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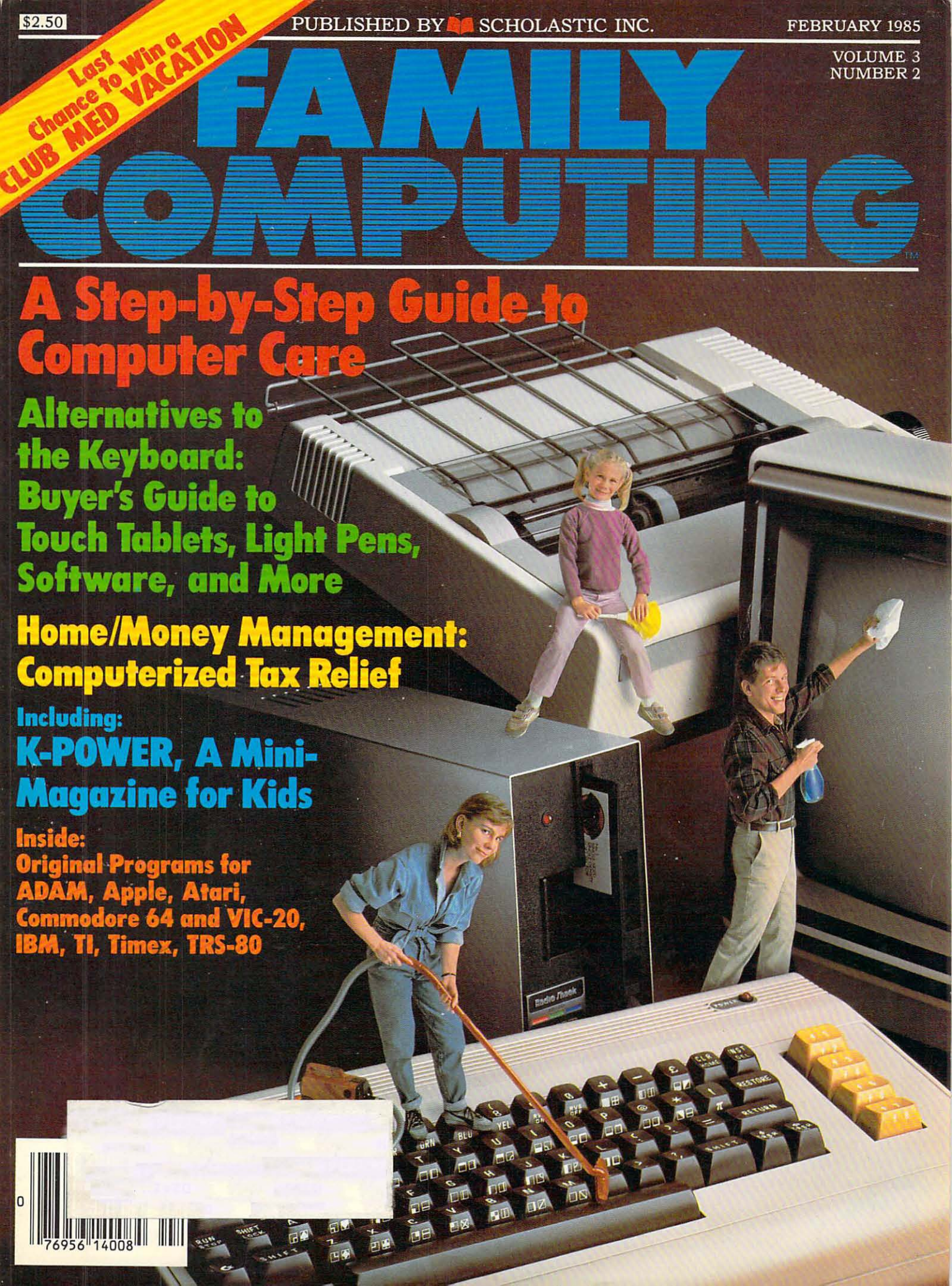

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FAMILY COMPUTING™

VOLUME 3
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Last Chance to Win a Club Med Vacation!

Check out the FAMILY COMPUTING "Computing Family of the Year" Contest. Your family could win an exotic getaway. See details on page 75.

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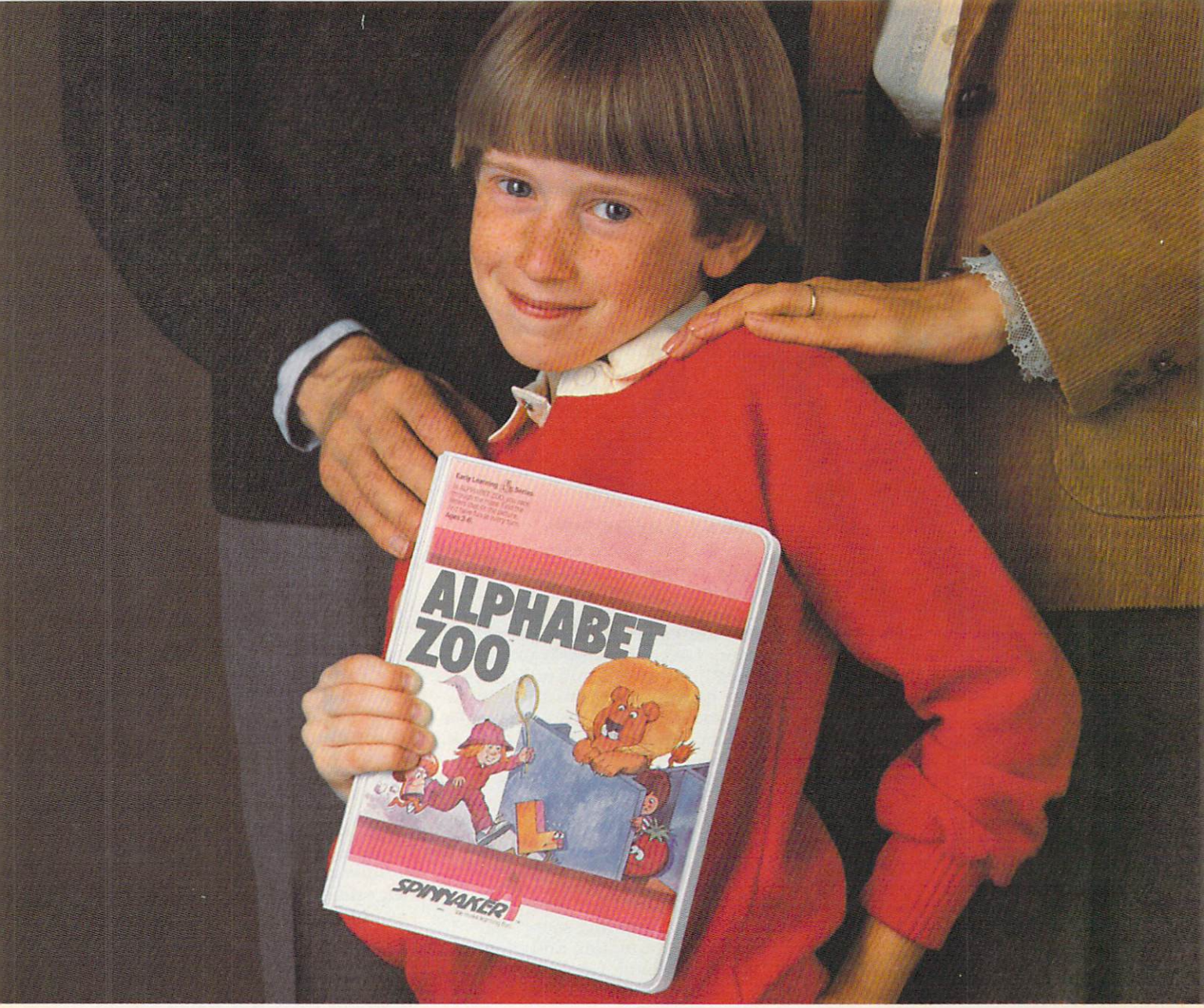

Finally, computer games you want your kids to play.

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But some of our biggest fans are parents.

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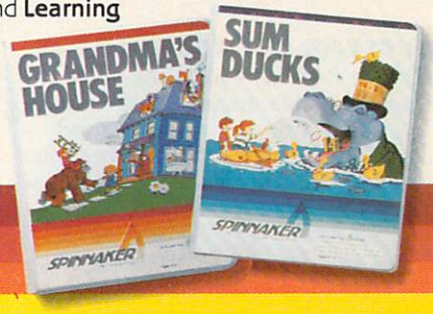

SPINNAKER™

We make learning fun.

Disks for: Apple,® Atari,® IBM® PC and PCjr and Commodore 64.™

Cartridges for: ColecoVision,® Coleco Adam,™ Atari,® IBM® PCjr and Commodore 64.™

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A GUIDE TO YOUR COMPUTER'S SPECIAL SERVICE NEEDS

There are general guidelines for computer care and maintenance that apply to all different types of machines. Yet, every system has its special features, and each computer manufacturer has its own policies for care and repair. The following guide will help direct you to some of the specific information you'll need for your brand of computer.

ADAM

Take extra care with disks and data packs if you have an ADAM. Don't leave software on top of the printer, because it emits strong magnetic fields that can harm your programs. In fact, don't put the monitor on top of the rest of the unit; it wasn't built to take the pressure and won't be shielded from the magnetic field. Be sure to remove data packs from the drive after use—and never turn the machine on or off with a data pack in the drive! Coleco says many people have ruined their data packs by doing that—but also says that some data packs that aren't working properly are easy to fix. According to the manufacturer, customers should take a troublesome data pack out of its case and tap it a couple of times on each side against a hard surface such as a tabletop.

Since January 1984, Honeywell has been servicing the ADAM. Forty centers opened during the year and there are more to follow; each has state-of-the-art equipment and highly trained personnel. (Call your local branch of Honeywell for information.) At ADAM's toll-free number, listed in the accompanying box, you'll reach technicians who can help you to isolate any problems with your system. For further help, consult *Adam's Companion*, by Ramsey J. Benson and Jack B. Rochester, published by Avon Books.

APPLE

Apples tend to be reliable, and the AppleCare service contract and policies are some of the most complete in the business. Authorized dealers—there are about 2,000—keep a complete parts kit on the shelves; they are specially trained by the company in a stringent repair procedure. Apple claims that 60 to 80 percent of all carry-in repairs are completed within 24 hours. The dealers can insert a new part and send the old, malfunctioning part to a huge center in Dallas for reconditioning.

Most complaints are about electromechanical components. And, the company's policy of refusing to sell parts or service manuals directly to its customers is oppressive and inconvenient. If you have an Apple, get to know your authorized repair person. And, call an Apple End-User Technical Support number (*see box*) if there's any extended problem with or delay in service—Apple says it wants to know.

ATARI

This corporation has undergone tremendous changes since its takeover last July by former Commodore chief Jack Tramiel. The problems that plagued Atari before and during the ownership transition—including poor computer repair service—are rapidly diminishing. Most notably, Atari is beefing up support and information for its 1,500 service centers.

If your malfunctioning computer and peripherals are under the 90-day warranty, you can exchange them at the place of purchase. After that, most repairs will be handled at local Atari service centers. You can find the one nearest you by calling the customer service number: (408) 745-4851. Repairs that can't be handled by the local center can go to Atari's main factory in California: 390 Caribbean Drive, Sunnyvale, CA 94089.

COMMODORE

C 64s and Commodore disk drives originally had a high defect rate; this has now improved. The company has one of the largest and

REACH OUT AND ASK SOMEONE!

When your computer gets sick and you don't know who to call, these are the first numbers to try, and luckily, plenty of them are toll-free! They are "authorized" listings provided by manufacturers to guide distressed owners through the maze of conflicting recommendations and regulations. There's a whole range of service personnel—some are helpful, others aren't. It's best if you have specific questions.

ATARI: The customer service number is (408) 745-4851. Atari has approximately 1,500 service centers around the country. Check your local phone book for the location nearest you.

APPLE: Call (800) 538-9696 for the address of your local authorized repair center. If . that doesn't work out, try the End-User Technical Support number closest to you.
Boston area:
(617) 481-8101
Charlotte, North Carolina:
(704) 527-6170
Chicago area:
(312) 577-4102
Dallas area:
(214) 245-0228
Ontario, Canada:
(416) 444-6803
Southern California:
(714) 660-1898
Northern California:
(408) 745-6731
Apple's main offices are located at 20525 Mariani Ave., Cupertino, CA 95014.

COLECO: Call (800) 842-1225; in Canada, call (800) 361-2122. Supplies, including a pamphlet on checking your system and troubleshooting, are available from Coleco, 999 Quaker Lane S., West Hartford, CT 06110.

COMMODORE: Try (800) 441-5999 for service information, or contact the manufacturer's service center that is closest to you: 1200 Wilson Drive, Box 11, West Chester, PA 19380; (215) 431-9100; or Commodore Business Machines, Midwest Region, 2246 N. Palmer Drive, Schaumburg, IL 60195; (312) 397-0075.

IBM: Call (800) 426-3333 for general information. For info on service contracts and supplies, call (800) IBM-2468 (ask for Systems Product Division). Also, check your phone book under IBM Product Centers.

TANDY/RADIO SHACK: Call (800) 433-5502 for contract service. For technical information, try (817) 338-2392 (hardware, large computers including the TRS-80 Models I–16); (817) 338-2393 (hardware, small machines such as the CoCo and Model 100); (817) 338-2395 ("home" software); or (817) 338-2396 (educational software).
The main offices are at 1800 One Tandy Center, Fort Worth, TX 76102.

TEXAS INSTRUMENTS: If you call the Home Computer Service Information number, (800) 842-2737, you'll get the address of the service center located closest to you. For more information, try the TI Response Center at (800) 842-3200.
If you bought your computer through Triton, you can get service information at its toll-free number: (800) 227-6900.

TIMEX: There is no toll-free number. The number for the one authorized repair center in Little Rock, Arkansas, is (501) 370-0534. You can get service information at the Timex headquarters in Waterbury, Connecticut: (203) 370-6936.

USERS' GROUPS
HOW TO FIND A

BY JACQUELINE AUSTIN

The beginning of the year means lots of new computer owners around, and that means plenty of happy and confused people exploring the joys and frustrations of getting to know their machines.

Most computer owners find that one of the best places to turn with questions is a users' group. There you'll find kindred spirits; hot tips; the inside story on free software, new programs, and peripherals; programming advice; and someone who can tell you where to find that cable (the one you didn't even know you needed) for $3 instead of $30.

To find the nearest users' group, ask at your local computer store or call the computer-science department of a nearby college for information. If you have access to an electronic network such as CompuServe or The Source, or if you can tap into a computer bulletin board, check there for information. Your community librarian, adult-education specialist, and computer repair shop are other good sources. Finally, here's a list of leads, arranged by computer brand, for you to pursue. Remember: New users' groups are formed all the time, and addresses and meeting dates change often, so keep an eye out for announcements and stay in touch with your computer's manufacturer. And, on the following page, we tell you how to start your own group.

ADAM

Coleco does not sponsor ADAM users' groups, but it does keep a list of existing groups and supports their efforts. To find one in your area, contact: Coleco, 999 Quaker Lane S., West Hartford, CT 06110.

APPLE

Apple users' groups are independent of the manufacturer. One of the largest groups—The International Apple Core, 908 George St., Santa Clara, CA 95050—may be able to refer you to people in your area. The organization keeps a list of 320 other users' groups!

ATARI

Although Atari used to maintain a list of users' groups, the company will no longer be doing so. It will, however, refer you to Atari Users' Groups International (AUGI). That group will publish information for users' groups and help them communicate with each other, as well as with Atari (which promises to lend support to AUGI). At the moment, only users' groups, not individuals, can join AUGI, which plans to match people who send postcard requests to already existing local users' groups. Write to: Ike Hudson, AUGI, P.O. Box 16132, Lansing, MI 48901.

Antic Magazine, which specializes in Atari computers, plans monthly conferences on the CompuServe and PLATO networks with presidents of users' groups, and will list on-line directories of users' group addresses.

COMMODORE

There is an extensive network of independent Commodore users' groups across the country. The manufacturer is helping out by appointing a representative to coordinate support for them. Write to: Pete Baczor, User Group Coordinator, c/o Commodore, 1200 Wilson Drive, West Chester, PA 19380; (215) 431-9100. Baczor is planning a newsletter and is most interested in talking to people who want to start up their own groups. One especially large and active users' group is the Pittsburgh Commodore Group, 2015 Garrick Drive, Pittsburgh, PA 15235, which publishes a monthly newsletter for all Commodore owners. VIC-20 owners can write to the VIC-20 Computer Club, 4071 Edgewater Drive, Orlando, FL 32804.

IBM

IBM groups, like Apple's, are independent of the manufacturer. Call your local IBM Product Center or Computerland for leads. PC, 80 Wall St., No. 614, New York, NY 10005; (212) 533-NYPC, is a large group of IBM users and may be able to refer you to a club in your area. Also try: IBM PC Club and News, 9120 Grammercy Drive, No. 416, San Diego, CA 92123.

TANDY/RADIO SHACK

Most owners of these machines should have little trouble finding users' groups since there are 9,000 Radio Shack Computer Centers around the world. Call or visit your local store for information, or write TRS-80 User's Group Inc., P.O. Box 3912, Odessa, TX 79760 or The International Color Computer Club, 2101 E. Main St., Henderson, TX 75652.

TEXAS INSTRUMENTS

Since Texas Instruments has left the personal computer business, users' groups are independent of the manufacturer. Try the Delaware Valley User's Group, P.O. Box 6240, Stanton Branch, Wilmington, DE 19804; 99'er TI User's Group, P.O. Box 1381, Maitland, FL 32751; or Chicago TI-99/4A User's Group, Triton College, River Grove, IL 60171.

TIMEX SINCLAIR

Like TI owners, Timex users' groups are on their own. Try Triangle Sinclair User's Group, c/o Douglass Dewey, 205 James St., Carlboro, NC 27510; Sinclair End User's Group, 2170 Oakbrook Circle, Palatine, IL 60067; or Z-X Timex Group, 950 Cynthia Drive, Titusville, FL 32780.

JACQUELINE AUSTIN *is the author of this month's cover story on computer care.*

USERS' HOW TO START A GROUP

BY TAYLOR BARCROFT

You want to join a users' group, but there isn't one in your city for people who own your brand of computer. Or maybe you're in a smaller town and no one has gotten a group going yet. No matter. Starting up a group of your own may take some effort, but the rewards should be worth it.

Most users' groups, or computer clubs, get together once a month at a school, library, computer store, or other meeting place. Often, additional meetings are held by subgroups of members and are called Special Interest Groups (SIGs). SIGs usually meet at a member's home, since they are small groups. Dues average about $10 to $30 a year, depending on the range of activities. That money can be used to rent a meeting room, cover postage for a newsletter, and maintain a software library.

Here's a list of suggested steps to take in forming your group.

1

PICK A NAME

Create a catchy name for your group that reflects the geographic scope you want to include as well as the computer brand, such as "The Big Sky 99ers," "Frederick Apple Core," or "The Greater Gulf Coast Computer Club."

2

SEND OUT A PRESS RELEASE

Use your computer's word-processing capabilities to generate an announcement about the group. Send it to magazines, newspapers, and radio and TV stations, marked ATTENTION: COMPUTER NEWS EDITOR. List your name, address, and phone number at the end.

3

MAKE A POSTER

Put together a one-page announcement/poster you can photocopy and tack up on bulletin boards at school, in computer stores, and at other locations in your area. Include your phone number on the poster, and ask people interested in joining the group to call you.

4

CREATE A LIST OF OWNERS

As calls come in, take down phone numbers and addresses, preferred nights for meeting, age, special interests, and previous computer experience.

5

FIND A MEETING PLACE

You may also ask callers if they know of a meeting place you could get free or cheap.

6

ANNOUNCE & HOLD THE FIRST MEETING

Once the date and place are all set, go through steps 2 and 3 again, plus phone the people on your initial membership list to announce the first meeting. Make it informal and discuss opinions on what the group should be and do. Collect dues. Agree on the time and place of the next meeting. Start SIGs. Choose a newsletter publishing team.

7

PUBLISH A NEWSLETTER

Create a newsletter/membership application and dues-request form. Mail it to all who have called so far, plus any new callers. Repeat steps 2 and 3.

8

ELECT OFFICERS

At the third meeting, elect officers. Then carry on.

TAYLOR BARCROFT *founded the ADAM Users of America. For information on his users' group write to P.O. Box 2178, Huntington Beach, CA 92647.*

the Programmer

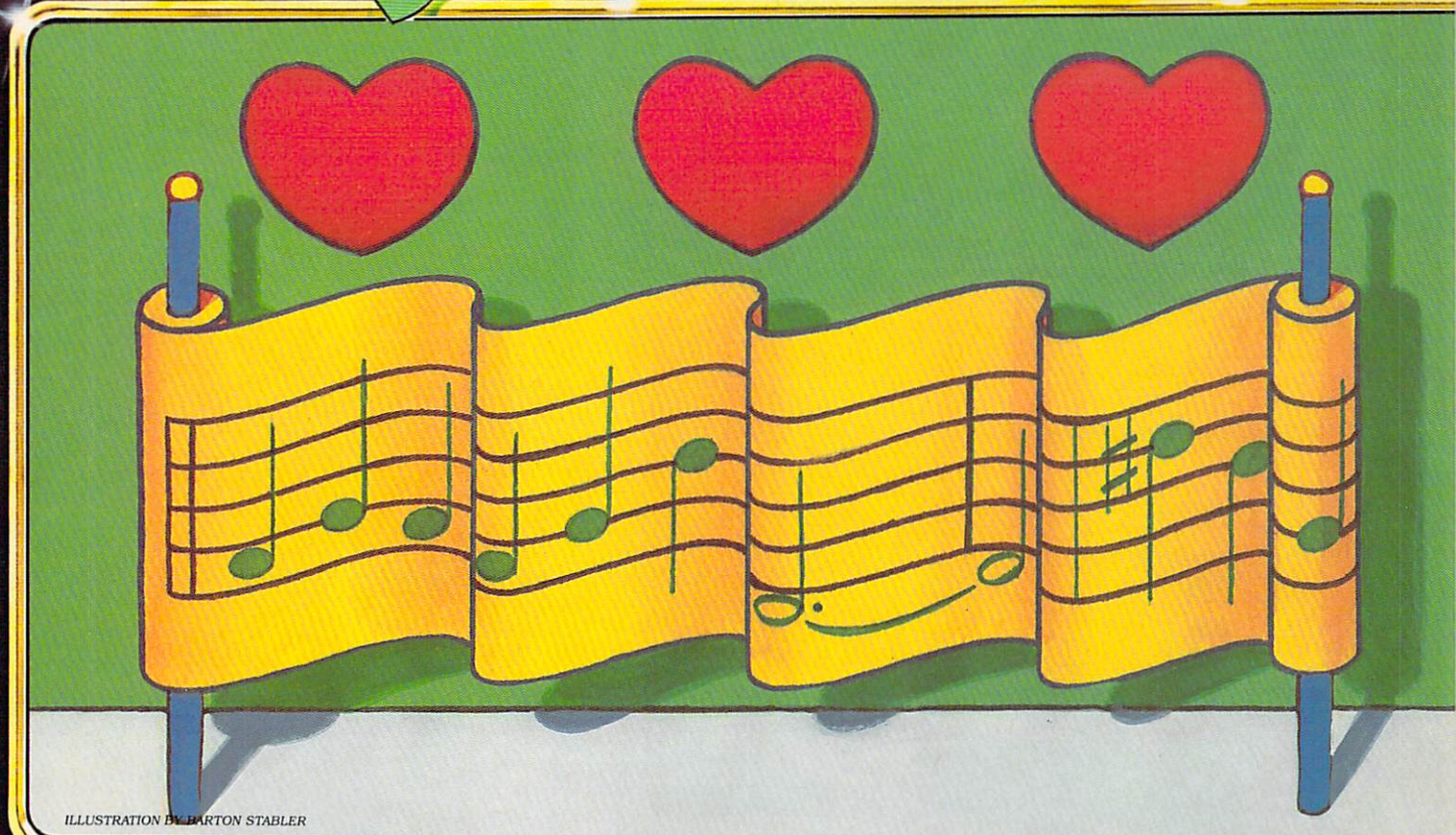


ILLUSTRATION BY BARTON STABLER

★ F E B R U A R Y ★

WINTER PROGRAM
Page 62

Make your sweetie a high-tech *Computer Valentine.*

PUZZLE
Page 72

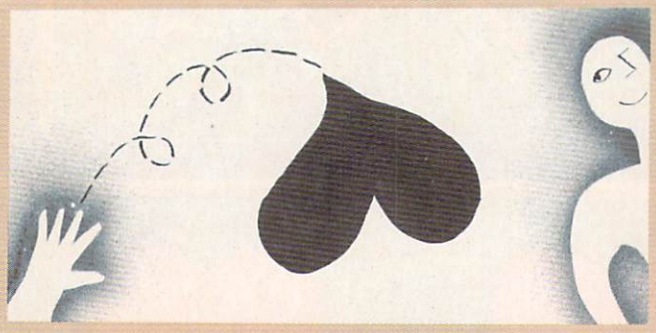
Turn your computer into a piano. Then discover the musical key to get you out of a tight spot.

PROGRAMMING P.S. Page 70 Sorry, we goofed! Corrections to previous programs.

ILLUSTRATION BY JIM CHERRY III

COMPUTER VALENTINE

BY JOEY LATIMER



They say all's fair in love and war—so nowadays, when war is a game played by computers, shouldn't love be enhanced by high technology as well?

This Valentine's Day, why not prove to your sweetie that computers aren't the cold machines they're cracked up to be. In fact, they're all heart, as our *Computer Valentine* amply demonstrates!

ADAM/*Computer Valentine*

```
10 TEXT
20 HOME
30 PRINT TAB(7);"-COMPUTER VALENTINE-"
40 PRINT
50 PRINT "Press <RETURN> after"
60 PRINT "each reply."
70 PRINT
80 PRINT "Who is this"
90 INPUT "valentine for?";n$
100 PRINT
110 INPUT "Who is it from?";f$
120 HOME
130 PRINT "Press any key, then go"
140 PRINT "get ";n$;"."
150 GET r$
160 HOME
170 GR
180 COLOR= 15
190 FOR ro = 0 TO 39
200 HLIN 0,39 AT ro
210 NEXT ro
220 COLOR= 9
230 FOR co = 7 TO 20
240 READ a,b
250 VLIN a,b AT co
260 VLIN a,b AT 40-co
270 NEXT co
280 COLOR= 0
290 FOR x = 1 TO 6
300 READ a,b,ro
310 FOR co = b TO a STEP -1
320 PLOT co,ro
330 NEXT co,x
340 FOR x = 1 TO 4
350 READ ro,y
360 FOR co = y TO y+2
370 COLOR= co-y+7
380 PLOT co,ro
390 NEXT co,x
400 d$="*"
410 FOR x = 1 TO 15
420 d$ = d$+"-*"
430 NEXT x
440 m$ = ", you turn my heart upside down!  Will you b
e my Valentine?  Love, "
450 m$ = d$+" "+n$+m$+f$+" "+d$
460 HOME
470 FOR x = 1 TO LEN(m$)-31
480 VTAB 22
490 PRINT MID$(m$,x,31)
500 FOR d = 1 TO 100:NEXT d
510 NEXT x
520 GOTO 470
1000 DATA 19,27,17,29,15,31,13,32,12,33,11
1010 DATA 34,10,35,9,35,8,35,7,34,6,33,5
1020 DATA 32,4,31,3,30,32,36,16,2,17,16,4,4
1030 DATA 14,3,4,15,3,4,17,4,4,18,14,35,15
1040 DATA 34,17,34,18,35
```

Apple/*Computer Valentine*

```
10 TEXT
20 HOME
30 PRINT TAB(11);"-COMPUTER VALENTINE-"
40 PRINT
50 PRINT "PRESS <RETURN> AFTER EACH REPLY."
60 PRINT
70 INPUT "WHO IS THIS VALENTINE FOR?";N$
80 PRINT
90 INPUT "WHO IS IT FROM?";F$
100 HOME
110 PRINT "PRESS ANY KEY, THEN GO GET ";N$;".";
120 GET R$
130 HOME
140 GR
150 COLOR= 15
160 FOR RO = 0 TO 39
170 HLIN 0,39 AT RO
180 NEXT RO
190 COLOR= 9
200 FOR CO = 7 TO 20
210 READ A,B
220 VLIN A,B AT CO
230 VLIN A,B AT 40-CO
240 NEXT CO
250 COLOR= 0
260 FOR X = 1 TO 6
270 READ A,B,RO
280 FOR CO = B TO A STEP -1
290 PLOT CO,RO
300 NEXT CO,X
310 FOR X = 1 TO 4
320 READ RO,Y
330 FOR CO = Y TO Y+2
340 COLOR= CO-Y+8
350 PLOT CO,RO
360 NEXT CO,X
370 D$ = "*"
380 FOR X = 1 TO 20
390 D$ = D$+"-*"
400 NEXT X
410 M$ = ", YOU TURN MY HEART UPSIDE DOWN!  WILL YOU B
E MY VALENTINE?  LOVE, "
420 M$ = D$+" "+N$+M$+F$+" "+D$
430 HOME
440 FOR X = 1 TO LEN(M$)-40
450 VTAB 22
460 PRINT MID$(M$,X,40)
470 FOR D = 1 TO 85:NEXT D
480 NEXT X
490 GOTO 440
1000 DATA 19,27,17,29,15,31,13,32,12,33,11
1010 DATA 34,10,35,9,35,8,35,7,34,6,33,5
1020 DATA 32,4,31,3,30,32,36,16,2,17,16,4,4
1030 DATA 14,3,4,15,3,4,17,4,4,18,14,36,15
1040 DATA 35,17,35,18,36
```

ILLUSTRATION BY JOSH GOSFIELD

A MUSICAL DEPARTURE

Turn Your Computer Into a Piano; Then Discover the Secret

PUZZLE BY PETER FAVARO AND SARAH KORTUM
PROGRAM BY STEVEN C.M. CHEN

If you're a music fan but not a puzzle fan, you can still use this program to play music on your computer's keyboard. See directions under "Computer Piano."

Every big company has its superstar, and American Snacktime, Inc. is no exception. They call Bart Bricker "General Jingle" for his ability to create catchy lyrics that advertise AMSNAX's line of patriotic goodies. No decent TV-watching American could possibly forget Bart's jingle for Uncle Sam's Sugar-Free Dentally Hygienic Snack Bars: "It's a Grand Old Snack" (to the tune of "You're a Grand Old Flag").

It's a grand old snack,
Meant to remove the plaque
From your teeth, from your mouth, from your gums—
Just one tasty chew,
Keeps your breath fresh, too!
Take some with you to share with your chums
And the fun won't stop,
As your dentist's bills drop
Uncle Sam's keeps your teeth so bright!
So rush right out, and buy a bar,
And give Uncle a great big bite!

Bart's gift for writing jingles came naturally, but when there was a particularly challenging new project to be done, Bart relied

ILLUSTRATION BY JOSH GOSFIELD

PETER FAVARO *and* SARAH KORTUM *are contributing editors, and* STEVEN C.M. CHEN *is a contributing technical editor to* FAMILY COMPUTING.

on the approval of his faithful and loving consultants: Spangles the cat and Ulysses the dog (named for Ulysses S. Grant Mints, the product Bart wrote his favorite jingle for) to guide him in the right direction. When Bart came up with a pleasing jingle, Ulysses would howl his approval and Spangles would meow her gracious compliments.

Usually, Spangles and Ulysses got along wonderfully, but occasionally Ulysses' rheumatism got the better of him and the fur would fly. So when Bart went on business trips, he left the care of his pets and his house to Sam, a local youngster. Sam loved animals, but he especially enjoyed taking care of Spangles and Ulysses because it let him poke around in Bart's wonderful house. Bart was a collector of musical memorabilia, and his house was filled with tony and tuneful knicknacks. There were music notes and staffs on everything: the walls, the drinking glasses, even the guest towels. But Sam knew that the largest collection was in Bart's office, the private room where he composed all of his jingles for AMSNAX. Unfortunately, it was the only part of the house that Sam couldn't enter.

As a precaution against theft, Bart used a special musical lock to secure his office. Each key on the lock's keypad played a different musical note, and one could enter or leave the little room only if one played the tune the keypad was currently programmed to accept. Bart changed the tunes weekly, often using jingles from his favorite commercials. But as he was absent-minded, he always left some clue in his office to remind himself of the current tune.

As an additional precaution, anyone sneaking around in Bart's office would trip a weight sensor in the floor that set off an ear-piercing alarm. Spangles and Ulysses didn't weigh enough to trip the sensor and could enter and leave Bart's office at will, through a swinging "pet door" too tiny for adults.

On one particular pet-sitting occasion, the last day found Sam noticing that Spangles was in a frisky mood. After failing to engage a sleepy Ulysses in a game of tag, she waited until he fell asleep on top of the piano bench. Then she leaped hard onto the piano keys, scaring Ulysses half to death. The war was on!

Ulysses jumped to his feet and chased Spangles through the pet door into Bart's office. Peering through the little door, Sam watched in horror as the two animals started shredding Bart's sheet music. If he didn't get in there soon, Sam knew that the office would be wrecked! Taking a deep breath, he compressed his tiny body and slipped through the pet door.

Sam's 70 pounds immediately tripped off the sensor alarm, creating a racket that was sure to bring the local police. Sam knew that he had to discover the current keypad jingle—and quick! Frantically, he looked around the room for some clue to the current tune.

HOW TO PLAY

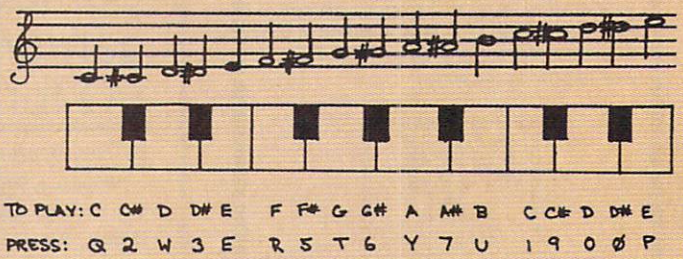
Set your computer to all uppercase letters (except if it's an ADAM) before playing. When you RUN the program, you'll hear the sound of the alarm, and a keypad like the one on Bart's door will appear on the screen. You can play tunes on this keypad by pressing the top letter and number keys (Q2W3ER5T6Y7UI9OOP) on your computer's keyboard, producing corresponding notes as shown below.

You must discover what tune Bart has programmed the keypad to accept. To test a tune, play it on the keypad, then press RETURN or ENTER. If you've guessed right, the alarm will stop, the door will open, and you'll be treated to the full words and music of the current keypad jingle. The keypad will then reappear on your screen, and you can play your favorite tunes to your heart's content without being bothered by that nasty alarm.

If you're stuck, press "H" for a helpful hint. The solution will appear in next month's issue.

COMPUTER PIANO

Retype line 140 (line 80 for Atari, line 380 for TI), omitting REM. For example, on all versions except the Atari and TI, you would just type 140 GOTO 490 and press RETURN or ENTER. Then, when you RUN the program, it will branch directly to the keypad routine.



ADAM/A Musical Departure

```
10 LOMEM: 29000:NORMAL:v = 3
20 DIM a$(4),l$(8),v$(v),ka(18,2),kb(43,2),f(3)
30 dl = 1200:ds = 50:tx = 1:tru = 1:wh = 18:wl = 31
40 e$ = " <RETURN> ":r$ = "!":s$ = " "
50 x$ = "          ":lm = (wl-29)/2+tx
60 b = 28000:FOR i = b TO b+5:READ a:POKE i,a:NEXT i
,0 FOR i = 159 TO 223 STEP 32:POKE b+6,i:CALL 28000:NE
XT i
80 d$= "":FOR i = 1 TO 10:READ a$:d$ = d$+a$:NEXT i
90 FOR i = 1 TO v:v$(i) = "":FOR j = 1 TO 10:READ a$
100 v$(i) = v$(i)+a$:NEXT j,i:FOR i = 1 TO 18
110 FOR j = 1 TO 2:READ ka(i,j):NEXT j,i:FOR i = 1 TO
43:FOR j = 1 TO 2:kb(i,j) = 0
120 NEXT j,i:FOR i = 1 TO 4:READ a$(i):NEXT i:FOR i =
1 TO 17:FOR j = 1 TO 2
130 kb(ASC(MID$(a$(4),i,1))-47,j) = ka(i+1,j):NEXT j,i
140 REM GOTO 490
150 FOR i = 1 TO 8:t$ = "":READ k:FOR j = 1 TO k:READ
a$
160 q = ASC(LEFT$(a$,1))-64:FOR z = 2 TO LEN(a$)
170 n = ASC(MID$(a$,z,1))-q
180 t$ = t$+CHR$(n+tru*26*(n < 65)):NEXT z:t$ = t$+" "
190 NEXT j:l$(i) = LEFT$(t$,LEN(t$)-1):NEXT i
200 HOME
220 n$ = "The alarm is ringing!":GOSUB 1000
230 n$ = "Can you stop it?":GOSUB 1000:GOSUB 3000
240 PRINT:z$ = "Press"+e$+"to see if your tune stops"
250 z$ = z$+" the alarm or <H> for hint.":GOSUB 2000
260 POKE b+6,226:CALL 28000:POKE b+6,240:CALL 28000
270 GOSUB 6000:POKE b+6,255:CALL 28000
280 IF k$ = CHR$(13) THEN 320
290 ON ABS(k$ = "H") GOTO 310:GOSUB 4000
300 x$ = MID$(x$,2,7)+k$:GOTO 260
310 HOME:PRINT:z$ = l$(1):GOSUB 5000:GOTO 200
320 HOME:IF x$ = l$(8) THEN 340
330 z$ = "Nope! Play it again, Sam.":GOSUB 5000:GOTO 2
00
340 HOME:z$ = "The alarm stops, and the door"
350 z$ = z$+" magically opens!":GOSUB 2000:PRINT:PRINT
360 FOR d = 1 TO dl:NEXT d:HOME:c = 2
380 FOR s = 1 TO 49
390 IF s <> 1 AND s <> 15 AND s <> 23 AND s <> 30 AND
s <> 37 AND s <> 44 THEN 410
400 z$ = l$(c):GOSUB 2000:c = c+1:GOTO 420
410 FOR d = 1 TO ds:NEXT d
420 FOR i = 1 TO 3:f = ASC(MID$(v$(i),s,1))-64
430 POKE b+6,ka(f,1)+32*(i-1):CALL 28000
440 POKE b+6,ka(f,2):CALL 28000:NEXT i
450 FOR i = 144 TO 208 STEP 32:POKE b+6,i:CALL 28000
```

```
460 NEXT i:FOR d = 1 TO VAL(MID$(d$,s,1))*200:NEXT d
470 FOR i = 159 TO 223 STEP 32:POKE b+6,i
480 CALL 28000:NEXT i:NEXT s
490 HOME:GOSUB 3000
500 GOSUB 6000
510 GOSUB 4000:GOTO 500
1000 IF LEN(n$) = wl THEN PRINT n$;:RETURN
1010 PRINT TAB((wl-LEN(n$))/2+tx);n$:RETURN
2000 IF LEN(z$) <= wl THEN n$ = z$:GOSUB 1000:RETURN
2010 j = wl+1:k = 1:FOR i = j TO 2 STEP -1
2020 IF MID$(z$,i,1) = " " THEN k = 0:j = i:i = 2
2030 NEXT i:n$ = LEFT$(z$,j-1):GOSUB 1000
2040 z$ = RIGHT$(z$,LEN(z$)-j+k):GOTO 2000
3000 PRINT:FOR i = 1 TO 8:PRINT TAB(lm);:INVERSE
3010 IF i <> 6 THEN  PRINT s$;s$;:GOTO 3040
3020 FOR j = 1 TO 9:PRINT MID$(a$(2),j,1);s$;r$;
3030 NEXT j:PRINT "P";s$:GOTO 3080
3040 FOR j = 1 TO 9:kc = ASC(MID$(a$(3),j,1))
3050 IF i > 6 OR kc = 88 THEN PRINT r$;:GOTO 3070
3060 NORMAL:PRINT CHR$(32+(kc-32)*(i = 5));:INVERSE
3070 PRINT s$;s$;:NEXT j:PRINT
3080 NORMAL:NEXT i:PRINT TAB(lm);:FOR j = 1 TO 10
3090 PRINT MID$(a$(1),j,1);"  ";:NEXT j:PRINT:RETURN
4000 IF k$ = CHR$(3) THEN END
4010 IF k$ < "0" OR k$ > "Y" THEN RETURN
4020 k = ASC(k$)-47:IF kb(k,1) = 0 THEN RETURN
4030 POKE b+6,kb(k,1):CALL 28000:POKE b+6,kb(k,2):CALL
 28000
4040 POKE b+6,144:CALL 28000:FOR d = 1 TO 100:NEXT d
4050 POKE b+6,159:CALL 28000:RETURN
5000 GOSUB 2000:FOR i = 1 TO wh:PRINT:NEXT i
5010 z$ = "Press any key to continue.":GOSUB 2000
5020 GOSUB 6000:RETURN
6000 GET k$:IF k$ < "a" THEN RETURN
6010 k$ = CHR$(ASC(k$)-32):RETURN
7000 DATA 58,102,109,211,255,201
8000 DATA 11111,11111,11121,11111,11111
8010 DATA 11131,11111,11111,11222,2224
8020 DATA IIIIG,FINPR,RRPNN,MKKKM,NMNKI
8030 DATA KIFII,IIIGF,INPRR,RPNNP,PNMN
8040 DATA FFFDD,BFIMN,NMMIL,JGGGJ,KJKGF
8050 DATA GFBDD,FFDDB,FIMNN,MMILK,KIII
8060 DATA BBBAA,BBFII,IIIFI,FBBBG,GGGBB
8070 DATA BBBBA,BBAAB,BFIII,IIFIG,GGGF
8080 DATA 135,28,141,26,133,25,142,23,137,22,133,21
8090 DATA 129,20,143,18,142,17,142,16,143,15,129,15
8100 DATA 131,14,134,13,138,12,143,11,132,11,138,10
9000 DATA CDEFGABCDE,QWERTYUIOP
9010 DATA 23X567X90,Q2W3ER5T6Y7UI900P
9020 DATA 7,GFVB,LMDQ,QEFK,JKD,DXLI,PHYWXJ,MIBYHZR!
9030 DATA 11,LYK,REGMLZ,HPIA,LRQXF,NHVS,FLXKYNTKYY
9040 DATA MBS,KFWJDDPD,PI$,ELWFSY,NAWBHG,6,QZ
9050 DATA IFXDUM,GLHA,PJXUC,EBNYM,JVKCKQXK,7,MV
9060 DATA FCUARJ,QVRK,LFTQY,IFRCQ,TU,JLVSXDJ,6,RA
9070 DATA RSLW,MBAR,PRO,TGCMNUEY,KZYNP,6,EFSI
9080 DATA TC!PY,NZCJSR,KESPX,RWNWJ,EXNSHJ,5,NGC
9090 DATA KELVP,PIECU,MUBZR,QKFURP%,1,EYWJYNTUN
```

Apple/*A Musical Departure*

```
10 NORMAL:V = 1
20 DIM A$(4),L$(8),V$(V),KA(18),KB(43)
30 DL = 1200:DS = 20:TX = 1:TRU = 1:WH = 20:WL = 40
40 E$ = " <RETURN> ":R$ = "!":S$ = " "
50 X$ = "        ":LM = (WL-29)/2+TX
70 FOR I = 768 TO 796:READ A:POKE I,A:NEXT I
80 D$ = "":FOR I = 1 TO 10:READ A$:D$ = D$+A$:NEXT I
90 FOR I = 1 TO V:V$(I) = "":FOR J = 1 TO 10:READ A$
100 V$(I) = V$(I)+A$:NEXT J,I:FOR I = 1 TO 18
110 READ KA(I):NEXT I:FOR I = 1 TO 43:KB(I) = 0:NEXT I
120 FOR I = 1 TO 4:READ A$(I):NEXT I:FOR I = 1 TO 17
130 KB(ASC(MID$(A$(4),I,1))-47) = KA(I+1):NEXT I
140 REM GOTO 490
150 FOR I = 1 TO 8:T$ = "":READ K:FOR J = 1 TO K:READ
A$
160 Q = ASC(LEFT$(A$,1))-64:FOR Z = 2 TO LEN(A$)
170 N = ASC(MID$(A$,Z,1))-Q
180 T$ = T$+CHR$(N+TRU*26*(N < 65)):NEXT Z
190 T$ = T$+" ":NEXT J:L$(I) = LEFT$(T$,LEN(T$)-1):NEX
T I
200 HOME
220 N$ = "THE ALARM IS RINGING!":GOSUB 1000
230 N$ = "CAN YOU STOP IT?":GOSUB 1000:GOSUB 3000:PRIN
T
240 Z$ = "PRESS"+E$+"TO SEE IF YOUR TUNE STOPS THE"
250 Z$ = Z$+" ALARM OR <H> FOR A HINT.":GOSUB 2000
260 POKE 6,20:POKE 8,220:CALL 768
270 K = PEEK(-16384)-128:IF K < 0 THEN 260
280 POKE -16368,0:ON ABS(K = 13) GOTO 320:K$ = CHR$(K)
290 ON ABS(K$ = "H") GOTO 310:GOSUB 4000
300 X$ = MID$(X$,2,7)+K$:GOTO 260
310 HOME:PRINT:Z$ = L$(1):GOSUB 5000:GOTO 200
320 HOME:IF X$ = L$(8) THEN 340
330 Z$ = "NOPE! PLAY IT AGAIN, SAM.":GOSUB 5000:GOTO 2
00
340 HOME:Z$ = "THE ALARM STOPS, AND THE DOOR MAGICALLY
"
350 Z$ = Z$+" OPENS!":GOSUB 2000:PRINT:PRINT
360 FOR D = 1 TO DL:NEXT D:HOME:C = 2
380 FOR S = 1 TO 49
390 IF S <> 1 AND S <> 15 AND S <> 23 AND S <> 30 AND
S <> 37 AND S <> 44 THEN 410
400 Z$ = L$(C):GOSUB 2000:C = C+1:GOTO 420
410 FOR D = 1 TO DS:NEXT D
420 POKE 6,VAL(MID$(D$,S,1))*40
430 POKE 8,KA(ASC(MID$(V$(1),S,1))-64):CALL 768
440 NEXT S
490 HOME:GOSUB 3000
500 GOSUB 6000:IF K$ = CHR$(3) THEN END
510 GOSUB 4000:GOTO 500
1000 IF LEN(N$) = WL THEN PRINT N$;:RETURN
1010 PRINT TAB((WL-LEN(N$))/2+TX);N$:RETURN
2000 IF LEN(Z$) <= WL THEN N$ = Z$:GOSUB 1000:RETURN
2010 J = WL+1:K = 1:FOR I = J TO 2 STEP -1
2020 IF MID$(Z$,I,1) = " " THEN K = 0:J = I:I = 2
2030 NEXT I:N$ = LEFT$(Z$,J-1):GOSUB 1000
2040 Z$ = RIGHT$(Z$,LEN(Z$)-J+K):GOTO 2000
3000 PRINT:FOR I = 1 TO 8:PRINT TAB(LM);:INVERSE
3010 IF I <> 6 THEN PRINT S$;S$;:GOTO 3040
3020 FOR J = 1 TO 9:PRINT MID$(A$(2),J,1);S$;R$;
3030 NEXT J:PRINT "P";S$:GOTO 3080
3040 FOR J = 1 TO 9:KC = ASC(MID$(A$(3),J,1))
3050 IF I > 6 OR KC = 88 THEN PRINT R$;:GOTO 3070
3060 NORMAL:PRINT CHR$(32+(KC-32)*(I = 5));:INVERSE
3070 PRINT S$;S$;:NEXT J:PRINT
3080 NORMAL:NEXT I:PRINT TAB(LM);:FOR J = 1 TO 10
3090 PRINT MID$(A$(1),J,1);S$;S$;:NEXT J:PRINT:RETURN
4000 IF K$ < "0" OR K$ > "Y" THEN RETURN
4010 K = KB(ASC(K$)-47):IF K = 0 THEN RETURN
4020 POKE 6,20:POKE 8,K:CALL 768:RETURN
5000 GOSUB 2000:FOR I = 1 TO WH:PRINT:NEXT I
5010 Z$ = "PRESS ANY KEY TO CONTINUE.":GOSUB 2000
5020 GOSUB 6000:RETURN
6000 GET K$:RETURN
7000 DATA 165,8,74,133,10,164,8,173,48,192,136
7010 DATA 234,234,208,251,165,7,56,229,10,133
7020 DATA 7,176,237,198,6,208,233,96
8000 DATA 11111,11111,11121,11111,11111
8010 DATA 11131,11111,11111,11222,2224
8020 DATA IIIIG,FINPR,RRPNN,MKKKM,NMNKI
8030 DATA KIFII,IIIGF,INPRR,RPNNP,PNMN
8080 DATA 128,121,114,108,102,96,91,85,81,76
8090 DATA 72,68,64,60,57,53,50,47
9000 DATA CDEFGABCDE,QWERTYUIOP
9010 DATA 23X567X90,Q2W3ER5T6Y7UI900P
9020 DATA 7,GFVB,LMDQ,QEFK,JKD,DXLI,PHYWXJ,MIBYHZR!
9030 DATA 11,LYK,REGMLZ,HPIA,LRQXF,NHVS,FLXKYNTKYY
9040 DATA MBS,KFWJDDPD,PI$,ELWFSY,NAWBHG,6,QZ
9050 DATA IFXDUM,GLHA,PJXUC,EBNYM,JVKCKQXK,7,MV
9060 DATA FCUARJ,QVRK,LFTQY,IFRCQ,TU,JLVSXDJ,6,RA
9070 DATA RSLW,MBAR,PRO,TGCMNUEY,KZYNP,6,EFSI
9080 DATA TC!PY,NZCJSR,KESPX,RWNWJ,EXNSHJ,5,NGC
9090 DATA KELVP,PIECU,MUBZR,QKFURP%,1,EYWJYNTUN
```

Atari/A Musical Departure

```
10 DIM TEXT$(235),NTE$(148),DUR$(49),KB$(46),R$(100),B
UF$(8),G$(100),TEXT(10),PITCH(18),KB(43)
20 OPEN #1,4,0,"K:":POKE 82,0:POKE 752,1:SETCOLOR 2,0,
0:BUF$="        "
30 FOR I=1 TO 10:READ R$:DUR$(LEN(DUR$)+1)=R$:NEXT I
40 FOR I=1 TO 30:READ R$:NTE$(LEN(NTE$)+1)=R$:NEXT I
50 FOR I=1 TO 18:READ A:PITCH(I)=A:NEXT I:FOR I=1 TO 4
3:KB(I)=0:NEXT I
60 FOR I=1 TO 4:READ R$:KB$(LEN(KB$)+1)=R$:NEXT I
70 FOR I=30 TO 46:KB(ASC(KB$(I,I))-47)=PITCH(I-29):NEX
T I
80 REM GOTO 370
90 FOR I=1 TO 9:R$="":READ K:FOR J=1 TO K:READ G$
100 Q=ASC(G$)-64:FOR Z=2 TO LEN(G$)
110 N=ASC(G$(Z))-Q
120 R$(LEN(R$)+1)=CHR$(N+26*(N<65)):NEXT Z:R$(LEN(R$)+
1)=" "
130 NEXT J:TEXT(I)=LEN(TEXT$)+1:TEXT$(TEXT(I))=R$(1,LE
N(R$)-1):NEXT I:TEXT(10)=LEN(TEXT$)
140 PRINT CHR$(125):POSITION 10,0:PRINT "THE ALARM IS
RINGING!"
150 POSITION 12,1:PRINT "CAN YOU STOP IT?":GOSUB 2000
160 PRINT "PRESS <RETURN> TO SEE IF YOUR TUNE STOPS";
170 PRINT "      THE ALARM OR <H> FOR A HINT."
180 SOUND 1,25,12,5:SOUND 2,26,12,5
190 GET #1,K
200 ON K=155 GOTO 250:IF K=72 THEN 240
210 IF K<48 OR K>89 THEN 190
220 BUF$=BUF$(2,8):BUF$(8)=CHR$(K)
230 SOUND 0,KB(K-47),10,15:FOR D=1 TO 50:NEXT D:SOUND
0,0,0,0:GOTO 190
240 SOUND 1,0,0,0:SOUND 2,0,0,0:PRINT CHR$(125):POSITI
ON 4,0:PRINT TEXT$(TEXT(1),TEXT(2)-1):GOSUB 3000:GOTO
140
250 SOUND 1,0,0,0:SOUND 2,0,0,0:PRINT CHR$(125);:IF BU
F$=TEXT$(TEXT(9),TEXT(10)) THEN 270
260 POSITION 6,0:PRINT "NOPE! PLAY IT AGAIN, SAM.":GOS
UB 3000:GOTO 140
270 PRINT CHR$(125):POSITION 8,0:PRINT "THE ALARM STOP
S, AND THE"
280 POSITION 10,1:PRINT "DOOR MAGICALLY OPENS!"
290 FOR D=1 TO 1000:NEXT D:PRINT CHR$(125);:C=2
300 FOR S=1 TO 49
310 IF S<>1 AND S<>8 AND S<>15 AND S<>23 AND S<>30 AND
 S<>37 AND S<>44 THEN 330
320 R$=TEXT$(TEXT(C),TEXT(C+1)-1):GOSUB 1000:C=C+1
330 SOUND 0,PITCH(ASC(NTE$(S,S))-64),10,15:SOUND 1,PIT
CH(ASC(NTE$(S+49,S+49))-64),10,5
340 SOUND 2,PITCH(ASC(NTE$(S+98,S+98))-64),10,5
350 FOR D=1 TO VAL(DUR$(S,S))*100:NEXT D:SOUND 0,0,0,0
:SOUND 1,0,0,0:SOUND 2,0,0,0
360 NEXT S
370 PRINT CHR$(125);:GOSUB 2000
380 GET #1,K
390 IF K>=48 AND K<=89 THEN SOUND 0,KB(K-47),10,15:FOR
 D=1 TO 50:NEXT D:SOUND 0,0,0,0
400 GOTO 380
1000 POKE 85,(40-LEN(R$))/2:PRINT R$:RETURN
2000 PRINT :FOR I=1 TO 8:FOR J=0 TO 36 STEP 4
2010 PRINT CHR$(160);CHR$(160-(32-ASC(KB$(11+(J+1)/4,1
1+(J+1)/4)))*(I=7));CHR$(160);
2020 IF J<>8 AND J<>24 AND J<>36 AND I<6 THEN PRINT CH
R$(32-(32-ASC(KB$(21+(J+1)/4,21+(J+1)/4)))*(I=5));:GOT
O 2040
2030 IF J<>36 THEN PRINT CHR$(252);
2040 NEXT J:PRINT :NEXT I
2050 PRINT " ";:FOR I=1 TO 10:PRINT KB$(I,I);"  ";:NE
XT I:PRINT :RETURN
3000 POSITION 7,23:PRINT "PRESS ANY KEY TO CONTINUE.";
:GET #1,K:RETURN
4000 DATA 11111,11111,11121,11111,11111
4010 DATA 11131,11111,11111,11222,2224
4020 DATA IIIIG,FINPR,RRPNN,MKKKM,NMNKI
4030 DATA KIFII,IIIGF,INPRR,RPNNP,PNMN
4040 DATA FFFDD,BFIMN,NMMIL,JGGGJ,KJKGF
4050 DATA GFBDD,FFDDB,FIMNN,MMILK,KIII
```

→

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```
320 CLS:IF X$=L$(8) THEN 340
330 Z$="NOPE! PLAY IT AGAIN, SAM.":GOSUB 5000:GOTO 200
340 CLS:Z$="THE ALARM STOPS, AND THE DOOR MAGICALLY"
350 Z$=Z$+" OPENS!":GOSUB 2000:PRINT:PRINT
360 FOR D=1 TO DL:NEXT D:CLS:C=2
380 FOR S=1 TO 49
390 IF S<>1 AND S<>15 AND S<>23 AND S<>30 AND S<>37 AN
D S<>44 THEN 410
400 Z$=L$(C):GOSUB 2000:C=C+1:GOTO 420
410 FOR D=1 TO DS:NEXT D
420 SOUND KA(ASC(MID$(V$(1),S,1))-64),VAL(MID$(D$,S,1)
)*6-.5:SOUND 32767,.5
440 NEXT S
490 CLS:GOSUB 3000
500 GOSUB 6000:IF K$=CHR$(3) THEN END
510 GOSUB 4000:GOTO 500
1000 IF LEN(N$)=WL THEN PRINT N$;:RETURN
1010 PRINT TAB((WL-LEN(N$))/2+TX);N$:RETURN
2000 IF LEN(Z$)<=WL THEN N$=Z$:GOSUB 1000:RETURN
2010 J=WL+1:K=1:FOR I=J TO 2 STEP -1
2020 IF MID$(Z$,I,1)=" " THEN K=0:J=I:I=2
2030 NEXT I:N$=LEFT$(Z$,J-1):GOSUB 1000
2040 Z$=RIGHT$(Z$,LEN(Z$)-J+K):GOTO 2000
3000 PRINT:FOR I=1 TO 8:PRINT TAB(LM);
3010 IF I<>6 THEN PRINT S$;S$;:GOTO 3040
3020 FOR J=1 TO 9:COLOR 4,7:PRINT MID$(A$(2),J,1);:COL
OR 7,0:PRINT S$;R$;
3030 NEXT J:COLOR 4,7:PRINT "P";:COLOR 7,0:PRINT S$:GO
TO 3080
3040 FOR J=1 TO 9:KC=ASC(MID$(A$(3),J,1))
3050 IF I>6 OR KC=88 THEN PRINT R$;S$;:GOTO 3070
3060 IF I=5 THEN COLOR 4:PRINT CHR$(KC);:COLOR 7,0:PRI
NT R1$; ELSE PRINT " ";R1$;
3070 PRINT S$;:NEXT J:PRINT
3080 NEXT I:PRINT TAB(LM);:FOR J=1 TO 10
3090 PRINT MID$(A$(1),J,1);"  ";:NEXT J:PRINT:RETURN
4000 IF K$<"0" OR K$>"Y" THEN RETURN
4010 K=KB(ASC(K$)-47):IF K=0 THEN RETURN
4020 SOUND K,2.5:FOR D=1 TO 50:NEXT D:RETURN
5000 GOSUB 2000:FOR I=1 TO WH:PRINT:NEXT I
5010 Z$="PRESS ANY KEY TO CONTINUE.":GOSUB 2000
5020 GOSUB 6000:RETURN
6000 K$=INKEY$:IF K$="" THEN 6000 ELSE RETURN
8000 DATA 11111,11111,11121,11111,11111
8010 DATA 11131,11111,11111,11222,2224
8020 DATA IIIIG,FINPR,RRPNN,MKKKM,NMNKI
8030 DATA KIFII,IIIGF,INPRR,RPNNP,PNMN
8080 DATA 247,262,277,294,311,330,349,370,392
8090 DATA 415,440,466,494,523,554,587,622,659
9000 DATA CDEFGABCDE,QWERTYUIOP
9010 DATA 23X567X90,Q2W3ER5T6Y7UI900P
9020 DATA 7,GFVB,LMDQ,QEFK,JKD,DXLI,PHYWXJ,MIBYHZR!
9030 DATA 11,LYK,REGMLZ,HPIA,LRQXF,NHVS,FLXKYNTKYY
9040 DATA MBS,KFWJDDPD,PI$,ELWFSY,NAWBHG,6,QZ
9050 DATA IFXDUM,GLHA,PJXUC,EBNYM,JVKCKQXK,7,MV
9060 DATA FCUARJ,QVRK,LFTQY,IFRCQ,TU,JLVSXDJ,6,RA
9070 DATA RSLW,MBAR,PRO,TGCMNUEY,KZYNP,6,EFSI
9080 DATA TC!PY,NZCJSR,KESPX,RWNWJ,EXNSHJ,5,NGC
9090 DATA KELVP,PIECU,MUBZR,QKFURP%,1,EYWJYNTUN
```

IBM PC*jr* A Musical Departure

```
10 SCREEN 0,1:COLOR 7,0:KEY OFF:LOCATE ,,0:V=1
20 DIM A$(4),L$(8),V$(V),KA(18),KB(43)
30 DL=1200:DS=50:TRU=-1:WH=20:WL=40:WIDTH WL
40 E$=" <ENTER> ":R$=CHR$(221):R1$=CHR$(222):S$=CHR$(2
19)
50 X$="          ":LM=(WL-29)/2+TX
60 SOUND OFF:BEEP OFF
80 D$="":FOR I=1 TO 10:READ A$:D$=D$+A$:NEXT I
90 FOR I=1 TO V:V$(I)="":FOR J=1 TO 10:READ A$
100 V$(I)=V$(I)+A$:NEXT J,I:FOR I=1 TO 18
110 READ KA(I):NEXT I:FOR I=1 TO 43:KB(I)=0:NEXT I
120 FOR I=1 TO 4:READ A$(I):NEXT I:FOR I=1 TO 17
130 KB(ASC(MID$(A$(4),I,1))-47)=KA(I+1):NEXT I
140 REM GOTO 490
```

→

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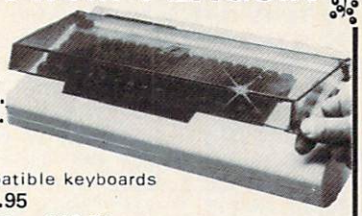

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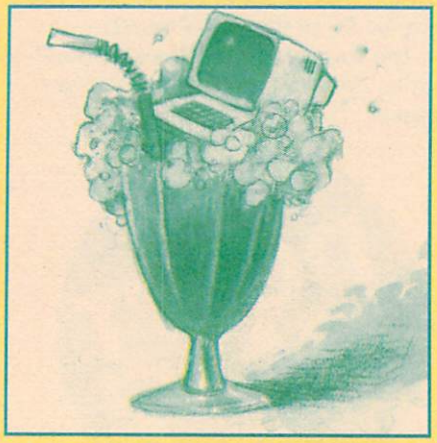
Who Sez Computers Aren't Funny?!

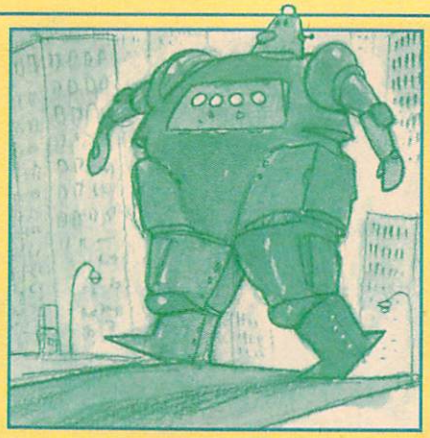
If you're in the mood to laugh, hoot, giggle, snort, and most of all—groan!—read on. K-POWER has assembled the wackiest collection of computer jokes you've ever seen. But credit where credit's due. You wouldn't be reading these jokes if it weren't for the hundreds of K-POWER readers who sent in their favorites for our "Make Me Laugh" contest. Ten winners received K-POWER T-shirts and a free piece of software. The winners are . . .



Q. How do you make a computer float? **A.** Two scoops of ice cream, root beer, and a computer! (Shyla Domaracki, 12, Des Plaines, Illinois)

Q. Why did the computer die suddenly? **A.** It was terminally ill. (Kristine Urbanek, 13, Harper Woods, Michigan)

Q. What do you get when you cross a dwarf with a computer? **A.** A short circuit! (Todd Paulk, 12, Antioch, Tennessee)



Q. What does a 2-ton robot do? **A.** Anything it wants! (Blake Lindner, 14, Pinkneyville, Illinois)

One day in the Wild West, this computer went into a dance hall and ordered a sarsaparilla. As the day came to a close, the bartender asked the computer to pay the bill, which was $1.50. The computer replied, "But sir, I only have 8 bits!" (Matt Jones, 16, Monteview, Idaho)

Q. What do you get when you cross a gorilla with a computer? **A.** A hairy reasoner. (Submitted by both Frank Roff, 15, Snohomish, Washington; and James A. Richards, 16, Hartford, Iowa)

Once a girl had a computer/ Who ran programs to find her a suitor/ When one did not fit/ And the program just quit/ She decided the computer was cuter! (Marc Price, 14, Gaithersburg, Maryland)

Q. What are microchips? **A.** What little baby buffaloes leave behind on the prairie. (Submitted by both Blair Dillman, 13, Pittsford, New York; and Bob Orwick, 14, Lima, Ohio)

A computer hacker was in the airport. He had bought his ticket to Chicago, and had a little time to kill before his plane took off. He noticed a computerized weighing and fortune-telling machine. He dropped in a quarter and the card came out saying: "You are a computer hacker, 16 years old, weigh 140 lbs., and you're going to Chicago."

He thought to himself, "How can a machine know that much about me?" So he put in another quarter. The card came out. "You are a computer hacker, 16 years old, weigh 140 lbs., and you're going to Chicago."

"Absurd!" he thought, "Just a coincidence." So he put in a third quarter. "You are a computer hacker, 16 years old, weigh 140 lbs. You've messed around and missed your flight to Chicago." (Tommy L. Earnest Jr., 17, Athens, West Virginia.)

Illustrations: Howard Lewis

Q. Why did the computer cross the road? **A.** It was the chicken's day off. (Matt Frye, 11, Lucerne, Indiana)

LOGON

LETTERS

LOVES MUSIC PROGRAMS!

I really enjoy K-POWER. I was quite astounded, however, at your Microtones section. I am an ADAM owner and didn't think programming music on the ADAM was possible. But now, thanks to K-POWER, I am a music programmer. Actually, I *was* a music programmer. You see, something went wrong with my SmartBASIC tape. However, I will get a new one in three to four weeks. I want to know if SmartBASIC comes in cartridge form. If not, is there anybody out there who can tell me how to get a backup copy of SmartBASIC? Please answer! Again, I want to compliment you on K-POWER.

RAY HILL, *16*
Romeoville, Illinois

Dear Ray,

Thanks for the compliments. Stay tuned to Microtones—you'll find new music programs there in each issue. According to Coleco, SmartBASIC is not available on cartridge or disk. The SmartBASIC tape is copy protected so your only option is to get a new tape from Coleco.

Coleco says people can ruin their SmartBASIC tapes by turning the computer's power on or off when the tape is in. The tape should be inserted or removed only when the power is on. Any questions? Call the company's toll-free number: (800) 842-1225.

THE EDITORS

COMPUCOPIA

SHORT-SHORT PROGRAMS

Apple & ADAM/*3-D SURFACE PLOTTER*

```
10 DIM G(43),P(27,17)
20 HGR2:HCOLOR= 3
30 FOR I = 1 TO 43:G(I) = 159-(6*(I-27))*(I > 27):NEXT
 I
40 Y = -8:FOR I = 127 TO 31 STEP -6
50 X = -13:FOR J = 128-I TO 284-I STEP 6:JC = (J+5)/6
60 Z = SIN(Ø.Ø5*(X*X+Y*Y))*5
70 IF Z+I < Ø THEN Z = -I
80 IF Z+I <= G(JC) THEN 110
90 IF J = 128-I THEN HPLOT J,G(JC):GOTO 130
100 HPLOT TO J,G(JC):GOTO 130
110 G(JC) = Z+I:IF J = 128-I THEN HPLOT J,Z+I:GOTO 130
120 HPLOT TO J,Z+I
130 P(X+14,Y+9) = G(JC):X = X+1:NEXT J:Y = Y+1:NEXT I
140 FOR X = 1 TO 27:HPLOT 6*X-5,P(X,1)
150 FOR Y = 2 TO 17:HPLOT TO 6*(X+Y)-11,P(X,Y)
160 NEXT Y:NEXT X:FOR X = 1 TO 27
170 HPLOT 6*X-5,P(X,1) TO 6*X-5,159:NEXT X
180 FOR Y = 2 TO 17
190 HPLOT 6*Y+151,P(27,Y) TO 6*Y+151,165-Y*6:NEXT Y
200 HPLOT 1,159 TO 157,159 TO 253,63
```

TRS-80 Color Computer/*3-D SURFACE PLOTTER*

```
10 DIM G(43),P(27,17)
20 PMODE 3,1:SCREEN 1,Ø:PCLS:COLOR 3
30 FOR I=1 TO 43:G(I)=159+(6*(I-27))*(I>27):NEXT I
40 Y=-8:FOR I=127 TO 31 STEP -6
50 X=-13:FOR J=128-I TO 284-I STEP 6:JC=(J+5)/6
60 Z=SIN(Ø.Ø5*(X*X+Y*Y))*5
70 IF Z+I<Ø THEN Z=-I ELSE IF Z+I<=G(JC) THEN 100
80 IF J<>128-I THEN LINE -(J,G(JC)),PSET:GOTO 130
90 LINE (J,G(JC))-(J,G(JC)),PSET:GOTO 130
100 G(JC)=Z+I
110 IF J<>128-I THEN LINE -(J,Z+I),PSET:GOTO 130
120 LINE (J,Z+I)-(J,Z+I),PSET
130 P(X+14,Y+9)=G(JC):X=X+1:NEXT J:Y=Y+1:NEXT I
140 FOR X=1 TO 27:I=6*X-5
150 LINE (I,P(X,1))-(I,P(X,1)),PSET
160 FOR Y=2 TO 17:LINE -(6*(X+Y)-11,P(X,Y)),PSET
170 NEXT Y,X:FOR X=1 TO 27
180 LINE (6*X-5,P(X,1))-(6*X-5,159),PSET:NEXT X
190 FOR Y=2 TO 17:I=6*Y+151
200 LINE (I,P(27,Y))-(I,165-Y*6),PSET:NEXT Y
210 LINE (1,159)-(157,159),PSET:LINE -(253,63),PSET
220 GOTO 220
```

Modification for Atari 800 & 800XL/ *3-D SURFACE PLOTTER*

Use the ADAM & Apple version, with the following alterations: Change HPLOT to PLOT in lines 90, 110, and 140. Change HPLOT TO to DRAWTO in lines 100, 120, and 150. Finally, change lines 10, 20, 170, 190, and 200 to read as follows:

```
10 DIM G(43),P(27,17):GRAPHICS 8
20 SETCOLOR 2,12,2:COLOR 1:PRINT #6,CHR$(125)
170 PLOT 6*X-5,P(X,1):DRAWTO 6*X-5,160:NEXT X
190 PLOT 6*Y+151,P(27,Y):DRAWTO 6*Y+151,165-Y*6:NEXT Y
200 PLOT 1,159:DRAWTO 157,159:DRAWTO 253,64
```

DESERT ISLAND CONTEST

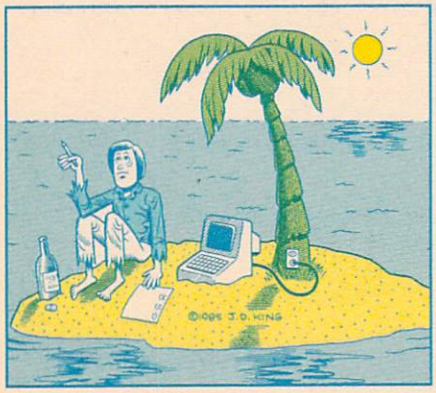


Illustration: J.D. King

If you were stranded on a desert island with your computer, what three pieces of software would you want with you? Would you want a word-processing program so you'd be able to send messages in a bottle? Would you want a really thrilling arcade-style game? Or a data-base program that would help you keep track of all the species of crawly and prickly things sharing the desert space with you? Let us know! Name names, plus tell us what makes those programs so special that they warrant a spot in your desert-island digs. In a future issue we'll let you know what software was most popular with K-POWER readers stranded on a desert island. Plus, we'll award a suprise software package to 10 randomly picked winners! So, fill out and send in the contest form below today! We'll have to receive your entry by Feb. 22. Don't forget to tell us what kind of computer you own.

Send to: K-POWER Desert Island Contest, c/o K-POWER, 730 Broadway, New York, NY 10003.

If I were stranded on a desert island with my computer, I'd want the following three pieces of software (brand names) along:

_____

_____

_____

_____

because _____

_____

_____

Name _____

Address _____

City _____ State _____ Zip _____

Telephone number (___) _____

Age _____ Male _____ Female _____

Computer(s) I use _____

EDUCATION/FUN LEARNING

Title Manufacturer Price	Brief description	Hardware/ Equipment required	Backup policy	Ratings O	D	EH	GQ	EU	V
AEGEAN VOYAGE Spinnaker Software One Kendall Square Cambridge, MA 02139 (617) 494-1200 $32.95 ©1984	Sail the Aegean seas. Sample rewards and taste perils faced by mythic voyagers. Accumulate treasures as you sail from isle to isle in game lacking involvement and depth of other Spinnaker games. —SUMMERS	C 64 (cass. and cart.). Joystick.	30-day warranty (includes user-damaged); $5 fee thereafter; $12 fee for backup.	★ ★ ★	★ ★ ★ ★	★ ★ ★ ★	★ ★ ★	E	★ ★
BANNERCATCH Scholastic Software 730 Broadway New York, NY 10003 (212) 505-3000 $29.95 (Atari, C 64) $39.95 (Apple, IBM PC/ PCjr) ©1984	Computerized version of Capture the Flag pits kids together against a team of robots. Encourages cooperation and helps teach binary math. For ages 9 (sometimes younger) and up.† —SUMMERS	Reviewed on C 64 (d.). Also for Apple II series, 48K (d.); Atari Home Computers, 48K (d.); IBM PC/PCjr, 64K (d.). Joysticks.	60-day warranty; $10 fee for 10 subsequent months.	★ ★ ★ ★	★ ★ ★ ★	★ ★ ★ ★	★ ★ ★ ★	E	★ ★ ★ ★
CHARLIE BROWN'S ABC'S Random House Software 201 E. 50th St. New York, NY 10022 (800) 638-6460 $39.95 ©1984	Animated alphabet program uses "Peanuts" characters to help kids learn letters. Cartoon sequence accompanies each letter. Most effective when parents participate.†—BUMGARNER	Reviewed on Apple II series, 48K (d.). Also for C 64 (d.).	90-day warranty; $5 fee for 9 subsequent months.	★ ★ ★	★ ★ ★ ★	★ ★ ★ ★	★ ★ ★ ★	E	★ ★ ★
THE INCREDIBLE LABORATORY Sunburst Communications 39 Washington Ave. Pleasantville, NY 10570 (800) 431-1934 $55 ©1983	Mix goose grease, black ice, or other ingredients to create an assortment of monsters in colorful activity that helps kids with trial and error problem-solving, and recognizing patterns.† —MORRIS	Reviewed on Apple II series, 48K (d.). Also for Atari Home Computers, 48K (d.); C 64 (d.). Color TV/monitor recommended.	90-day warranty (includes user-damaged); $10 fee thereafter; backup supplied with program.	★ ★ ★	★ ★ ★	★ ★	★ ★ ★	E	★ ★
THE LEARNING LINE Eric Software Publishing 1713 Tulare St., Suite 122 Fresno, CA 93721 (209) 237-0989 $29.95 ©1984	Early and prereaders, ages 3–7, match clothes, letters, numbers, and other objects in colorful, entry-level program. —FRANK	Apple II series, 48K (d.). Joystick optional.	Unlimited lifetime warranty (includes user-damaged).	★ ★ ★	★ ★	★ ★ ★	★ ★ ★	E	★ ★ ★
MICROZINE No. 6 Scholastic Software 730 Broadway New York, NY 10003 (212) 505-3000 $39.95 ©1984	Manage and peruse files of Olympic news and history; skim data base of free goodies; make sounds with a noisemaking utility; adventure in prehistoric times—all in magazine on a disk. —MORRIS	Apple II series, 48K (d.). Color TV/monitor recommended.	60-day warranty; $10 fee for 10 subsequent months.	★ ★ ★	★ ★ ★ ★	★ ★ ★ ★	★ ★ ★	E	★ ★ ★ ★
SNOOPY TO THE RESCUE Random House Software 201 E. 50th St. New York, NY 10022 (800) 638-6460 $39.95 ©1984	Arcade game features Snoopy racing through many levels, adding numbers in boxes around the screen. Fun, but limited to addition of one-digit numbers. —BUMGARNER	Reviewed on Apple II series, 48K (d.). Also for C 64 (d.). Joysticks recommended.	90-day warranty; $5 fee for 9 subsequent months.	★ ★ ★	★ ★	★ ★ ★ ★	★ ★ ★	A	★ ★ ★
STORY MAKER Sierra Inc. P.O. Box 485 Coarsegold, CA 93614 (209) 683-6858 $34.95 ©1984	Simple word-processing and graphics program allows kids to compose stories or illustrated journals. Encourages creative writing for kids in the upper half of 7–14 age group.† —MORRIS	Reviewed on Apple II series, 48K (d). Also for C 64 (d.); IBM PC/PCjr, 64K (d.). Extra blank disk. Color TV/ monitor recommended.	90-day warranty; $5 fee thereafter or if user-damaged.	★ ★	★ ★	★	★ ★ ★	A	★ ★
THE SWEET SHOPPE Eric Software Publishing 1713 Tulare St., Suite 122 Fresno, CA 93721 (209) 237-0989 $29.95 ©1984	Basic counting, simple addition and subtraction practice for young children, 4–7, just starting on the computer. Challenge doesn't increase with child's ability. —FRANK	Reviewed on Apple II series, 48K (d.). Also for C 64 (d.). Joystick.	Unlimited lifetime warranty (includes user-damaged).	★ ★	★ ★	★ ★ ★	★ ★ ★	E	★ ★
TELLY TURTLE Coleco Industries Inc. 999 Quaker Lane S. West Hartford, CT 06110 (203) 725-6000 $24 (ADAM) $29 (from Hayden for Atari and C 64) ©1983–84	Commands represented by pictures, or icons, and easy-to-use joystick control introduce kids 5–15 to Logo-like programming. Best for younger kids.† —DAVENPORT	Reviewed on ADAM (cass.). Also from Hayden Software for Atari Home Computers, 48K (d.); C 64 (d.) Joystick.	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

THANK YOU FOR WRITING THIS AD.

A lot of people have had a lot of nice things to say about ADAM. To all of you who've written, thank you for writing this ad. And if you haven't checked out the ADAM Family Computer System yet, maybe you should. Who knows, maybe you'll help us write our next ad.

"The machine works in a trouble-free manner, and is really a pleasure to use."

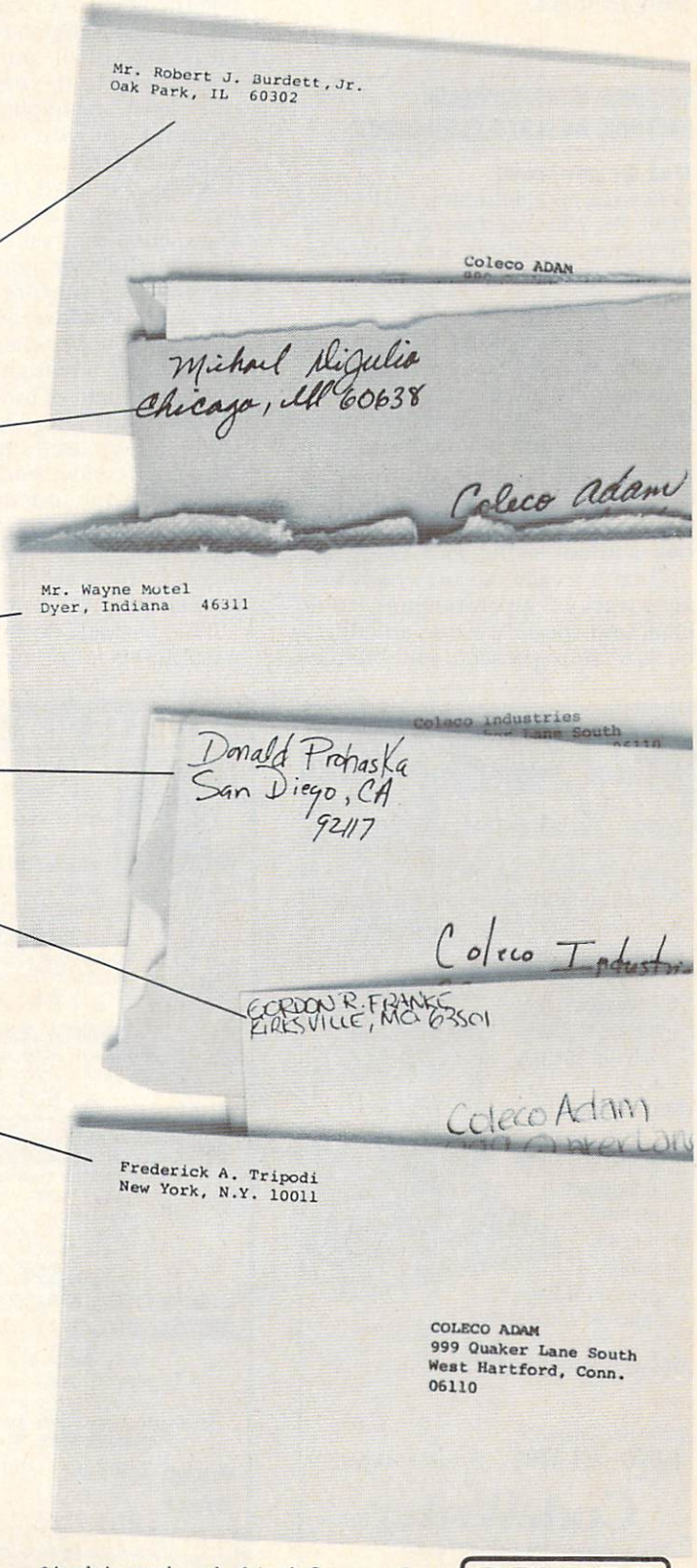
"I was so pleased with the ADAM that I took it to school and gave a presentation to the entire school body... my peers were raving."

"You have an excellent machine for the home user. Smart LOGO and Smart Filer are excellent."

"Your keyboard is better than the Apple®"

"I find the word processor and the basic programming language to be very user friendly."

"I am more than pleased with the operation of the machine; I am happy that finally someone has produced a machine at a reasonable cost."



Family Computer System

*Apple is a trademark of Apple Computer, Inc.
TV not included. © 1984 Coleco Industries Inc.

COLECO

personal time off, sick time, and tardiness. I also was able to include information about whether employees had attended the training courses they needed to pass in order to get a promotion. When my boss wanted a report on a certain employee, all I had to do was get the information from *Synfile+*. I then combined (or merged) this with *AtariWriter* for an impressive memo to my boss.

The file system is large enough to handle all personal home-filing tasks as well as a host of professional needs. In addition, its menu-driven format, with lists from which you select the functions you want to perform, makes it very easy to use.

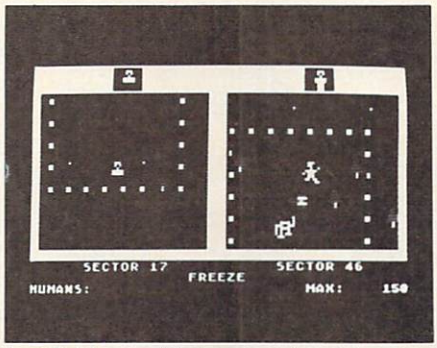
—GLEN J. McCARTNEY

EDUCATION/ FUN LEARNING

Bannercatch

HARDWARE REQUIREMENTS: Commodore 64. Also for Apple II series, Atari Home Computers, IBM PC/PC*jr*. Joysticks.
MANUFACTURER: Scholastic Inc.
PRICE: $29.95–$39.95

It must be tough to turn a fast-moving field sport into an enjoyable educational game, but *Bannercatch*, Scholastic's two-player computerized version of Capture the Flag, proves it can be done, and done well. Each player controls two "humanoids" on the same team. Two opposing robots, with skills ranging from clunky to superhuman, become increasingly challenging as your expertise grows. Because you see only a small part of the gamefield at a time, you must keep track of your place using landmarks on the maps provided. The rules are simple: The first team to grab the opponent's flag and return to home territory with it wins. Players tagged while behind enemy lines stay in jail until freed by a teammate.



The robots use binary code to communicate with their boss, the mysterious "Max." This feature is educational and adds an element of intrigue as well. Players must translate the binary numbers into decimal numbers and match them with corresponding phrases (such as "WHERE IS OUR FLAG?" or "WHAT IS MY GOAL?") in the accompanying manual. By intercepting and decoding the robots' messages to one another, you can plan winning strategies. Players with no previous experience in using binary numbers can construct and use the *Bannercatch* decoder, which requires only addition.

Parents will appreciate *Bannercatch*'s emphasis on teamwork. It's hard to win when playing alone, so children usually pool their resources. Although it's intended for ages 9 and up, our 7-year-old, Howard, an enthusiastic joystick jockey, successfully takes on the robots as his older sister Cherry plans strategy.

Bannercatch lets you "freeze" the game whenever it gets too hectic—a good feature for kids who might find the frantic pace intimidating. Each win sends the score soaring and reveals a little more of a puzzle screen

BOUNTY HUNTER
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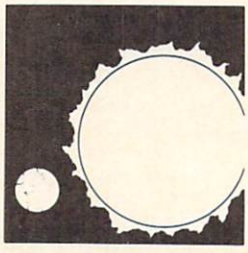

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rors cannot be corrected. For example, a typing error in selecting chemicals or typing your name is irreversible. And, once you've elected to play at a given level, you can't escape to the menu—you must complete the experiment. In software intended for children, it's critical (and simple) to include features to avoid such problems. —TONY MORRIS

Story Maker

HARDWARE REQUIREMENTS: Apple II series. Also for Commodore 64, IBM PC/PC*jr*.
MANUFACTURER: Sierra Inc.
PRICE: $34.95

This unique introduction to creative writing, intended for children ages 7–14, is a simple word processor that allows you to type in a story, edit it, and save it on a disk. *Story Maker* also allows you to illustrate your story, inserting pictures into your creation wherever you wish.

This unusual combination of text and graphics makes *Story Maker* useful for all kinds of fun projects: Create a journal of a trip, including drawings of sights seen, or use it to write an illustrated letter and send it to someone on disk with a comparable computer and program.

The written documentation primarily discusses creative-writing techniques. Younger users won't understand such concepts as continuity, cliches, metaphors, and similes, but our older children find it valuable and informative.

A card summarizes all major commands but, unfortunately, the instructions for using the word processor are contained on the disk itself. The graphics program instructions are similarly unhelpful. Features such as selecting colors and coloring in spaces must be learned by trial and error. Younger users will require adult assistance and lots of patience in learning how to create and illustrate.

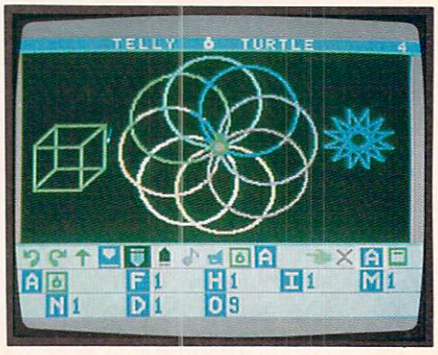
Also, error-handling is unusually weak for software intended for children as young as 7. To correct a typing error, for example, you can't simply hit the left arrow key; that backs you up but doesn't erase. You must position the cursor under the error and press CTRL-E. To correct a graphics mistake, you undo the last portion you drew of the picture and start over. The "undo" key ("U") is right next to the "I" key that moves the cursor up. This results in frequent accidental "undoing," especially with young users.

You must have a blank story disk for each new story or writing project (one is provided with the software, for starters). With several children and several writing projects, this can really add up.

In spite of these weaknesses and the fact that the word processor and graphics program were fairly primitive compared to others they've used, our kids found *Story Maker* fun and educational. —TONY MORRIS

Telly Turtle

HARDWARE REQUIREMENTS: Coleco ADAM. Also for Atari Home Computers, Commodore 64. Joystick.
MANUFACTURER: Coleco (Atari and Commodore versions for $29 from Hayden Software)
PRICE: $24



An introduction to programming intended for 5- to 15-year-olds, *Telly Turtle* uses graphics symbols (icons) to represent commands; step-by-step lessons; and of course, Telly the turtle. Children can painlessly learn the basics of Logo-like programming using Telly to create colorful graphics.

Even though my 5-year-old, Melissa, can't read or write yet, she was able to catch on by using the combination of joystick and icons (or symbols). The instruction manual helped me introduce her to each command through example. It only took one session together before Melissa grew comfortable with the icons and their corresponding func-

tions. She seemed at ease when I encouraged her to explore on her own. I acted as an interested observer, there to help out when she was in need or when she was ready for a greater challenge.

She ran into some difficulty when moving Telly distances of more than 20 "steps." Melissa hasn't yet learned to recognize numbers greater than 20, and the dimensions of the boxes she first drew never exceeded this magic value. She soon discovered, however, that by repeating the command she could draw larger boxes.

Although Melissa's experience to date has been with the first two levels, older children will find more challenge in creating their programs and subroutines in levels three and four. Whether the program will appeal to children at the upper reaches of the 5–15 age group is questionable, however. *Telly Turtle* is an effective teaching tool for first–time "programmers" and is graphically entertaining at the same time.

—KENT A. DAVENPORT

GAMES

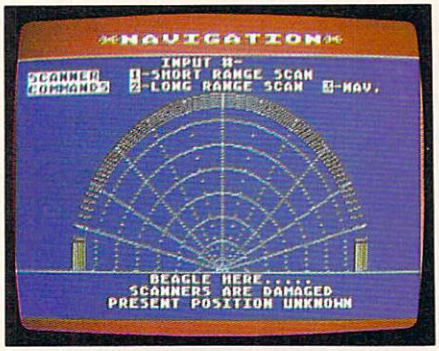
Jupiter Mission 1999

HARDWARE REQUIREMENTS: Atari Home Computers. Version planned for Commodore 64. Joystick.
MANUFACTURER: Avalon Hill
PRICE: $50

Ever wonder what it's like to wake up from a peaceful sleep, several years and many millions of miles away from Earth, only to find yourself in sole command of a gigantic spaceship headed towards the planet Jupiter? Welcome to *Jupiter Mission 1999*, a game that seems to have been influenced by the astronauts' predicament in *2001: A Space Odyssey*.

You're just an average end-of-the-20th-century scientist, brought along to help determine why intelligent radio signals keep emanating from Jupiter. It isn't your duty to know how to navigate a starship, much less repair, defend, and use its instruments, space probes, and robots. But when you're unceremoniously awakened by the news that the rest of the crew is dead and that only you are left to defend the ship from an asteroid storm, you have little choice but to learn new skills with amazing speed.

This is a challenging, though somewhat under-documented, role-playing arcade/adventure game. Not only must you draw upon considerable talents in shooting, timing, steering, and other arcade challenges, but you have to figure out the proper mission of your ship, *The Space Beagle*, as you proceed. It's fun to do, but as the instructions lack full descriptions of the stages of your mission, there's a lot of trial and error involved. Be sure to save the game every time you successfully complete a task before going on.



Like other games which are likely to follow, *Jupiter Mission 1999* is a great advance on traditional one-play-only arcade games. By combining several arcade programs into a "plot," players get the thrill of success without the frustrations of having nothing else to do once they've finished blasting asteroids or managed to pilot a vehicle to a soft landing. This is the tip of a very big iceberg. Join up now for *Jupiter Mission 1999*, suitable for ages 12 and up. I'm looking forward to the sequel, *Quest of the Space Beagle*, a two-disk game for Atari Home Computers.

Mr. Robot and His Robot Factory

HARDWARE REQUIREMENTS: Apple II series. Also for Atari Home Computers, Commodore 64. Joystick.
MANUFACTURER: Datamost
PRICE: $34.95

The straightforward arcade action of this game is not that great—it's on a par with dozens of others on the market. But *Mr. Robot and His Robot Factory* has a build-it-yourself program that turns an ordinary evening into tremendous fun for the whole family.

Choose from a selection of existing screens, or build your own from scratch. The thrill of discovery as you "test" each new trap doesn't diminish over time. Playtesters sat for hours, carefully crafting screens, re-

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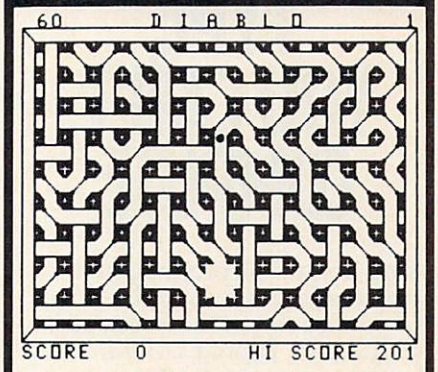

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