXT FILE OUT/CPY  
 A 010 TEXT FILE OUT/CPY (FP)  
 A 004 TEXT FILE RANDOM  
 DISPLAY  
 A 006 TEXT FILE RANDOM FROM  
 SEQ  
 A 003 TEXT FILE WRITER  
 A 005 TEXT TO APPLEWRITER  
 B 005 TEXT TO APPLEWRITER.X  
 B 005 VAR  
 B 002 VAR@  
 A 005 VOLUME NAME CHANGER I  
 A 009 VOLUME NAME CHANGER II  
 A 002 WORD REPEATER  
 A 003 WORDS

I 008 ENTRY POINTS  
 I 002 JUMP POINTS BASIC  
 B 002 JUMP POINTS BASIC.X  
 I 011 MAP A FILE  
 B 005 MARKEE DOC  
 B 006 MARKEE(ML)  
 I 013 MARKEE-> NEEDS WORK  
 I 010 POST EDITOR  
 T 003 REM FORMATTER IN IB  
 B 003 SWITCH  
 I 004 SWITCH DOC  
 B 003 SWITCH SETUP  
 I 005 TAPESAVE 2  
 B 013 TED II ASCII DRIVER  
 I 005 TED II ASSM LOAD SAVE  
 B 022 TED II ASSM.X  
 B 014 TED II BAUDOT DRIVER  
 B 009 TED II SOURCE  
 B 012 TEDISSSEMBLER.S ?  
 I 004 TEXT FILE CLIST CREATE  
 I 008 TRACE  
 B 003 TRACE.X  
 I 012 VOLUME # CHANGER  
 T 002 XREF  
 I 004 XREF DOC  
 B 004 XREF LINE # TABLE.X  
 B 004 XREF SYMBOL TABLE.X

**UTILITY 083**

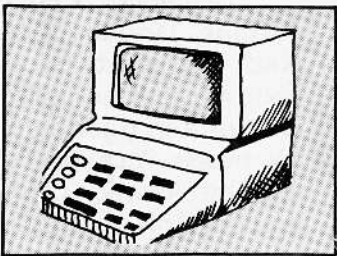
I 005 AAB MESSAGE  
 I 025 APPLEADDX  
 A 006 APPLEADDX NOTES  
 I 002 AUTOBOOT 16  
 B 004 AUTOBOOT 16.X  
 A 004 BASIC-INTEGGER  
 B 022 BASIC-INTEGGER.X  
 I 019 CATALOG CREATE  
 I 002 COPY LHS FAST  
 B 010 COPY LHS FASTX  
 I 023 COPY MOGER 1  
 I 025 COPY MOGER 2  
 B 005 FILE #1  
 I 003 FILE DISK CATALOG  
 B 026 FILE DISK CATALOG.X  
 I 009 FREE SECTORS SCOGIN (C)  
 B 003 M-A\$300L\$100  
 B 003 M1-A\$800L\$180  
 B 003 M2-A\$800L\$160  
 I 018 MAP SECTORS PAYMAR 3  
 I 015 MEMORY ADDRESSES  
 B 002 MX-A\$900L\$80  
 I 008 RENUMBER-> NEEDS  
 WORK  
 I 033 SUBROUTINE PAK  
 I 016 TYPEWRITER + SOUND  
 ROUTINE  
 I 019 UPDATE 16  
 I 019 UPDATE 16 REVISED  
 I 002 UPDATE 16 WARNING  
 A 040 X-FILE CABINET IV  
 I 024 X-MULTIPLE DISK CATALOG

**UTILITY 082**

B 002 ASCII  
 B 013 ASCII PRINTER DRIVER  
 I 003 BAUD RATE  
 I 005 BAUD RATE ADJUSTMENT  
 B 002 BAUD RATE.X  
 B 002 DRIVER A768 L176

**UTILITY 084**

A 008 APPEND BINARY TO  
 APPLESOFT  
 A 043 APPLESOFT LINE WRITER  
 A 005 CAPTURE IB AB  
 A 019 CATALOG ANALYSIS  
 A 016 DISK SUMMARY  
 A 030 DISK SUMMARY EDIT  
 B 002 DISPLAY ASC PAGE BY  
 PAGE  
 A 011 DOG TAG CREDIT LINES  
 T 002 DOG-TAG EXEC  
 A 014 ERROR HANDLER  
 A 005 GREETING SUBROUTINE  
 A 005 POKE BINARY TO BASIC  
 A 005 PREFIX ADD  
 A 004 PREFIX ADD INSTR  
 A 004 PREFIX REMOVE  
 A 003 RAM TEST 48K 30 MINUTES  
 B 003 RDWRT  
 B 003 READ TRACK  
 A 007 SMALL SORT V2  
 A 024 SSM AIO CARD  
 T 062 TEST DATA 1  
 A 005 TEXT FILE CHAR HEX DUMP  
 A 006 UNDELETE  
 A 007 UNDELETE 16 SECTOR  
 A 002 UNDELETE 16 SECTOR  
 ONLY!  
 A 008 UNDELETE INSTR  
 A 007 UNDELETE INSTRUCTIONS  
 T 016 Z PROG.LIST



**UTILITY 081**

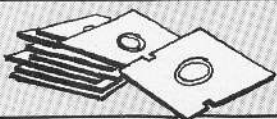
I 005 AAB MESSAGE  
 A 004 BASIC-INTEGGER  
 B 022 BASIC-INTEGGER.X  
 I 002 BOOTLEG ASSEMBLER  
 B 026 BOOTLEG ASSEMBLER.X  
 I 010 CLOCK CARD HELLO WARD  
 I 008 COPY SINGLE DRIVE 2  
 I 011 DISASSEMBLE MACHINE  
 CODE  
 I 009 DISK QUICK  
 I 010 DISK UTILITY 1-> NEEDS  
 WORK  
 I 018 DISK UTILITY 2-> NEEDS  
 WORK  
 B 002 DISK UTILITY.X

**UTILITY 080**

B 012 ALL PURPOSE  
 DISASMB.(800)  
 B 012 ALL PURPOSE  
 DISASMB.(8B00)  
 A 012 AMPERSAND CATALOG  
 A 009 APPLEBETIZE  
 T 003 APPLESOFT TO TEXT (EXEC)  
 I 006 APPLEWRITER TO TEXT  
 B 002 APPLEWRITER TO TEXT.OBJ  
 I 002 ASSEMBLER  
 B 021 ASSEMBLER.X  
 A 013 AUTO NUMBER II  
 A 010 AUTOSTART ROM EDITOR

**UTILITY 085**

I 005 AAB MESSAGE  
 I 002 BOOT 16  
 B 003 BOOT 16.X  
 I 037 COPY SINGLE DRIVE 3  
 I 005 DISK FULL 3.2.1 INVERSE  
 I 015 DISK SPACE 13  
 B 002 DISK SPACE 13.X



**APPLE SOFTWARE BANK**

**APPLE SOFTWARE BANK #88**

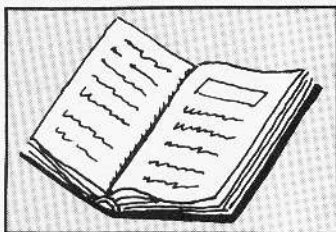
- I 017 DISK SPACE 16
- B 002 DISK SPACE 16.X
- I 009 LINE FIND INSTR
- B 002 LINE FIND.X
- A 004 BASIC-INTEGER
- B 022 BASIC-INTEGER.X
- UTILITY #86**
- A 002 EPSON CATALOG DBL STRIKE
- A 008 EPSON DRIVER INSTR
- B 002 EPSON DRIVER.
- A 002 EPSON GREETING
- A 002 EPSON LOWER CASE
- A 003 EPSON MX80 CATALOG
- A 005 EPSON MX80 DEMO I
- A 007 EPSON MX80 DEMO II
- A 024 EPSON MX80 LABEL MAKER I
- A 052 EPSON MX80 LABEL MAKER II
- A 053 EPSON MX80 LABEL MAKER III
- B 034 EPSON MX80 LABEL.PIC
- A 003 EPSON MX80 LETTERHEAD
- A 015 EPSON MX80 PROGRAM LIST
- A 023 EPSON MX80 REMINDER CALENDAR
- A 033 EPSON MX80 SETUP I
- A 033 EPSON MX80 SETUP II
- B 005 TEXT.DEMO
- B 004 TEXT.MXTEST
- A 022 EPSON WORD GAME
- A 023 EPSON UTILITY 3.3 INFO
- A 003 EPSON.EXEC.MAKER.A3.3
- I 003 EPSON.EXEC.MAKER.I3.3
- T 002 XEPSON.V3.3
- B 002 EP1.3
- B 002 EP2.3
- B 002 EP3.3
- B 003 EP4.3
- A 005 EPSON UTILITY 3.3 DEMO
- A 005 EPSON LABELS II
- A 006 EPSON LABELS III
- A 004 EPSON LABELS I

- I 054 ADD LIBS (C)
- A 007 BASE CONVERTER (C)
- I 016 BLACKJACK 1 (C)
- A 022 BONE TUMOR DIAGNOSIS (C)
- I 008 CATCH (C)
- I 026 CHASER (C)
- I 005 CHR\$ FUNCTION (C)
- I 007 COPY APPLE 1 (C)
- B 007 COPY APPLE 1.X
- I 019 HAMMURABI (C)
- I 009 MASTERMIND (C)
- I 010 MATH COLOR (C)
- I 006 MORSE CODE TRANSLATOR (C)
- I 008 NIGHTMARE 6 (C)
- I 009 OTHELLO (C)
- I 029 PINBALL (C)
- I 024 SEVEN (C)
- I 012 SINK THE SHIP (C)
- I 018 SLOT MACHINE (C)
- I 018 TOWERS OF HANOI (C)
- I 008 TWENTY THREE BRICKS (C)
- I 028 U BOAT MISSION (C)
- I 045 YAHTZEE (C)

**APPLE SOFTWARE BANK #89**

- A 015 AIRFOIL DESIGNER (C)
- I 048 AMERICAN PROBABILITY MACH (C)
- I 015 ART KALEIDOSCOPE (C)
- I 093 CA DRIVER TEST (C)
- I 014 COPY APPLE (C)
- I 008 COPY APPLE 2 (C)
- B 007 COPY APPLE 2.X
- I 015 ENGINE (C)
- I 065 INFINITE MONKEYS TUTOR 2 (C)
- B 006 INTEGER HIRES
- I 022 INTERCEPT (C)
- A 030 MICROLISP (C)
- I 015 SHOOTOUT (C)
- A 011 UP LO CASE ROUTINE (C)
- B 003 UP LO CASE ROUTINE.X
- B 006 UP LO CASE ROUTINE.Y

**LIBRARY**



**LIBRARY #90**

- I 017 LIBRARY REVIEW INPUT
- A 004 LIBRARY REVIEW CORRECTOR
- A 019 LIBRARY REVIEW
- B 006 LIBRARY REVIEW.X
- T 021 SUBJECT1
- T 048 SUBJECT2
- T 039 SUBJECT3
- T 050 SUBJECT4

- T 064 SUBJECT5
- A 011 HELLO
- B 050 INTBASIC
- LIBRARY #91**
- I 013 CATALOG INPUT
- I 020 CATALOG PROCESS
- B 003 CATALOG PROCESS.X
- T 002 CATALOG.AHDR
- B 105 CATALOG.A
- T 002 CATALOG.BHDR
- B 104 CATALOG.B
- T 002 CATALOG.CHDR
- B 087 CATALOG.C

**LIBRARY #92**

- A 010 HELLO
- B 050 INTBASIC
- I 003 FILE DISK CATALOG
- B 026 FILE DISK CATALOG.X
- B 111 FILE #A
- B 063 FILE #E
- B 068 FILE #L
- B 069 FILE #R
- A 066 FILE DISK CATALOG.DOC
- B 009 N7FF FILE MERGER

To Order  
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Domain  
Software  
Use  
The Form  
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 Devil's Tomb  
 Abductor's Quarters  
 Clone Master  
 Magic Kingdom  
 Molinar Tomb  
 Trezore Quest  
 Treasure Island

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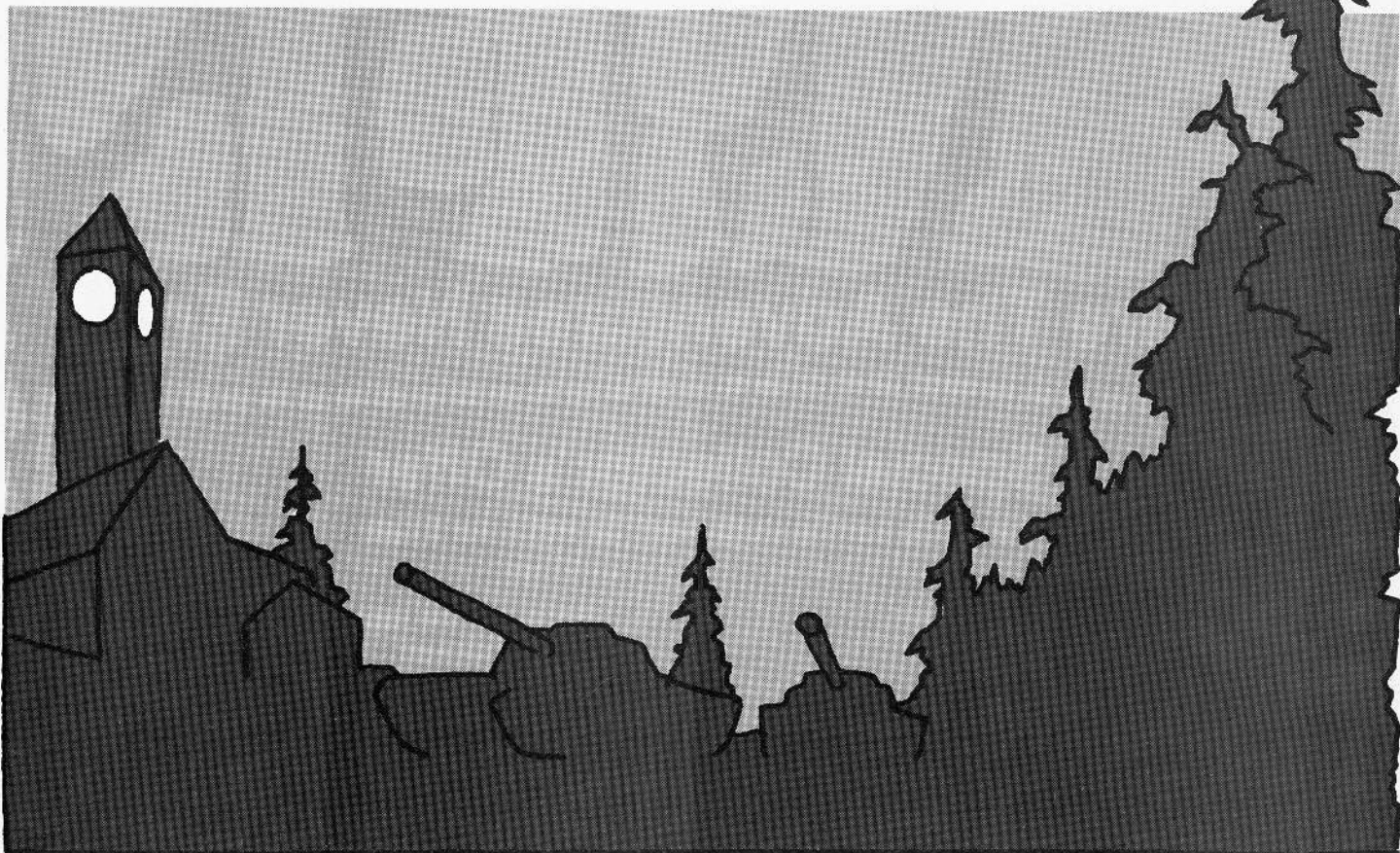
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```

60 READ A1: READ A2: READ A3: READ
 D1: READ D2: READ D3
70 POKE 47445,A1: POKE 47455,A2:
 POKE 47466,A3: POKE 47335,D
 1: POKE 47345,D2: POKE 47356
 ,D3: RETURN
80 FOR ST = 0 TO DOS: POKE SCT,S
 T: GOSUB 20: CALL IO: POKE B
 UF, PEEK (BUF) + 1: NEXT : RETURN

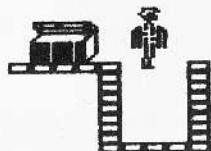
85 FOR ST = 0 TO DOS * 2 STEP 2:
 POKE SCT,ST: GOSUB 20: CALL
 IO: POKE BUF, PEEK (BUF) + 1
 : NEXT : RETURN
90 POKE 47445,213: POKE 47455,17
 0: POKE 47466,150: POKE 4733
 5,213: POKE 47345,170: POKE
 47356,173: RETURN
100 AS = "INSERT ORIGINAL DISK IN
 DRIVE 1.": GOSUB 40
110 CD = RD:DV = 1: GOSUB 50: CALL
 IO
130 AS = "INSERT BLANK DISK IN DR
 IVE 2.": GOSUB 40
1000 FOR TK = 3 TO 34
1005 IO = 797: REM READ FROM A 13
 SECTOR DISK

```

```

1010 DV = 1:CD = RD: GOSUB 50: GOSUB
 85
1015 IO = 768: REM WRITE TO A 16
 SECTOR DISK
1020 DV = 2:CD = WR: GOSUB 50: GOSUB
 80
1030 NEXT
62990 AS = "COPY COMPLETED": GOSUB
 40: END
63000 FOR X = 768 TO 804: READ A
 : POKE X,A: NEXT
63010 DATA 169,3,160,8,32,217,3
 ,96,1,96,1,0,0,0,25,3,0,32,0
 ,0,1,0,0,96,1,0,1,239,216
63015 DATA 169,3,160,8,32,240,2
 4,96
63020 TK = ST = UL = CD = DV
63030 TRK = 780:SCT = 781:CMD = 7
 88:RD = 1:WR = 2:SLT = 777:D
 RV = 778:BUF = 785:ERR = 789
 :VOL = 779:IO = 768:INIT = 4
 :OVL = 790
63035 DOS = 12
63040 RETURN
63050 DATA 0

```



### When Using FID

When using FID or any other file-by-file copy method, make these changes:

1. Enter the monitor by typing:  
**CALL-151**
2. **BLOAD @INIT**  
1863:E [changes B to E]  
187A:F [changes C to F]  
**BSAVE @INIT,AS880,LS1243**
3. **BLOAD @WOLF**  
95F:E [changes B to E]  
976:F [changes C to F]  
**BSAVE @WOLF,AS810,LS16EB**

### Modifications to Castle Wolfenstein

I located three different sound routines. The locations to change are listed in Figure 1 in the form of pokes. To turn these routines ON or OFF follow these steps:

1. **BLOAD @WOLF**—file to change
2. **POKE XXXX,YY**—desired change
3. **BSAVE @WOLF** — save the file

Figure 1

| Sound Routine  | POKE | ON  | OFF |
|----------------|------|-----|-----|
| Grenades       | 4405 | 48  | 16  |
| Gun Fire       | 4045 | 48  | 16  |
| Wall Collision | 4086 | 208 | 96  |





Save the program by typing:

**BSAVE @WOLF,AS810,LS16EB**

Turning off these routines has no effect on the game other than eliminating the specified sound. For example, turning off the wall noise does not turn off the screen flickering, nor does it stop the Nazis from moving.

## Strategies

Any game has its DOs and DON'Ts, and Castle Wolfenstein is no different. When you are on the first level (a single room with no doors, only a stairway), wait for the guards to be in a prime position before shooting. The guards will not attack you unless you move, attack them or they bump into you. When you leave a room, try to point the gun in a direction that gives the best chance of scoring a hit. This usually means pointing the gun in the direction you are moving. When entering a new room leave it immediately. This allows you to think about the situation and ready your gun appropriately.

## When to Kill

Try to kill the guards when they are next to a doorway. This stops the other guards and SS from getting to you. The Nazis won't cross over fallen bodies. They can still fire at you, they just can't catch you. This can be used to create a safe place from which to throw grenades and such.

## Shooting Through Walls

Another handy technique is to shoot through walls. For some reason Castle Wolfenstein will let you fire through corners. This allows you to shoot a guard and not risk being caught. One can also open up chests that are located in a corner. This saves time and avoids unnecessary risks.

## Advanced Playing Techniques

The following techniques may be considered cheating by the less enlightened, but more open-minded individuals will readily see we are only taking advantage of the program and its limitations.

## Life Beyond Death

Normally when the reset key is pressed Castle Wolfenstein saves the current game. You can change this so that instead of saving the game, you exit back to Applesoft. Once there, you can reboot and resume the game one room back. There is a reset routine in both @INIT and @WOLF, but you are only concerned with the routine in @WOLF for

the moment. I have listed the routine here so that it can be easily modified. A complete explanation of how the reset vector works can be found on pages 36 and 37 of the Apple II Reference Manual.

```

1187- A9 C7 LDA #C7 Set the
1189- 8D F2 03 STA $03F2 reset vector
118C- A9 1E LDA #1E so that it
118E- 8D F3 03 STA $03F3 jumps to 1EC7
1191- 49 A5 EOR #A5 Set the power
1193- 8D F4 03 STA $03F4 up byte

```

I wanted the Apple to reboot the disk when I pressed the reset key. To do this, type:

**BLOAD @WOLF**

Enter the monitor and type the following line:

**1191:EA EA**

Return to Applesoft (3D0G) and save @WOLF:

**BSAVE @WOLF,AS810,LS16EB**

NOTE: The ESC key (which saves the game) will still operate normally.

## For the Aggressive Player

Castle Wolfenstein was written so that every room is stored on a unique sector. When the game first starts, the track/sector list of CASTLE is read and stored in memory. The first sector contains the variables. Every time you enter a new room, the old room is saved and the new one is read in. This means that any room modifications you have made (grenades are handy for this) will be saved. It also allows you to go back one room if you just happen to make a fatal error. Also, if you have a disk editing program, such as DiskEdit, you can give yourself 255 bullets and grenades.

## Finding the Sector

First you have to find where this sector is. Read track \$11, sector \$C. This is the first sector of the catalog for Castle Wolfenstein. Look for the program ^BACKUP (some copies may have the name BACKUP). If it is not on this sector, try sector \$0B of the same track. If you still haven't found it, you are doing something wrong.

After locating the name, back up three bytes to find the Track/Sector list (how this information is stored is explained on pages 129-131 of the DOS Manual). Read this sector. Look at the thirteenth byte (\$0C). The first number is the track where the first sector of the program is located, the next byte is the sector. Read this track/sector. You now have the first sector of the program in memory ready to be modified.

I found the file name ^BACKUP on track \$11, sector \$0B. The third byte back from the name was \$14 and the second byte was \$0C, so I read track \$14, sector \$0C. After reading this sector, I looked at the 13th (\$0C)

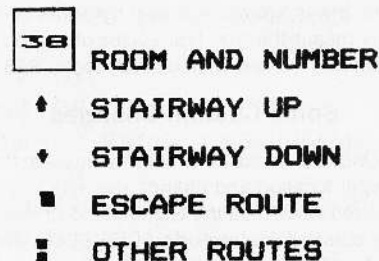
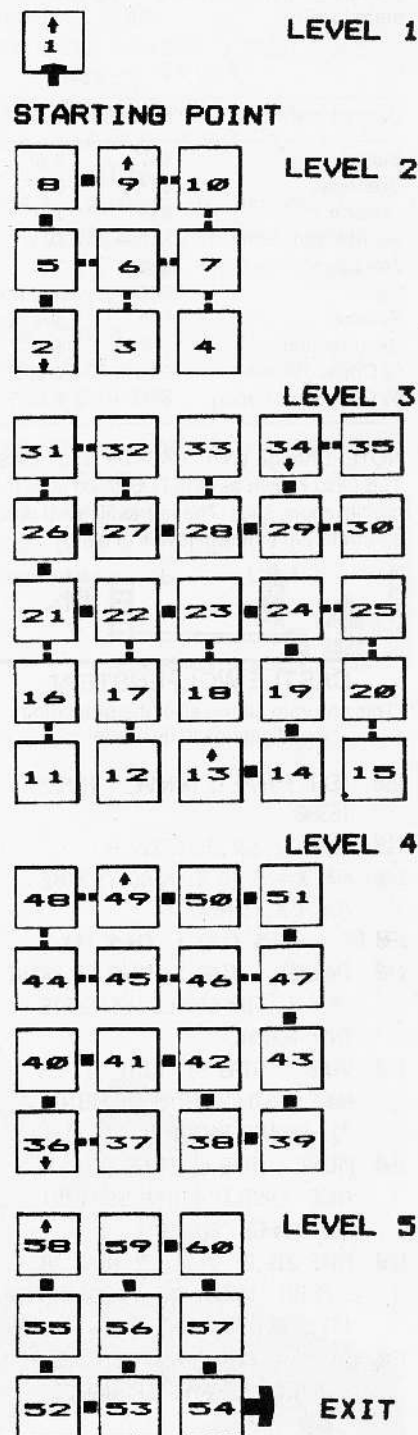


Figure 3



byte. It was \$20 and the next byte was \$0B. This meant that the first sector of the program was located on track \$20, sector \$0B.

## Some Custom Changes

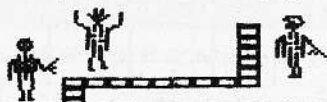
Once the sector is in memory, move to the proper location and change the byte to the desired value (use the O command to move the cursor if you are using DISKEDIT). The table in Figure 2 shows the item, the location in the sector and the value to place there. All values are in hexadecimal.

Example: To get 255 bullets, move the prompt to location \$47 and change the value there to \$FF.

Figure 2

| Desired Item       | Location | Value    |
|--------------------|----------|----------|
| Bullets            | \$47     | 0-\$FF   |
| Grenades           | \$48     | 0-\$FF   |
| Uniform            | \$49     | \$01     |
| Bullet-Proof Vest  | \$4A     | \$01     |
| War plans          | \$6C     | \$01     |
| Rank               | \$6D     | see text |
| Room #             | \$40     | see text |
| Resurrection       | \$6F     | \$00     |
| % Chance of Hit    | \$4B     | 0-\$FF   |
| % Chance of Recog. | \$4D     | 0-\$FF   |

NOTE: Change both ^BACKUP and ^CASTLE (also known as CASTLE) to be sure the modifications stick. These two files are used alternately at different levels of play.



## CASTLE WOLFENSTEIN

This program allows all of the preceding modifications to be made.

## Which Room Are You In?

The map in Figure 3 shows the layout of the castle. Each room has a number. This is the number to use if you need to change rooms.

NOTE: You may end up in a wall if you play with the room number. If this happens, you will have to try another room or change your position in the room. Bytes \$43-\$45 have something to do with your position within the room.

Your rank can be changed to a higher level which will cause the game to be much harder and more interesting. Change the rank byte as follows:

|                 |                     |
|-----------------|---------------------|
| \$10 Private    | \$90 Captain        |
| \$30 Corporal   | \$A0 Colonel        |
| \$50 Sergeant   | \$C0 General        |
| \$70 Lieutenant | \$E0 Field Marshall |

## Resurrection

If you happen to press reset too late, your game can still be retrieved if you stop it before playing again. Put a \$00 in byte \$6F in the sector.

## Giving it your Best Shot

Byte \$4B determines the percent chance of your achieving a kill. The higher the number (\$FF is greatest), the better your chances.

## Invisibility

Byte \$4D determines the percent chance of your being caught with \$FF being the greatest percent chance of being recognized.

## Some Minor Glitches

- 1) When you have more than 10 bullets, the display will still show you as having only ten bullets. This value will decrement once for each shot fired. Do not get bullets from a box. If you do, the program will replace the actual number of bullets you have with 10.
- 2) The grenade value appears as a letter or symbol that changes for each grenade thrown. The grenades do decrement by one for each thrown.

Neither of the above problems affects the play of the game, except to give you a lot of bullets and grenades.

## Escaping Castle Wolfenstein

The path out of Castle Wolfenstein is always the same. The contents of each room are randomized for each new game. Once this map is memorized it becomes easier to escape the castle. Unfortunately, the plans are not guaranteed to be on the way out. My favorite tactic is to run for the exit, zapping or dodging as required and opening all chests I find along the way. If I haven't found the plans by the time I reach the last room, I backtrack and search until I find them.

Good luck and have fun!!

```

190 IF A$ < "1" OR A$ > "4" THEN
 140
200 FI$ = "CASTLE": IF A$ = "2" OR
 A$ = "4" THEN FI$ = "BACKUP"
210 IF A$ > "2" THEN FI$ = "^" +
 FI$
220 ONERR GOTO 170
230 PRINT D$"VERIFY"FI$: POKE 21
 6,0: GOSUB 810
240 B1 = PEEK (TB) + PEEK (TB +
 1) * 256
250 POKE TR, PEEK (B1 + 12): POKE
 SE, PEEK (B1 + 13)
260 POKE CMND,1: POKE BU,0: POKE
 BU + 1,64: POKE VOL,0: CALL
 768
270 IF PEEK (ERR) > 15 THEN 740
280 FI$ = "MAXIMUM GRENADES": GOSUB
 920: IF B THEN POKE DB + 72
 ,255
290 FI$ = "MAXIMUM BULLETS": GOSUB
 920: IF B THEN POKE DB + 71

```

```

,255
300 FI$ = "A UNIFORM": GOSUB 920:
 IF B THEN POKE DB + 73,1
310 FI$ = "A BULLET PROOF VEST": GOSUB
 920: IF B THEN POKE DB + 74
 ,1
320 FI$ = "THE WAR PLANS": GOSUB
 920: IF B THEN POKE DB + 10
 8,1
330 IF PEEK (DB + 111) = 0 THEN
 350
340 FI$ = "TO BE RESURRECTED": GOSUB
 920: IF B THEN POKE DB + 11
 1,0
350 HOME
360 FI$ = "TO CHANGE YOUR RANK": GOSUB
 920: IF NOT B THEN 450
370 PRINT : PRINT "CURRENT RANK
 IS "; INT ((PEEK (DB + 109)
 / 16 + 1) / 2)
380 PRINT : POKE WL,5: PRINT : PRINT
 "1) PRIVATE": PRINT "2) CORP
 ORAL"

```



```

390 PRINT "3) SERGEANT": PRINT "
4) LIEUTENANT": PRINT "5) CA
PTAIN"
400 PRINT "6) COLONEL": PRINT "7
) GENERAL": PRINT "8) FIELD
MARSHAL"
410 PRINT : PRINT "WHICH ONE (1-
8) ";; GET AS$

```



```

420 POKE WL,0:A = VAL (AS$)
430 IF A < 1 OR A > 8 THEN PRINT
: PRINT : PRINT "MAINTAINING
OLD RANK": FOR X = 1 TO 500
: NEXT : GOTO 450
440 POKE DB + 109,(2 * A - 1) *
16
450 HOME
460 FIS$ = "TO CHANGE ROOMS": GOSUB
920: IF NOT B THEN 510
470 PRINT : PRINT "CURRENTLY IN
ROOM ";; PEEK (DB + 64)
480 PRINT : INPUT "ENTER ROOM NU
MBER (1-60) ";;AS$
490 B = VAL (AS$): IF B < 1 OR B >
60 THEN PRINT : PRINT "MAIN
TAINING OLD ROOM": FOR X = 1
TO 500: NEXT : GOTO 510
500 POKE DB + 64,B
510 HOME
520 FIS$ = "TO CHANGE PERCENT CHAN
CE OF ACHIEVING A HIT": GOSUB
920
530 IF NOT B THEN 600
540 PRINT : PRINT "CURRENT CHANC
E IS ";
550 PRINT INT (PEEK (DB + 75) /
255 * 100);"%
560 PRINT : INPUT "ENTER PERCENT
WANTED ";;AS$
570 IF AS$ = "" THEN 600
580 B = VAL (AS$): IF B < 0 OR B >
100 THEN 600
590 POKE DB + 75,255 * B / 100
600 HOME

```

```

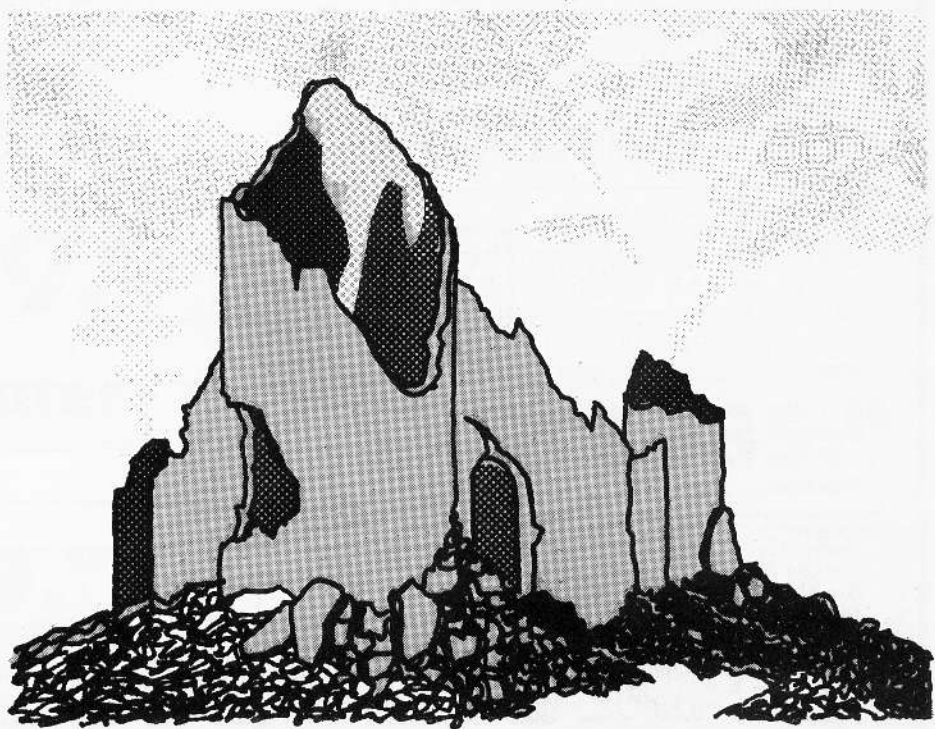
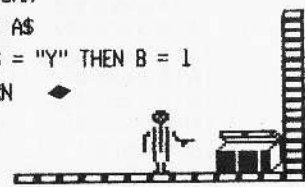
610 FIS$ = "TO CHANGE PERCENT CHAN
CE OF BEING RECOGNIZED": GOSUB
920:
620 IF NOT B THEN 680
630 PRINT : PRINT "CURRENT CHANC
E IS "; INT (PEEK (DB + 77)
/ 2.55)"%"
640 PRINT : INPUT "CHANGE PERCEN
T CHANCE TO ";;AS$
650 IF AS$ = "" THEN 680
660 B = VAL (AS$): IF B < 0 OR B >
100 THEN 680
670 POKE DB + 77,255 * B / 100
680 HOME
690 FIS$ = "TO FIX A BAD FILE": GOSUB
920: IF NOT B THEN 710
700 FOR X = 110 TO 256: POKE DB +
X,0: NEXT : FOR X = 76 TO 10
6: POKE DB + X,0: NEXT
710 HOME : VTAB 12: HTAB 16: PRINT
"WRITING"
720 POKE CMND,2: POKE VOL,0: CALL
768: HOME
730 IF PEEK (ERR) < 16 THEN 140
740 PRINT CHR$(7)"WARNING, DOS
ERROR"
750 E = PEEK (ERR)
760 IF E = 16 THEN PRINT "WRITE
PROTECTED (REMOVE TAB)
770 IF E = 64 THEN PRINT "DRIVE
ERROR (I/O)"
780 IF E < > 10 AND E < > 40 THEN

```

```

PRINT "UNUSUAL ERROR, CODE
=";;E
790 TEXT
800 END
810 FT = 46582:SL = 46583:DR = 46
584
820 TR = 47084:SE = 47085
830 NS = 46574:TB = 46537
840 WL = 32:WW = 33:WT = 34
850 CMND = 47092:ERR = 47093
860 VOL = 47083
870 BU = 47088
880 DB = 16384
890 HOME : INVERSE : PRINT "FILE
NAME:;;
900 NORMAL : PRINT " ";;FIS$
910 POKE WT,5: VTAB 6: POKE ERR,
0: RETURN
920 B = 0: PRINT "DO YOU WANT ";;
POKE WL,12: INVERSE : PRINT
FIS$;; NORMAL : PRINT " (Y/N)
";; GET AS$
930 POKE WL,0
940 IF AS$ = CHR$(27) THEN POP
: GOTO 140
950 IF AS$ = CHR$(13) THEN PRINT
: RETURN
960 PRINT AS$
970 IF AS$ = "Y" THEN B = 1
980 RETURN

```



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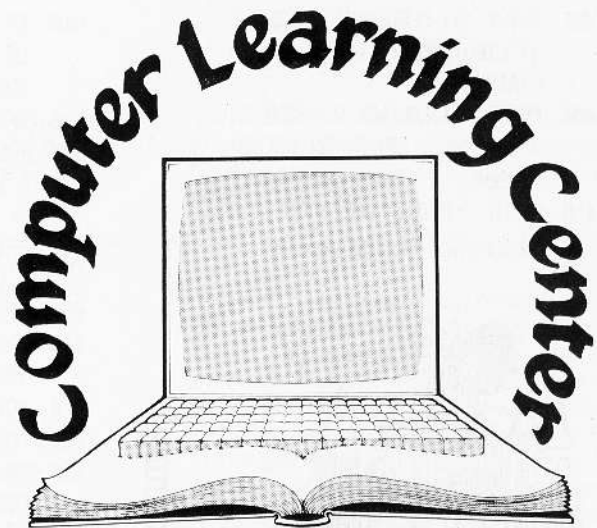
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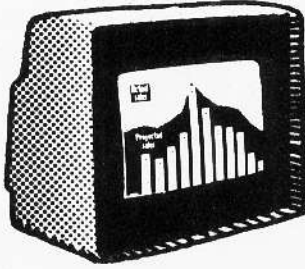


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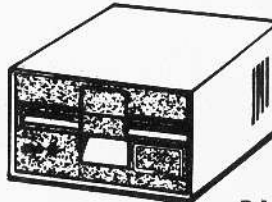
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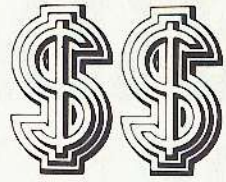
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