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PUBLISHED BY SCHOLASTIC INC.

AUGUST 1985

VOLUME 3
NUMBER 8

NEW ATARI 130 XE
A HANDS-ON REVIEW

FAMILY COMPUTING®

Be Your Own Stockbroker!

Organize Your Home Business with a Data Base

Buyer's Guide to Music Software and Hardware

K-POWER: Game Strategies, Music Programs, and a Contest

INSIDE: ORIGINAL PROGRAMS FOR ADAM, APPLE II SERIES, ATARI, C 64 & VIC-20, IBM PC & PCjr, TRS-80 COCO & MODEL III

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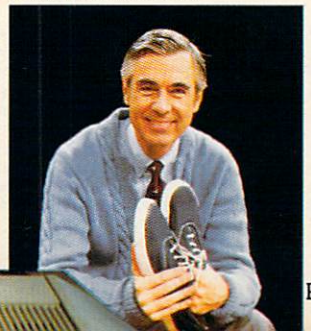

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BEHIND THE SCREENS

PEOPLE, NEWS, AND TRENDS

EDITED BY JUNE ROGOZNICA

Taking Stock of Computers

If you're considering a financial investment this year, take a good look at some of the computer-related companies gracing the stock pages these days.

According to *Inc.* magazine, one-third of the 100 fastest growing publicly held small companies in the country are computer, software, or data-processing related. *Inc.* defines "small" companies as those with sales of at least $100,000 but no more than $25 million. The companies were rated by their percentage of revenue growth over a five-year period—1980 to 1984.

"As in past years, companies in various branches of the computer business dominate the list, spanning a range from integrated-circuit manufacturers to personal computer retailers," according to the INC. 100, an annual *Inc.* magazine listing.

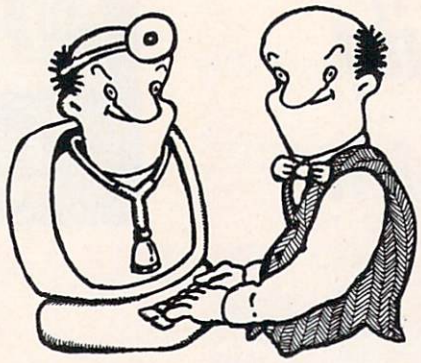
Another interesting note: Computer companies rated well in terms of job creation. For example, Micron Technology of Boise, Idaho, had the third largest percentage increase in employees nationwide. Micron's staff grew from 15 in 1980 to 958 in1984. Not bad for a 7-year-old company.

A New Age Adviser

Joseph McDonald, who runs a quilt-making business in Syracuse, New York, was ready for a career change. So, he sought out a job counselor. Not too uncommon, you might think. Except his adviser was a computer, named SIGI.

There are currently more than 300 SIGI systems residing in high-school and college career-counseling centers, as well as public libraries and career-information offices. Developed by the Educational Testing Service, SIGI software offers people a chance to match their value priorities with the best occupation. SIGI Plus, an enhanced version of the original system, contains some 1,500 occupation titles, targeting 15 values including high income, variety, prestige, independence, and security.

How does SIGI work? The computer first prompts the user to examine his interests, skills, preferred activities, and values. Based on the user's responses, the computer then sifts through its data base and pulls up a list of occupations stressing the aspects identified as first priority (such as "working with people"). Secondary priorities help the computer narrow down the list.



What does SIGI do that a human counselor can't? SIGI can sift through reams of information quicker, more thoroughly, and with a greater degree of efficiency. "It's somewhere between a career counselor and a workbook," says McDonald, who is still narrowing down his new job prospects. "It's more stimulating than books," and more "objective" than a counselor.

—LINDA WILLIAMS

Of Bytes & Burgers

The MacArthur Park restaurant in Palo Alto, California, is an upscale, yuppie hangout where waiters and waitresses have exchanged pens and order pads for handheld computer terminals.

MacArthur Park is the test site for a computerized restaurant system designed by Validec, a start-up company based in nearby San Carlos.

When patrons place their orders, a waiter or waitress will abbreviate the items on their handheld gizmos. The terminals emit a radio signal which is captured by an IBM PC in the back of the restaurant. The IBM PC is hooked up to printers that automatically print out the order in the bar, broiler, deep-fry section, and pantry. Thus, the appropriate personnel will know how the customer wants his eggs cooked or what drinks to prepare. The management hopes waiters and waitresses will be able to serve more tables with increased efficiency.

Handheld computers: the new rage in restaurants?

At the end of the meal, customers get an organized, state-of-the art computer printout listing everything they have eaten—from potato skins with sour cream to barbeque ribs with extra sauce.

—KATHY CHIN

Support for ADAM

Despite Coleco's announcement in January to halt production of the ADAM computer, the 250,000 owners of the machine haven't been abandoned.

Coleco says it will continue to develop and produce ADAM software that is compatible with the ColecoVision. And the company still maintains the toll-free number, (800) 842-1225. But, Coleco isn't the only avenue for advice, products, and information. M.W. Ruth Co. (Dept. FA5, 510 Rhode Island Ave., Cherry Hill, NJ 08002) offers both hardware and software for the ADAM. For mail-order information, call (609) 667-2526.

Al Gerson of Lynbrook, New York, sends out *AUGment*, a bimonthly newsletter to his 6,000-member ADAM Users' Group (AUG). The publication suggests where to find software and hardware, and reviews third-party products. AUG's library of public-domain software includes nine disks/data packs with four to five programs each. In addition, Gerson offers a booklet with tips on how to organize a local ADAM users' group. The annual membership fee is $12. For more information, write AUG, Box P, Lynbrook, NY 11563; or call (516) 746-0066.

You can contact the following users' groups by mail:

- ADAM Users Group, 1206 12th Way, West Palm Beach, FL 33407.
- #1 ADAM Users' Group, P.O. Box 3761, Cherry Hill, NJ 08034
- Central Ohio ADAM Users Group, 730 Thurber Drive, Apt. N, Columbus, OH 43215.

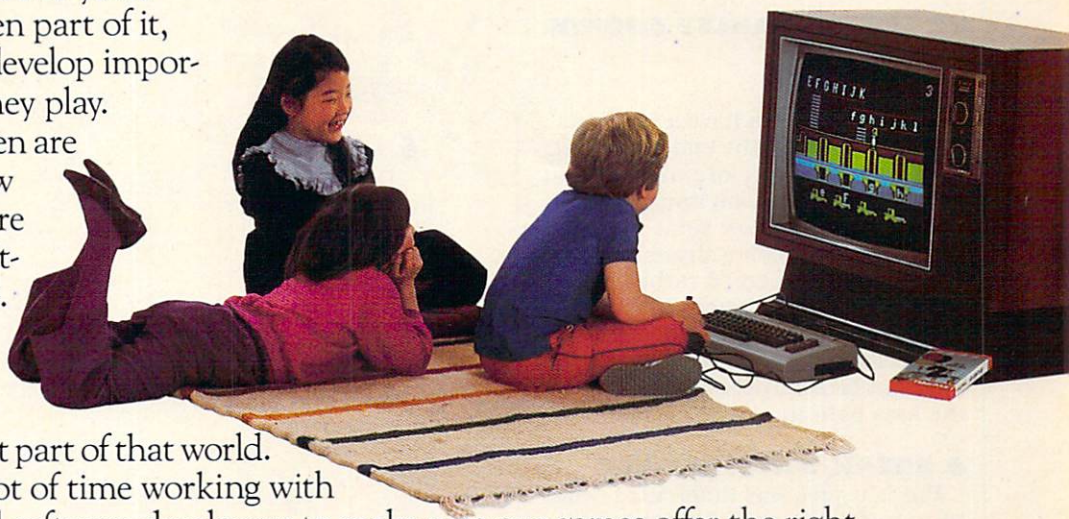
—LINDA WILLIAMS

ILLUSTRATION BY HOLLY KOWITT

Fisher-Price Learning Software, for a lot of little reasons.

A child's world. For years Fisher-Price has been part of it, helping little ones develop important new skills as they play.

But now children are growing up in a new world, a world where computers offer exciting new experiences. And we think Fisher-Price Learning Software can be an important part of that world.



We've spent a lot of time working with leading educational software developers to make sure our games offer the right combination of fun and educational value. We've covered five key areas of your child's learning development: Math. Language. Creativity. Basic learning skills. And computer literacy. And all the games have been thoroughly kid-tested, so we know they're easy to play and offer lasting fun value.

There are games for preschoolers and children under 8, and another series for children up to 12. Games that let children build an alphabet city. Play number games in a race against time. Or learn reading skills with a favorite storybook character. Each game offers the fun, value and educational quality you've come to expect from Fisher-Price.

All in all, there are some pretty big reasons to develop Fisher-Price Learning Software.

But mostly, we do it for the little ones.

Cartridges are available for **Atari,®** **Commodore 64/128™** and **Coleco Adam®** home computers and **ColecoVision.®** Disks are available for **Commodore 64/128™** and **Apple.®**

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HELPFUL HINTS

TIPS BY TEENS

EDITED BY ROXANE FARMANFARMAIAN

Summer's the time to try out crazy experiments with your computer. Check out these hints for several great programming tricks, and some neat schemes for color and sound. **Reminder**: Turn off your computer and peripherals before tinkering with them. Parental guidance is recommended for young children undertaking these activities.

Get Your TI Voice Synthesizer To Say Those Phrases!

Ever noticed how your Solid State Speech Synthesizer spells out some of the phrases in its vocabulary list? This is because it looks for each word in the list separately. The solution? Bracket the phrase with pound signs (#) to make the synthesizer treat the phrase as a unit. For example, type CALL SAY ("I AM THE #TEXAS INSTRUMENTS# HOME COMPUTER").

STEVEN BOOKER, *age 13*
Browns Mills, New Jersey

Start Off Your Programs With Pizzazz.

Want a neat-looking title at the head of your programs? ADAM, Apple, C 64, and IBM owners, just add the following lines to the beginning of any of your programs. To change the vertical position of the title, change the value of VE in line 10.

APPLE

```
10 VE = 12:HOME
20 INPUT "ENTER YOUR MESSAGE ";M$
30 HOME:FOR X = 1 TO LEN(M$)
40 FOR CH = 32 TO ASC(MID$(M$,X,1))
50 VTAB VE:HTAB X+(40-LEN(M$))/2
60 PRINT CHR$(CH):NEXT CH,X
```

ADAM

Type in the above program but change the 40 in line 50 to 31.

C 64

```
10 VE=11:PRINT CHR$(147);
20 INPUT "ENTER YOUR MESSAGE";M$
30 PRINT CHR$(147):FOR X=1 TO LEN(M$)
40 FOR CH=32 TO ASC(MID$(M$,X,1))
50 IF CH>128 AND CH<160 THEN CH=160
60 POKE 214,VE:PRINT
70 PRINT TAB(X+(40-LEN(M$))/2-1);
80 PRINT CHR$(CH);:NEXT CH,X
```

IBM

```
10 VE=12:CLS
20 INPUT "ENTER YOUR MESSAGE";M$
30 CLS:FOR X=1 TO LEN(M$)
40 FOR CH=32 TO ASC(MID$(M$,X,1))
50 LOCATE VE,X+(40-LEN(M$))/2
60 PRINT CHR$(CH):NEXT CH:NEXT X
```

WILLIAM HATCHER, *age 14*
McEwen, Tennessee

Wire Your CoCo To Your Stereo For A Light Show Setup.

Ever wish you could hook up your TRS-80 Color Computer to your stereo so colors on the screen would change to the beat of the music? Well, you can. You'll need a Radio Shack analog joystick (catalog no. 26-3008), two pieces of wire as long as the distance between your stereo and your CoCo and two shorter wires of equal length, one or two connectors like those on either end of the cable between your stereo and speakers, two alligator clips, a 100k ohm ½-watt resistor, two 4.3-volt Zener diodes, and a reference such as *First Book of Electronic Projects* (TAB Books). *Make sure your joystick and stereo are unplugged.*

1. Devise a connector as shown in diagram. Disconnect one of the speakers from your stereo. Plug one end of the connector into the stereo input jack, and the other end into the speaker. (For stereos without jacks, wire the connector directly to the stereo and speaker.) **Warning:** *Never* allow the wires connected to the alligator clips to touch when the power is on, otherwise you risk blowing the fuses in your stereo.

2. Open up the *right* joystick from the bottom and attach the alligator clips as shown. Plug in your joystick and turn on your computer.

3. Move the joystick to the bottom left corner and type in the following:

```
10 CLS(0)
20 A=8*(JOYSTK(0)+1)/64
30 CLS(A)
40 GOTO 20
```

4. Turn on your stereo, put on your favorite record (or tape), and RUN the program. You might have to move your joystick around a bit to get the best colors. If everything is wired correctly, colors will pulsate on your screen in time with the music.

DAN SCHIERL, *age 16*
Chilton, Wisconsin

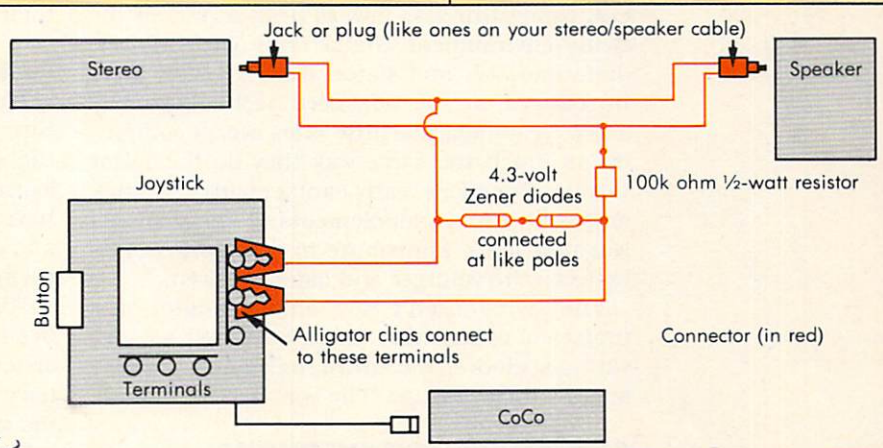

DIAGRAM BY SUSAN TAYLOR FROM SCHEMATIC BY RICHARD MATTHEWS/SEAR-MATTHEWS AUDIO SYSTEMS

Control That Printer!

Are you tired of le-e-eaning over to press the FORM FEED button when printing out a BASIC program? Ever wish your printer would beep when it's done printing? Try these routines, which work with Epson and compatible printers. Check your printer manual for other codes.

Commodore 64/VIC-20

Enter `OPEN 4,4` to open a channel to the printer. Then type

`PRINT#4,CHR$(7);` (to ring bell), or
`PRINT#4,CHR$(10);` (for line feed), or
`PRINT#4,CHR$(12);` (for form feed)

Finally, enter `PRINT#4:CLOSE 4`

Atari/TRS-80 Model III/IBM

`LPRINT CHR$(7);` (to ring bell), or
`LPRINT CHR$(10);` (for line feed), or
`LPRINT CHR$(12);` (for form feed)

DAVE FORMAN, *12*
Greensburg, Pennsylvania FC

MUSIC SOFTWARE

Continued on next page.

COMPANY	PRODUCT	HARDWARE REQUIRED	COMMENTS	EASE OF USE	# VOICES
Access Software, Inc. 3678 W. 2100 S. Salt Lake City, UT 84120 (801) 973-0123	MASTER COMPOSER $34 Synthesizer and composing tool	Commodore 64; printer optional	Features powerful sequencer. Enter and save sheet music, or compose own.	DIFFICULT	3
Activision 2350 Bayshore Frontage Road Mountain View, CA 94043 (415) 960-0410	THE MUSIC STUDIO $29.95 Synthesizer and composing tool	Commodore 64 plus joystick or KoalaPad; printer optional	Features easy-to-use animated screens and icons.	EASY	3
Artworx 150 N. Main St. Fairport, NY 14450 (800) 828-6574	ALLEGRO $39.95 Synthesizer and composing tool	Commodore 64; game paddles and printer optional. Planned for Macintosh	Features comprehensive editing and compiling system.	DIFFICULT	3
Algo-Rhythm Software 176 Mineola Blvd. Mineola, NY 11501 (800) 645-4441	CANTUS, THE MUSIC IMPROVISER $54 Educational/game	Commodore 64	Plays randomly generated music using "patches" user creates.	AVERAGE	3
Alfred Publishing 15335 Morrison St. Sherman Oaks, CA 91403 (818) 995-8811	MUSIC MADE EASY $29.95 Educational	Apple II series; Commodore 64	Teaches music theory via drills and testing.	EASY	1
Atari Corp. 1312 Crossman Road P.O. Box 61657 Sunnyvale, CA 94088 (408) 745-4851	MUSIC II, RHYTHM AND PITCH Under $25 Educational	Atari 800/XL/XE, 16K	Teaches rhythm and pitch via drill and practice.	EASY	1
	MUSIC COMPOSER Under $25 (cartridge) Composing tool	Atari 800/XL/XE, 16K	Enter, arrange, and edit music via menu choices.	AVERAGE	4
Blackhawk Data Corp. 307 N. Michigan Ave. Chicago, IL 60601 (312) 236-8473	TUNESMITH/PC $49.95 Synthesizer and composing tool	IBM PC/PC*jr*, 96K 1	Lets user edit music-definition language of PC.	AVERAGE	1
Broderbund 17 Paul Drive San Rafael, CA 94903-2101 (415) 479-1170	THE MUSIC SHOP $44.95 Synthesizer and composing tool	Commodore 64; joystick and printer optional	Features icons, windows, and full-page music scores.	EASY	3
ComputerWare P.O. Box 668 Encinitas, CA 92024 (619) 436-3512	SYNTHER 77 $24.95 (cassette); $27.95 (disk) Synthesizer	TRS-80 CoCo, 32K	Turns keyboard into a 2-octave piano. Choice of 12 octaves.	EASY	1
Electronic Courseware Systems 1210 Lancaster Drive Champaign, IL 61821 (217) 359-7099	MUSICAL STAIRS $29.95 Educational/game	Apple II series, 48K; Commodore 64; IBM PC/PC*jr*, 128K	Teaches concept of intervals via drill-and-practice game.	EASY	1
Electronic Arts 2755 Campus Drive San Mateo, CA 94403 (415) 571-7171	MUSIC CONSTRUCTION SET $22.95–$39.95 Synthesizer and composing tool	Apple II plus/IIe/IIc, 48K; Macintosh; Atari, 48K; Commodore 64; IBM PC/PC*jr* 128K; joystick, KoalaPad, printer, and Mockingboard (Apple only) optional	Lets you cut, paste, and edit songs by moving icons around screen.	EASY	2–6
EnTech Software P.O. Box 185 Sun Valley, CA 91353 (818) 768-6646	ADD MUS'IN $39 Programmer's utility	Commodore 64 and *Studio 64*; Music Mate keyboard optional	Converts *Studio 64* files for use in your own programs.	AVERAGE	3
	STUDIO 64 $39 Synthesizer and composing tool	Commodore 64; Music Mate keyboard optional	Converts computer keyboard into piano keys.	EASY	3
Future Vision P.O. Box 34 N. Billerica, MA 01862	VIDEO TUNES $34.95 (cassette) Composing tool	ADAM	Uses joystick control to place and edit notes on a staff.	AVERAGE	3
Hayden Software 600 Suffolk St. Lowell, MA 01854 (800) 343-1218	MUSIC WORKS $79.95 Synthesizer and composing tool	Macintosh plus mouse; printer optional	Uses Macintosh's icons, windows, and high resolution to create quality graphics and music in a construction-set format.	AVERAGE	4
Koala Technologies 2065 Junction Ave. San Jose, CA 95131 (800) KOA-BEAR	SPIDER EATER $29.95 Educational/game	Commodore 64 plus KoalaPad	Teaches where notes are on a piano keyboard. Easy for children to create simple melodies and strange sounds.	EASY	1
Mastertronic International 7311B Grove Road Frederick, MD 21701 (301) 695-8877	MAKE MUSIC WITH MISTERTRONIC $9.99 Composing tool	Commodore 64; joystick and printer optional	Includes five preset instrument sounds.	AVERAGE	1
Melodian Inc. 115 Broadway, Suite 1202 New York, NY 10006 (800) MEL-ODIA	CONCERT MASTER $39.95 Synthesizer and composing tool	Commodore 64; Melodian keyboard optional	Features real-time three-track recording, including a metronome, variable tempo, and an animated musical staff.	AVERAGE	3
	RHYTHM MASTER $39.95 Educational/game	Commodore 64; Melodian keyboard optional	Teaches rhythm patterns in a game format that gets more difficult as play progresses.	AVERAGE	1
Mindscape, Inc. 3444 Dundee Road Northbrook, IL 60062 (800) 221-9884	BANK STREET MUSIC WRITER $49.95 Synthesizer and composing tool	Atari, 48K; Commodore 64. Planned for Apple II series, IBM.	Lets you compose, edit, and play back songs. Tone shaping is represented by charts. Needs no prior musical knowledge.	AVERAGE	3–4
NewArts Co. P.O. Box 2700 Huntington Beach, CA	GUITAR CHORD POWER $39.95 Educational	Commodore 64	Displays more than 8,000 chords with sound. Built-in tutorial teaches chord construction. Best for guitar players.	EASY	1
Passport Designs 625 Miramontes St., No. 103 Half Moon Bay, CA 94019 (415) 726-0280	MACMUSIC $49.95 Synthesizer and composing tool	Commodore 64 plus joystick; may work with Soundchaser 64	Makes composing as simple as drawing. As you draw composition—you hear it!	EASY	3

All software on disk, unless otherwise noted.

The Programmer

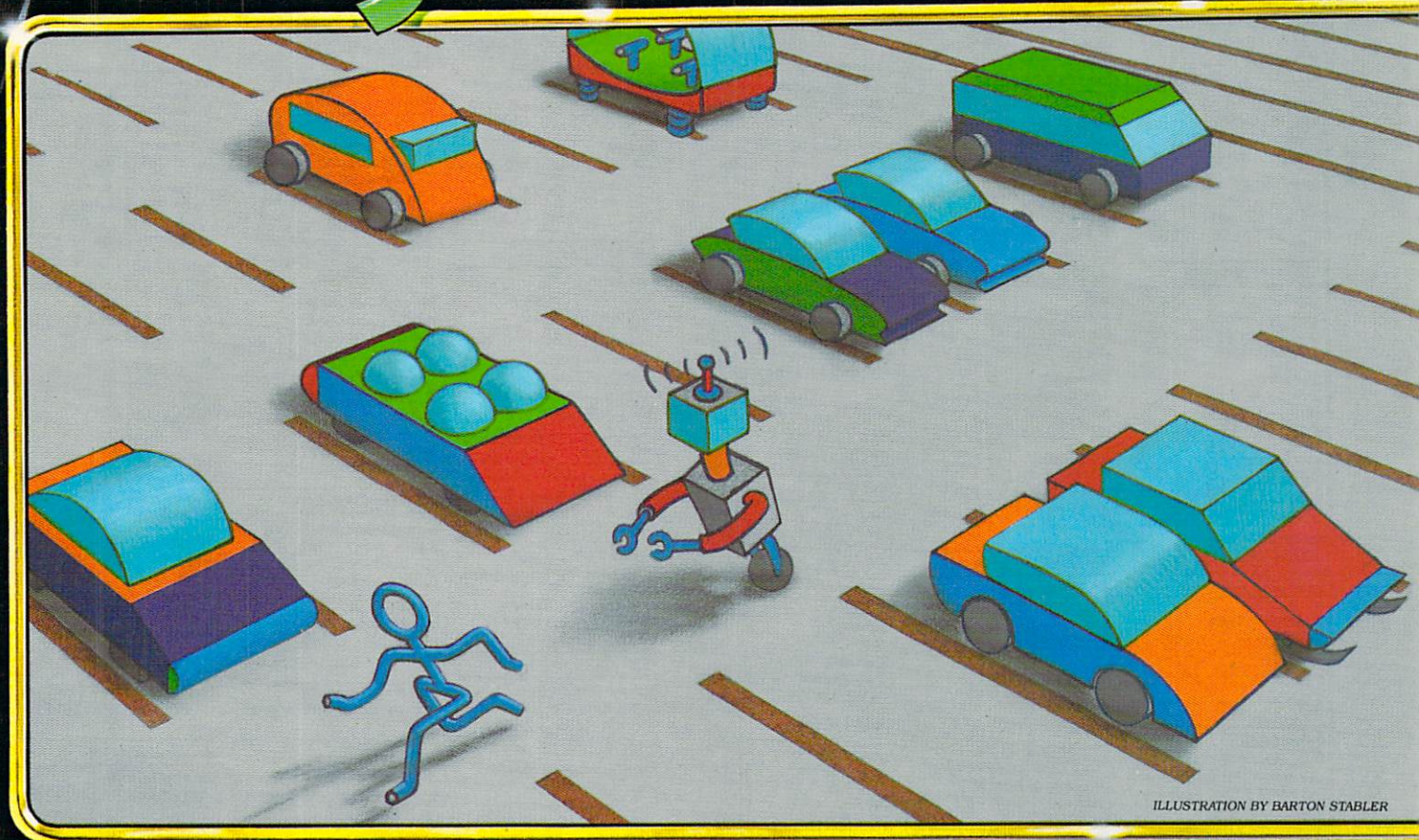

ILLUSTRATION BY BARTON STABLER

AUGUST

TIPS TO THE TYPIST
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Helpful hints on how to type in programs, and what to do if a program doesn't work.

BEGINNER PROGRAM
Page 54

Boogie down with *Jitterman*—and learn something about computer animation!

ARCADE GAME
Page 57

Just when you thought it was safe to go back in the parking lot—it's *Renegade Robot II*!

FEATURE PROGRAM
Page 61

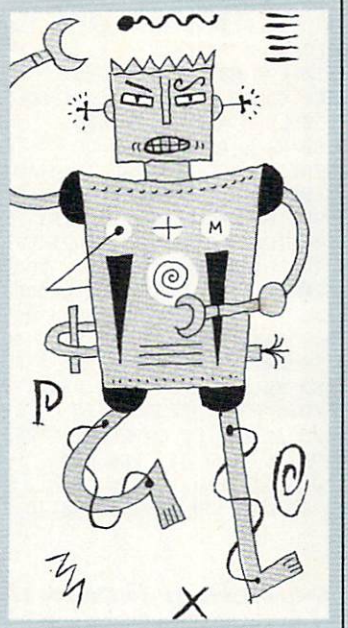
Apple and Commodore 64 owners can get organized with *Home Information Manager*, an easy-to-use, data-base program.

PROGRAMMING P.S. Page 61 Corrections to previous months' programs and to a "Helpful Hint."

ILLUSTRATION BY JIM CHERRY III

RENEGADE ROBOT II

BY JOEY LATIMER



The underground parking lot where you work seems just a little *too* quiet. Of course, you're still a bit edgy after your narrow escape from the *Renegade Robot* (FC, *August 1984, page 74*), but still . . . you have the creepy feeling that you're being watched.

Suddenly, the hot smell of machine oil and the hum of metal wheels confirm your worst suspicions: The renegade robot is back, and it's time for you to *get lost*! But luck's *really* running against you this time—the doors of the parking lot all seem to be locked!

Don't give up hope. One of the doors may still be open. There are six doors around the perimeter of the lot, and you may have to try all of them to find out which one offers you an escape. Jiggling door handles and keeping clear of the renegade robot's steel pincers, however, isn't going to be easy.

You can escape in *Renegade Robot II* using your joystick (port 1) or your keyboard. Use the "U" (up left), "I" (up), "O" (up right), "J" (left), "L" (right), "M" (down left), comma (down), and period (down right) keys to move. To make things more interesting, the longer you remain in the lot (and out of the robot's clutches), the more points you'll gain. Since the robot always heads more or less towards your position, you may be able to use the parked cars to trap him—but watch out! He's smarter than he looks, and may do something unpredictable at any time!

PROGRAM NOTES

What makes the renegade robot such a dangerous opponent, capable of marking your position and moving inexorably toward it, negotiating obstacles in its path? The answer is in a simple routine that controls the way the robot "thinks."

To make the robot track you, the computer begins by subtracting each coordinate of the robot's position (RX and RY) from the corresponding coordinate of your position (PX or PY). The values that result may each be positive, negative, or zero, depending on the robot's position relative to your own; thus the arithmetic *signs* of these values (determined by BASIC's SGN function) each may be 1, 0, or −1. Adding the signs to the coordinates of the robot's current position results in a proposed new position (QX, QY) that will place the robot one step closer to you.

The next step the computer takes is to determine if the robot can move to that new position, or is prevented by some obstacle from doing so. The contents of the screen at the new position are looked at (by a PEEK, LOCATE, SCREEN, or other statement) and analyzed. If the proposed movement will not land the robot on an obstacle, the program continues.

If, on the other hand, an obstacle is encountered, the computer discards the new position and attempts to find a way around the obstacle. It begins by randomly generating a direction, D, which may be −1 or +1. It then generates a new proposed position (QX, QY) by adding this value to either the robot's horizontal coordinate, RX, or its vertical coordinate, RY, depending on the value of a *flag*, F. (A flag is a variable that is given one of two possible values, depending on conditions. Flags are often used when a program must alternate between two possible courses of action, trying first one, then the other.) The value of flag F is changed so that if the proposed position to left or right is found to be blocked, the next position to be tried will be above or below, and vice versa.

By this semi-random process of "controlled blundering," coupled with an inexorable means of tracking your position, the robot will eventually find its way around almost any small obstacle.

CUSTOMIZING THE PROGRAM

Increasing or decreasing the number of obstacles in the robot's path makes *Renegade Robot II* easier or more difficult to play. The variable RV in line 10 controls the random process that places obstacles on the screen. You may adjust gameplay as you like by changing RV to any decimal number between 0 (most obstacles) and 1 (no obstacles).

If you're an ambitious programmer, you might also try to change how frequently the robot moves. We'll leave that one for you to figure out.

ADAM/*Renegade Robot II*

```
10 DIM dr(6,2):rv = 0.5
20 FOR i = 1 TO 9:bl$ = bl$+CHR$(32):NEXT i
30 FOR i = 1 TO 6:READ dr(i,1),dr(i,2):NEXT i
40 HOME:PRINT TAB(8);"RENEGADE ROBOT II"
50 VTAB 5:PRINT "  PRESS LEFT TRIGGER TO BEGIN."
60 IF PDL(7) <> 1 THEN c = RND(1):GOTO 60
70 HOME:GR:COLOR= 9
80 HLIN 0,39 AT 0:HLIN 0,39 AT 1
90 HLIN 0,39 AT 38:HLIN 0,39 AT 39
100 VLIN 2,37 AT 0:VLIN 2,37 AT 1
110 VLIN 2,37 AT 38:VLIN 2,37 AT 39:COLOR= 8
120 FOR i = 1 TO 6:PLOT dr(i,1),dr(i,2):NEXT i
130 FOR i = 3 TO 35 STEP 2:FOR j = 3 TO 36
140 IF RND(1) > rv THEN COLOR= INT(RND(1)*7)+1:PLOT j,
i
150 NEXT j,i
160 VTAB 21:HTAB 11:PRINT "SCORE:"
170 px = INT(RND(1)*10)+2:py = (INT(RND(1)*18)+1)*2
180 rx = INT(RND(1)*10)+26:ry = (INT(RND(1)*18)+1)*2
190 sc = 0:do = INT(RND(1)*6)+1:ts = RND(1)*500+500
200 COLOR= 15:PLOT px,py
210 COLOR= 11:PLOT rx,ry
220 j = PDL(5)
230 nx = px+(j = 2 OR j = 3 OR j = 6)-(j > 6)
240 ny = py+(j = 4 OR j = 6 OR j = 12)-(j = 1 OR j = 3
 OR j = 9)
250 IF px = nx AND py = ny THEN 380
260 IF nx < 1 OR nx > 38 OR ny < 1 OR ny > 38 THEN 490
270 p = SCRN(nx,ny):IF p = 0 THEN 320
280 IF p <> 8 THEN 380
290 VTAB 22:HTAB 1
300 IF nx <> dr(do,1) OR ny <> dr(do,2) THEN PRINT "LO
CKED!":GOTO 360
310 PRINT "UNLOCKED!"
320 COLOR= 8*(px = dr(do,1) AND py = dr(do,2))
330 PLOT px,py
340 COLOR= 15:PLOT nx,ny:px = nx:py = ny
350 IF p <> 8 THEN 380
360 FOR d = 1 TO 200:NEXT d
370 VTAB 22:HTAB 1:PRINT SPC(9)
380 IF sc < ts THEN 480
390 qx = rx+SGN(px-rx):qy = ry+SGN(py-ry):f = 1
400 p = SCRN(qx,qy):IF p = 0 OR p = 15 THEN 450
```

```
410 d = 2*INT(RND(1)*2)-1
420 IF f THEN qx = rx+d:qy = ry:GOTO 440
430 qy = ry+d:qx = rx
440 f = NOT f:GOTO 400
450 COLOR= 0:PLOT rx,ry:COLOR= 11:PLOT qx,qy
460 IF p = 15 THEN 520
470 rx = qx:ry = qy
480 sc = sc+10:HTAB 17:VTAB 21:PRINT sc:GOTO 220
490 TEXT:HOME:FOR i = 1 TO 7
500 PRINT CHR$(7);:FOR d = 1 TO 50:NEXT d,i
510 PRINT "YOU ESCAPED!":GOTO 540
520 TEXT:HOME:PRINT CHR$(7);
530 PRINT "SORRY, YOU WERE CAUGHT!"
540 PRINT:PRINT "YOUR SCORE WAS ";sc
550 IF sc > hs THEN hs = sc
560 PRINT:PRINT "THE HIGH SCORE IS ";hs
570 PRINT:PRINT "PRESS LEFT TRIGGER TO PLAY AGAIN"
580 PRINT "OR RIGHT TRIGGER TO QUIT."
590 IF PDL(7) = 1 THEN 70
600 IF PDL(9) <> 1 THEN 590
610 END
1000 DATA 20,1,38,12,38,26,20,38,1,12,1,26
```

Apple/*Renegade Robot II*

```
10 DIM DR(6,2):RV = 0.5
20 FOR I = 1 TO 6:READ DR(I,1),DR(I,2):NEXT I
30 HOME:PRINT TAB(11);"RENEGADE ROBOT II"
40 VTAB 5:PRINT TAB(9);"PRESS ANY KEY TO BEGIN."
50 POKE -16368,0
60 IF PEEK(-16384) < 128 THEN Q = RND(1):GOTO 60
70 POKE -16368,0
80 PRINT:PRINT TAB(8);"DO YOU WANT TO USE THE"
90 PRINT TAB(4);"<K>EYBOARD OR THE <J>OYSTICK?";
100 GET K$:IF K$ <> "K" AND K$ <> "J" THEN 100
110 KF = (K$ = "K")
120 HOME:GR:COLOR= 9
130 HLIN 0,39 AT 0:HLIN 0,39 AT 1
140 HLIN 0,39 AT 38:HLIN 0,39 AT 39
150 VLIN 2,37 AT 0:VLIN 2,37 AT 1
160 VLIN 2,37 AT 38:VLIN 2,37 AT 39
170 COLOR= 8
180 FOR I = 1 TO 6:PLOT DR(I,1),DR(I,2):NEXT I
190 FOR I = 3 TO 35 STEP 2:FOR J = 3 TO 36
200 IF RND(1) > RV THEN COLOR= INT(RND(1)*7)+1:PLOT J,
I
210 NEXT J,I
220 VTAB 21:HTAB 16:PRINT "SCORE:"
230 PX=INT(RND(1)*11)+2:PY=(INT(RND(1)*18)+1)*2
240 RX=INT(RND(1)*11)+27:RY=(INT(RND(1)*18)+1)*2
250 SC = 0:DO = INT(RND(1)*6)+1:TS = RND(1)*500+500
260 COLOR= 15:PLOT PX,PY
270 COLOR= 11:PLOT RX,RY
280 IF KF THEN 310
290 NY = PY+(PDL(1) > 192)-(PDL(1) < 64)
300 NX = PX+(PDL(0) > 192)-(PDL(0) < 64):GOTO 350
310 K = PEEK(-16384)-128
320 POKE -16368,0
330 NY = PY+(K = 44 OR K = 46 OR K = 77)-(K = 73 OR K
= 79 OR K = 85)
340 NX = PX+(K = 46 OR K = 76 OR K = 79)-(K = 74 OR K
= 77 OR K = 85)
350 IF PX = NX AND PY = NY THEN 470
360 IF NX < 1 OR NX > 38 OR NY < 1 OR NY > 38 THEN 580
370 P = SCRN(NX,NY):IF P = 0 THEN 420
380 IF P <> 8 THEN 470
390 VTAB 21:HTAB 1
400 IF NX <> DR(DO,1) OR NY <> DR(DO,2) THEN PRINT "LO
CKED!":GOTO 450
410 PRINT "UNLOCKED!"
420 COLOR= 8*(PX = DR(DO,1) AND PY = DR(DO,2))
430 PLOT PX,PY:COLOR= 15:PLOT NX,NY:PX = NX:PY = NY
440 IF P <> 8 THEN 470
450 FOR D = 1 TO 200:NEXT D
460 VTAB 21:HTAB 1:PRINT SPC(9)
470 IF SC < TS THEN 570
480 QX = RX+SGN(PX-RX):QY = RY+SGN(PY-RY):F = 1
490 P = SCRN(QX,QY):IF P = 0 OR P = 15 THEN 540
500 D = 2*INT(RND(1)*2)-1
510 IF F THEN QX = RX+D:QY = RY:GOTO 530
520 QY = RY+D:QX = RX
530 F = NOT F:GOTO 490
540 COLOR= 0:PLOT RX,RY:COLOR= 11:PLOT QX,QY
550 IF P = 15 THEN 600
560 RX = QX:RY = QY
570 SC = SC+10:VTAB 21:HTAB 23:PRINT SC:GOTO 280
580 FOR D = 1 TO 50:A = PEEK(-16336):NEXT D
590 TEXT:HOME:PRINT:PRINT "YOU ESCAPED!":GOTO 620
600 TEXT:HOME:PRINT CHR$(7)
610 PRINT:PRINT "SORRY, YOU WERE CAUGHT!"
620 PRINT:PRINT "YOUR SCORE WAS ";SC
630 IF SC > HS THEN HS = SC
640 PRINT:PRINT "THE HIGH SCORE IS ";HS:PRINT
650 PRINT "PRESS <P> OR FIRE BUTTON TO PLAY AGAIN"
660 PRINT "OR <Q> TO QUIT.":POKE -16368,0
670 K=PEEK(-16384)-128
680 IF K = 80 OR PEEK(-16286) > 127 THEN 120
690 IF K <> 81 THEN 670
700 HOME:END
1000 DATA 20,1,38,12,38,26,20,38,1,12,1,26
```

Atari/*Renegade Robot II*

```
10 DIM DR(6,2),BL$(9),BR$(38):RV=0.5
20 OPEN #1,4,0,"K:":OPEN #6,12,0,"S:"
30 BL$=" ":BL$(9)=BL$:BL$(2)=BL$
40 BR$=CHR$(160):BR$(38)=BR$:BR$(2)=BR$
50 FOR I=1 TO 6:READ A,B:DR(I,1)=A:DR(I,2)=B:NEXT I
60 PRINT CHR$(125):POSITION 11,0
70 PRINT "RENEGADE ROBOT II"
80 POSITION 3,5
90 PRINT "DO YOU WANT TO USE THE <K>EYBOARD"
100 POSITION 10,6:PRINT "OR THE <J>OYSTICK?";
110 GET #1,K:IF K<>ASC("K") AND K<>ASC("J") THEN 110
120 KF=(K=ASC("K"))
130 PRINT CHR$(125);:POKE 82,0
140 POKE 752,1:SETCOLOR 1,0,15:SETCOLOR 2,0,0
150 POSITION 1,0:PRINT BR$:POSITION 1,1:PRINT BR$
160 FOR I=2 TO 20
170 POSITION 1,I:PRINT CHR$(160)
180 POSITION 38,I:PRINT CHR$(160)
190 NEXT I
200 POSITION 1,21:PRINT BR$:POSITION 1,22:PRINT BR$
210 FOR I=1 TO 6:POSITION DR(I,1),DR(I,2)
220 PRINT CHR$(35):NEXT I
230 FOR I=3 TO 19 STEP 2:FOR J=3 TO 36
240 IF RND(0)>RV THEN POSITION J,I:PRINT CHR$(219)
250 NEXT J:NEXT I:POSITION 15,23:PRINT "SCORE: 0";
260 PX=INT(RND(0)*10)+2:PY=(INT(RND(0)*9)+1)*2
270 RX=INT(RND(0)*10)+28:RY=(INT(RND(0)*9)+1)*2
280 SC=0:DO=INT(RND(0)*6)+1:TS=RND(0)*500+500
290 POSITION PX,PY:PRINT CHR$(27);CHR$(27)
300 POSITION RX,RY:PRINT CHR$(16)
310 IF KF THEN 360
320 J=STICK(0)
330 NX=PX+(J>=5 AND J<=7)-(J>=9 AND J<=11)
340 NY=PY+(J=5 OR J=9 OR J=13)-(J=6 OR J=10 OR J=14)
350 GOTO 390
360 K=PEEK(764):POKE 764,255
370 NX=PX+(K=0 OR K=8 OR K=34)-(K=1 OR K=11 OR K=37)
380 NY=PY+(K=32 OR K=34 OR K=37)-(K=8 OR K=11 OR K=13)
390 IF PX=NX AND PY=NY THEN 520
400 IF NX=0 OR NX=39 OR NY=0 OR NY=22 THEN 650
410 LOCATE NX,NY,P:POSITION NX,NY:PUT #6,P
420 IF P=32 THEN 470
430 IF P<>35 THEN 520
440 POSITION 0,23
450 IF NX<>DR(DO,1) OR NY<>DR(DO,2) THEN PRINT "LOCKED
!";:GOTO 510
460 PRINT "UNLOCKED!";
470 POSITION PX,PY
480 PRINT CHR$(32+3*(PX=DR(DO,1) AND PY=DR(DO,2)))
```

WHAT'S IN STORE
SOFTWARE GUIDE

EDUCATION/FUN LEARNING

Title Manufacturer Price	Brief description	Hardware/ Equipment required	Backup policy	Ratings O	D	EH	GQ	EU	V
FACTOR BLAST Hayden Software 600 Suffolk St. Lowell, MA 01854 (800) 343-1218 $19 ©1983	Take on the computer or a friend and out-factor your foe in a riveting little game that tests strategy as well as factoring skills. For kids ages 10+. —MORRIS	Reviewed on Apple II plus/IIe, 48K. Also for Atari, 48K; C 64; IBM PC (w/color graphics card)/ PC*jr*. Joystick optional.	90-day warranty; $10 fee thereafter, if user-damaged, or for backup.	★★★	★★★	★★★	★★★	E	★★★★
FAY'S WORD RALLY Didatech Software 810 W. Broadway, Suite 549 Vancouver, B.C. V5Z 4C9 (604) 687-3468 $29 ©1984	Early readers, ages 5+, drive around a race course, finding words that fit clues provided along the way. Parents may use the 80 nine-word sets provided on disk, and readjust the point system, car speed, and more. —BUMGARNER	Reviewed on Apple II series, 48K. Also for C 64.	90-day warranty; $10 fee for backup.	★★★	★★★	★★★★	★★★	D	★★
MYSTERY SENTENCES Scholastic Software 730 Broadway New York, NY 10003 (212) 505-3567 $39 ©1984	Kids, ages 8+ (adults, too), complete sentences displayed with all or some letters missing. Entrancing game beefs up knowledge of sentence structure, parts of speech, and spelling.† —BUMGARNER	Apple II series, 48K.	60-day warranty; $5 fee thereafter.	★★★★	★★★★	★★★★	N/A	E	★★★★
PRESIDENT'S CHOICE Spinnaker Software One Kendall Square Cambridge, MA 02139 (617) 494-1200 $39 ©1984	As the chief executive trying to keep your seat at the polls, you make political decisions in response to national events, adviser recommendations, etc. For ages 12+, program captures frustrations and flavor of presiding.† —BUMGARNER	IBM PC/PC*jr*, 128K. Versions planned for Apple II series; C 64.	30-day warranty; $5 fee thereafter.	★★★	★★★★	★★★★	★★	A	★★★
PROBLEM-SOLVING STRATEGIES MECC 3490 Lexington Ave. N. St. Paul, MN 55112 (612) 481-3500 $29 ©1983	Different ways to solve problems introduced in this well-organized but dry and somewhat limited package developed for schools, and just released for the home. For ages 9–14. —MORRIS	Apple II series, 48K.	Unlimited warranty.	★★	★	★★	★★★	★★	★★
SMARTLOGO Coleco Industries 999 Quaker Lane S. West Hartford, CT 06110 (800) 842-1225 $75 ©1984	Excellent implementation of Logo, the famous learning language, features great graphics and documentation. Kids, 5+, learn basics of programming and early geometric principles while exploring freely. Fun for everyone. —DAVENPORT	Coleco ADAM.	90-day warranty.	★★★★	★★★★	★★★★	★★★★	E	★★★★
THE MILLENIUM ALMANAC: 1985 Millennium Group Inc. 24 E. 22nd St. New York, NY 10010 (212) 674-0040 $49 ©1985	A computer compendium packed with information—both trivial and useful. Includes daily entries which you tailor for your own use, plus a few extras, such as checkbook. Unusual application for junior high and up. —BUMGARNER	Reviewed on Apple II series, 48K. Also for IBM PC/PC*jr*, 128K.	60-day warranty; $3.50 thereafter or if user-damaged.	★★★	★★★	★	★★★	A	★★★
THE SEA VOYAGERS CBS Software 1 Fawcett Place Greenwich, CT 06836 (203) 622-2500 $39 ©1984	Leaf through this electronic guide to the explorers. Learn their dates, sponsoring nations, and expedition routes. Then test your knowledge with three game-like quizzes. For ages 8+.† —MORRIS	Reviewed on Apple II series, 48K. Also for C 64; IBM PC (w/ graphics card), 64K.	90-day warranty.	★★★	★★★★	★★★	★★★	E	★★★

RATINGS KEY **O** Overall performance; **D** Documentation; **EH** Error-handling; **GQ** Graphics quality; **EU** Ease of use; **V** Value for money; ★ Poor; ★★ Average; ★★★ Good; ★★★★ Excellent; N/A Not applicable; E Easy; A Average; D Difficult; † Longer review follows chart

SOFTWARE GUIDE

GAMES REVIEWS BY JAMES DELSON

Title Manufacturer Price	Brief description	Hardware/ Equipment required	Backup policy	Ratings O	D	PS	GQ	EU	V
ADVENTURE MASTER CBS Software 1 Fawcett Place Greenwich, CT 06836 (203) 622-2500 $44 ©1984	Detailed text- and text/graphic-adventure building set requires hundreds of hours to learn, plan out, and execute full-fledged games. For many, ages 12+, it'll be worth the effort.†	Reviewed on C 64. Also for Apple II series, 48K; Atari, 48K; IBM PC/PCjr, 128K.	90-day warranty; $5 fee thereafter.	★ ★ ★	★ ★ ★	★ ★	★ ★	A	★ ★ ★
DAM BUSTERS Coleco Industries 999 Quaker Lane S. West Hartford, CT 06110 (800) 842-1225 $30 ©1985	Choose a route to the famous Ruhr river dams that supply electric power to Nazi factories. Fight enemy planes and avoid antiaircraft in your attempt to seek out and destroy dams. For ages 12+.	Coleco ADAM.	90-day warranty.	★ ★ ★	★ ★ ★	★ ★ ★	★ ★	A	★ ★ ★
HELLFIRE WARRIOR Epyx, Inc. 1043 Kiel Court Sunnyvale, CA 94089 (408) 745-0700 $29–$35 ©1985	Fourth in *Apshai* role-playing adventure series features more combat options, an apothecary, and an armory for player use. Still one of the best adventure series around for ages 12+.	Reviewed on Apple II series, 48K. Also for Atari, 32K (d. and cass.).	30-day warranty; $10 fee thereafter.	★ ★ ★ ★	★ ★ ★ ★	★ ★ ★	★ ★	A	★ ★ ★ ★
JURY TRIAL II Navic Software Box 14727 N. Palm Beach, FL 33408 (305) 627-4132 $49 ©1984	Entertaining multiplayer or solitaire game lets you take on the role of defense or prosecuting attorney in various criminal cases. Different sort of party game for ages 12+.	Reviewed on Apple II series, 48K. Also for C 64; IBM PC/PCjr, 64K.	Unlimited warranty (includes user-damaged); $7.50 fee for backup.	★ ★ ★	★ ★	★ ★ ★	N/A	A	★ ★
KAMPFGRUPPE Strategic Simulations 883 Stierlin Rd., Bldg. A- 200 Mountain View, CA 94043 (415) 964-1353 $59 ©1985	One or two players or teams select their own units or use computer-supplied forces to fight out historical or imaginary scenarios. Construction-set features allow for great variety for advanced players, 12+.	Reviewed on Apple II series, 48K. Also for Atari, 48K; C 64.	30-day warranty; $10 fee thereafter, if user-damaged, or for backup.	★ ★ ★ ★	★ ★ ★ ★	★ ★ ★ ★	★ ★	D	★ ★ ★
MAIL-ORDER MONSTERS Electronic Arts 2755 Campus Drive San Mateo, CA 94403 (415) 571-7171 $32 ©1985	Strategy/arcade game, with role-playing elements, enables you to build a stable of your very own fighting creatures, outfit and arm them as you see fit, and send them into combat. For ages 10+.†	C 64 (d.). Joystick.	30-day warranty; $5 fee thereafter.	★ ★ ★ ★	★ ★ ★ ★	★ ★ ★ ★	★ ★	A	★ ★ ★ ★
REFORGER '88 Strategic Simulations 883 Stierlin Rd., Bldg A- 200 Mountain View, CA 94043 (415) 964-1353 $59 ©1984	Exciting, frighteningly realistic simulation of potential Warsaw Pact invasion of NATO-defended Germany. For one-to-two intermediate or advanced players, ages 12+.†	Reviewed on Atari, 48K. Also for Apple II series, 48K.	30-day warranty; $10 fee thereafter, if user-damaged, or for backup.	★ ★ ★ ★	★ ★ ★	★ ★ ★	★ ★	D	★ ★ ★
SARGON III Hayden Software 600 Suffolk St. Lowell, MA 01854 (800) 343-1218 $49 ©1984	Play solitaire against computer in variety of skill levels, alter. setup, study selection of championship games, and practice different tactics. For ages 10+.†	Reviewed on Apple II series, 48K. Also for Macintosh; C 64; IBM PC/PCjr, 128K.	90-day warranty; $10 fee thereafter.	★ ★ ★ ★	★ ★ ★ ★	★ ★ ★ ★	★ ★	A	★ ★ ★ ★
SWORD OF KADASH Penguin Software P.O. Box 311 Geneva, IL 60134 (312) 232-1984 $34 ©1985	Travel through a vast dungeon, fighting monsters, accumulating experience points to develop skills. Find and escape with the Sword of Kadash. Fast-moving solo play for ages 12+.	Reviewed on Apple II series, 48K. Also for C 64.	60-day warranty (includes user-damaged); $5 fee thereafter.	★ ★ ★	★ ★	★ ★ ★	★ ★	D	★ ★ ★
TYCOON Blue Chip Software 6740 Eton Ave. Canoga Park, CA 91303 (818) 346-0730 $39–$59 ©1984	Speculate on future values of crude oil, gold, pork bellies, and more. Takes time to learn, but this complex, challenging financial game for ages 12+ has a long shelf life.	Reviewed on Apple II series, 48K. Also for Macintosh; C 64; IBM PC/PCjr, 128K (double-sided disk drive).	90-day warranty (includes user-damaged); $5 fee thereafter; $15 for backup.	★ ★ ★	★ ★ ★	★ ★ ★	★ ★	D	@

RATINGS KEY **O** Overall performance; **D** Documentation; **PS** Play system; **GQ** Graphics quality; **EU** Ease of use; **V** Value for money; ★ Poor; ★★ Average; ★★★ Good; ★★★★ Excellent; N/A Not applicable; E Easy; A Average; D Difficult; † Longer review follows chart; @ ★★ to ★★★, depending on price

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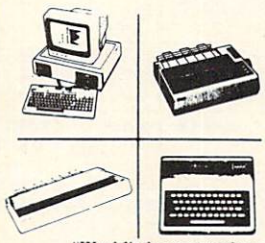
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