PUBLISHED BY SCHOLASTIC INC.

APRIL 1984

VOLUME 2
NUMBER 4

IBM PCjr
A HANDS-ON REVIEW

FAMILY COMPUTING™

$1.95

Computers and Careers

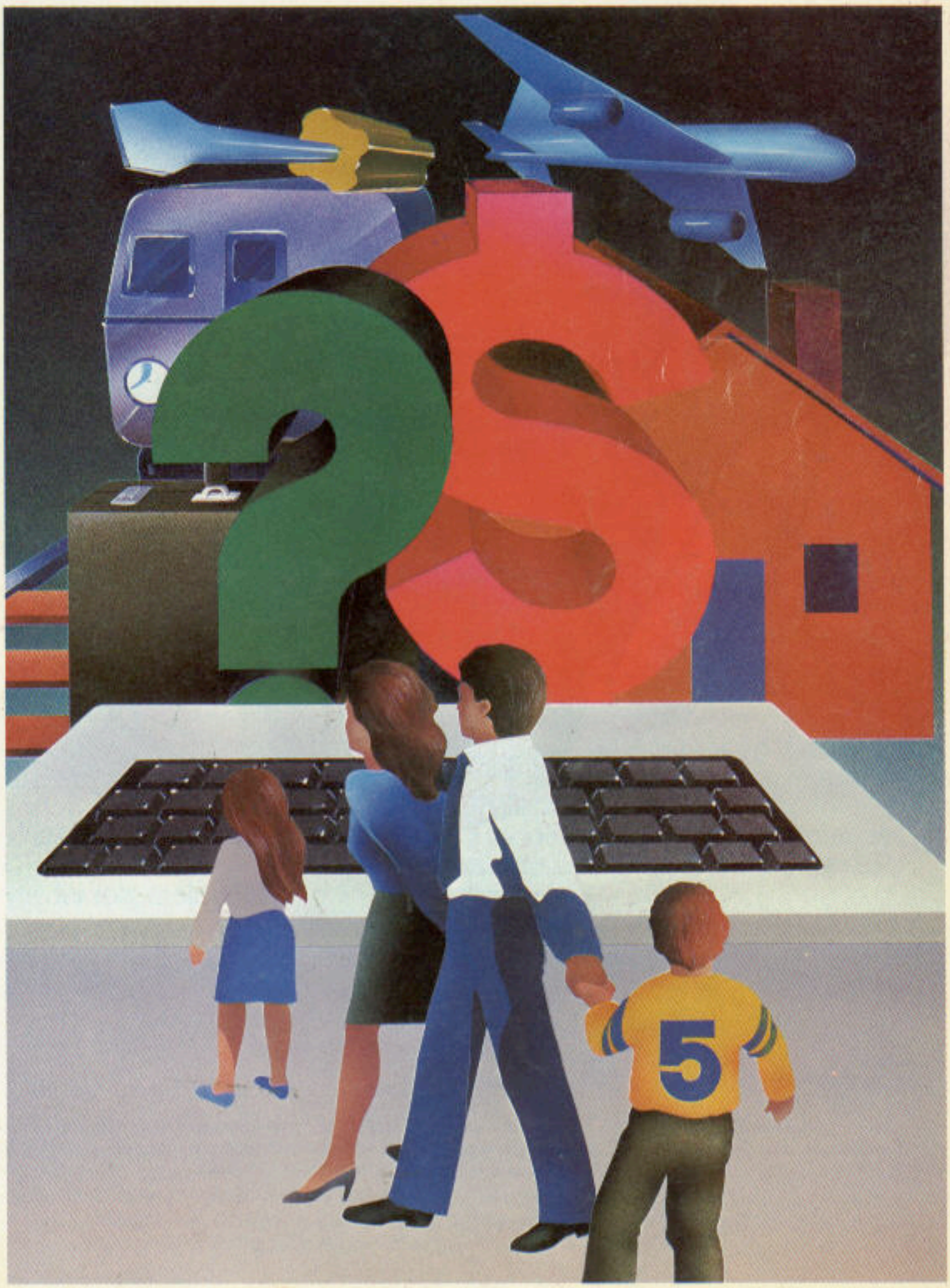
Computer Camps

How to Make Your Taxes Less Taxing with Software

Buyers' Guide to Used Computers

Herbie Hancock Talks About Making Music with Computers

Original New Programs for Adam, Apple, Atari, Commodore 64 & VIC-20, IBM, TI, Timex, and TRS-80s



0 76956 14008 04

FAMILY COMPUTING™

FEATURES

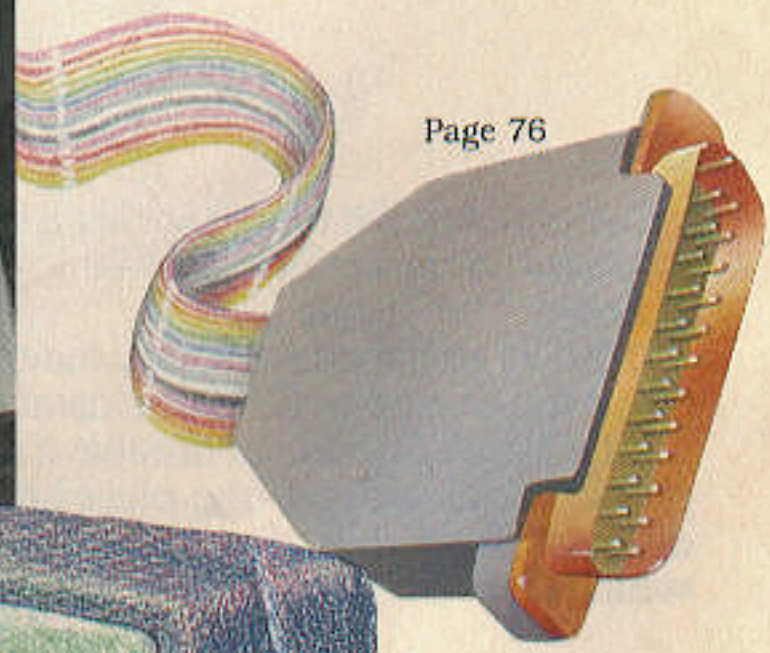
COVER ILLUSTRATION BY ROBERT CONRAD

Page 54

Page 60

Page 70

Page 76



APRIL
1984

PUBLISHED BY SCHOLASTIC INC.

VOLUME 2
NUMBER 4

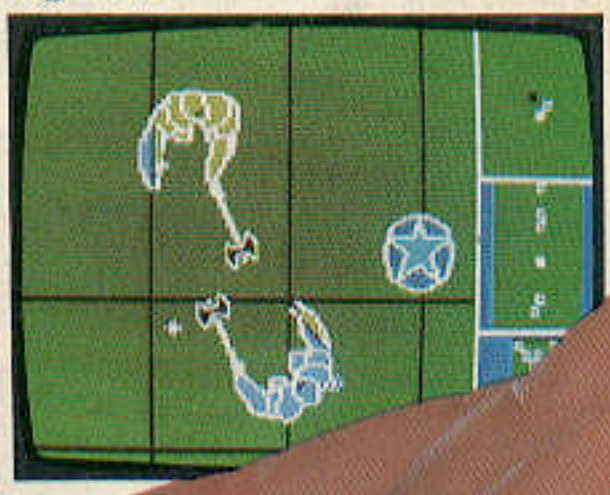
PROGRAMMING

PRODUCTS

DEPARTMENTS

FAMILY COMPUTING (ISSN 0736-0371) is published monthly by Scholastic Inc., 730 Broadway, New York, NY 10003. Subscriptions: in the U.S. and possessions, 12 issues for $17.97; outside the U.S. add $6 (surface mail) or $24 (airmail). Office of publication: P.O. Box 2700, Monroe, OH 45050-2700. Application to Mail at Second Class Postage Rates is pending at Monroe, Ohio, 45050-9998 and additional offices. POSTMASTER: Send address changes and notice of undelivered copies to FAMILY COMPUTING, P.O. Box 2511, Boulder, CO 80322. Printed in U.S.A.

Page 124



Page 57

Page 116

LETTERS

HOPE FOR NOVICES

I am a beginner in computers, but I have found FAMILY COMPUTING to be very interesting. I do not feel intimidated by it, and now I feel there is hope for me! I read each issue from cover to cover as soon as I get it.

MRS. ROBERT SLAGLE
Newalla, OK

PROGRAM PLEASURES

I love your magazine. What I like the most about it is the way you make programs for most of the computers. I tried your *Jack-O'-Lantern, Turkey,* and *Christmas Tree* programs. They look great on my Commodore 64. Your articles are one in a million. The article on adventure games (October 1983) was the best. Keep up the good work.

PETER FREEMAN, *age 14*
Staten Island, NY

AN EDUCATIONAL TOOL

My husband and I read your magazine's (November 1983) article "Little Programs for Little Kids" with great interest. We currently have a Texas Instruments 99/4A that our five-year-old son finds very entertaining. It has helped him tremendously with his early math problems and, more important, with his alphabet.

ANDREA E. PAUL
Philadelphia, PA

SHORTCHANGING TI?

I was dismayed to find, after the excellent article on word-processing programs in the December 1983 issue, that only the *TI Writer* program was listed for the TI-99/4A computer. While that is the most widely known program, several independent companies market WP programs that do not require the full-expansion system and that cost considerably less. These programs are advertised in the *99'er Magazine* [*now titled* Home Computer Magazine], produced by the TI Users' Group.

The departure of TI itself from the home computer market means that more than one million [*now approximately two million*] of us who own TI systems will increasingly need to be aware of the creative work of these third-party companies. While they do advertise in the *99'er Magazine,* their products are often overlooked in hardware and software reviews in general-interest magazines. Many of the products are excellent.

As TI-produced software becomes scarce, I hope you will expand your reviews to include other producers.

ERNA-LYNNE BOGUE
Chicago, IL

EDITOR'S NOTE: *Thank you for correcting us. Our information came from several sources, including TI. Owners of TI-99/4As looking for products—either hardware or software—should be receiving catalogs from March Direct Marketing. (See "The TI-99/4A Lives" in Behind the Screens.) If you aren't on the TI mailing list, send your name, address and computer serial number to P.O. Box 53, Lubbock, TX 79408.*

A BAD PITCH

I have enjoyed your first two issues. I am sure your magazine is off to a good start, and you will certainly meet with competition in the future.

In your second issue (October 1983), I enjoyed your article "Crunching Numbers for the Little League." At the end of the article a letter from RAL-II Software Systems was reprinted. This letter stated, and I quote, "Notify readers that they may obtain a copy of *BASES*, including graphics and pitching statistics . . . by sending a self-addressed, stamped envelope to . . ." I wrote to RAL-II on October 18 and asked for my *free* copy of this software. I had planned to show it to the local little league organizations as an instrument to create interest in computers by the individual players. I was very disappointed by the reply I received from Robert A. Locke, Jr., president of RAL-II. The letter stated various prices and charges for a copy of *BASES*. He said that his letter was misquoted by you!

I feel this was misleading to your readers. In the future, I suggest a clearer representation be made by you and your advertisers.

RANDAL M. HILL
Ellisville, MS

EDITOR'S NOTE: *We printed the letter from RAL-II Software Systems as it was sent to us. We're sorry if there was a misunderstanding between them and us, or a change of mind on their part. As far as we are concerned, they were "contributors," not "advertisers."*

A BURSTED BUBBLE

Ever since we bought our Apple IIe last February, I have been looking for a magazine like yours. I have five children, ages eight to 18, and your magazine interests them all. I find the articles clearly written and easy to understand.

But—shame on you! How could you print—not once, but twice—the picture of Jeffrey Woods sitting at his computer blowing a bubble with sticky, gooey gum? (Home-School Connection, Premier issue.) After all the time teachers and parents spend instructing children and adults not to eat or drink near the computer, you print a "cute" picture of a child doing a NO-NO.

Keep up the good work as far as your articles go, but please try to watch silent messages you are sending to computer users. Our sign above our computer will remain: "No eating, no smoking, no drinking, and no gum chewing near the computer."

SARA PRELLWITZ
Fond du Lac, WI

EDITOR'S NOTE: *Sorry about the silent message. We have sometimes "overlooked" our own good computing rules in order to create interesting images for our readers.*

CORRECTION

In our story on Michela Alioto, "64 Inches of Courage" (February), we incorrectly gave credit to her mother, Michele Alioto, as the sole founder of the American Paralysis Association. Michele joined with about 15 other hard-working people around the country to help found the organization. We regret the error.

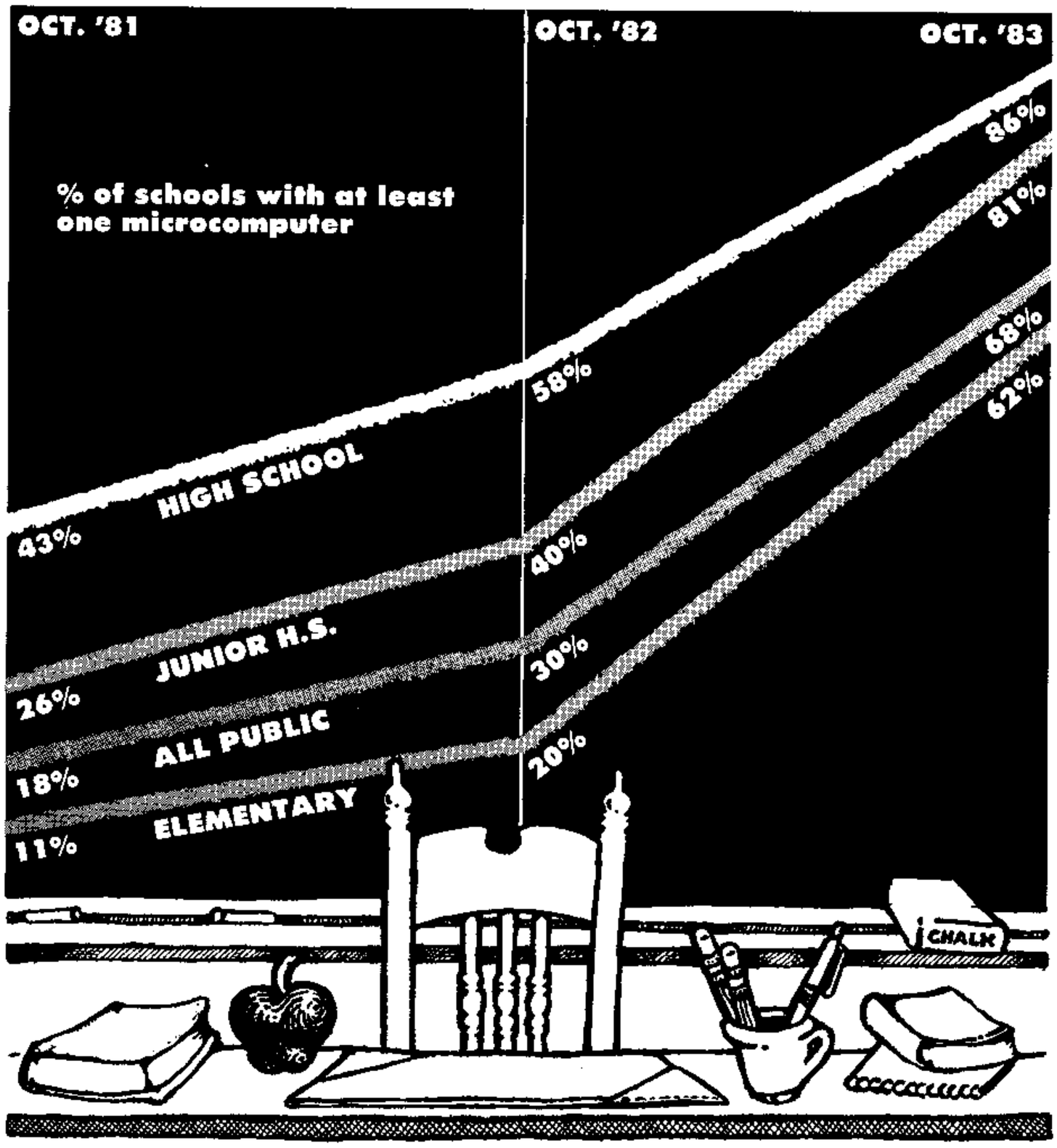
FAMILY COMPUTING *looks forward to letters from all our readers. Please direct your correspondence to: Letters to the Editor,* FAMILY COMPUTING, *730 Broadway, New York, NY 10003. Include your name, address, and phone number. We reserve the right to edit your letters for length and clarity.*

BEHIND THE SCREENS

PEOPLE, NEWS, AND TRENDS

EDITED BY BILL CAMARDA

A School Computer Explosion



In a single year, the number of public schools with computers has more than doubled. Suddenly, a public school without computers is the exception, not the rule.

The percentage of public schools owning at least one microcomputer has soared from 18.2 percent in October 1981 to 68.4 percent last October, according to Market Data Retrieval (MDR), a Westport, Connecticut, research firm. By the end of 1984, almost every American public school will have bought into the computer revolution, according to MDR's Sharon Sanford.

The October 1983 survey found that although poorer districts have made rapid headway in buying at least one computer, they're still substantially behind wealthier districts.

The survey noted rapid increases in computer ownership at all levels, and especially in elementary schools. Only one out of five elementary schools owned computers in October 1982; the figure a year later was three in five.

Schools owning computers usually have more than one, MDR found. Elementary schools average 3.5 computers, junior high schools average seven computers; high schools average 11.

Of course, simply owning hardware is no guarantee that a school has a high-quality computer-education program. The challenge now for educators is to make the most of all this machinery. We've reached a milestone, but it's only the first on a long road.

[FAMILY COMPUTING *reports on the challenges now facing educators, in this month's Home-School Connection, page 18.*]

STATISTICS SUPPLIED BY MARKET DATA RETRIEVAL

The TI-99/4A Lives

If you own a Texas Instruments 99/4A home computer, you're probably wondering what the future holds, now that TI has departed from the home computer market.

First of all, Texas Instruments is still mailing newsletters and other information to 99/4A owners. If you own a 99/4A and are not on TI's mailing list, send your name, address, and computer serial number to P.O. Box 53, Lubbock, TX 79408. TI's toll-free help line will continue to operate, probably at least through the end of the year. The number is 1-800-TI-CARES. The number is often busy. Try calling on Saturday.

TI will continue repairing the 99/4A at its service centers.

At last, TI has agreed to license the technology and sell the special chips used in 99/4A cartridge software. Now other companies can produce cartridges for the 99/4A, something TI has for years refused to allow. And March Direct Marketing has begun publishing a catalog of software and hardware for the 99/4A.

TI has negotiated agreements with Imagic, Sierra On-Line, and other software producers, allowing those companies to market the software they had previously licensed to TI.

PERCOM Data Corp. of Dallas, Texas, will keep selling a disk drive for the 99/4A. The company has, however, raised its prices. Corcomp, a California manufacturer of 99/4A add-on boards, says it will produce a new 64K computer that will run all 99/4A software and have built-in speech. It will cost less than $500.

An estimated two million TI-99/4A computers are in circulation. Half of them were bought after the 99/4A's price dropped to $50 last winter.

Demand for 99/4A-related prod-

ILLUSTRATIONS BY HOLLY KOWITT

BEHIND THE SCREENS

ucts has been strong. "Our dealers have been begging us for more products," said PERCOM Data Vice President of Marketing Bob Gerwer.

TI may have given up on the 99/4A, but the computer has developed a life of its own.

Airport '84: The Terminal

If you're stranded in Boston's Logan Airport, stop off at the videotex booth and leave your family an electronic message.

New England Telephone is installing its first public-access videotex terminal—made by Quazon—this month. If it proves popular, it will be the first of many, according to company spokesman Dave Tibbetts.

"You'll be able to access anything public there, including CompuServe, Dow Jones, and electronic-mail services," Tibbetts says. "You'll be able to call your personal computer. And we won't charge any more than an ordinary phone call would cost."

The Quazon terminal includes a full, plastic-covered keyboard and a color video display. According to Quazon, it will feature special applications for the deaf and hearing-impaired, including access to the Deafnet Network. Until now, in order to use Deafnet, a deaf person has had to carry communications equipment and hook it up to an ordinary phone. The Quazon terminal eliminates the need for the extra equipment.

And it gives a new meaning to being on line at the airport.

MASSPORT

Now, you can log on at Boston's Logan Airport.

Franklin/Apple Settlement

Franklin Computer Corp., which rose to prominence by selling an Apple II compatible computer, or "clone," has agreed to pay Apple $2.5 million and to stop using Apple's operating system. This ends a legal dispute that was headed for the U.S. Supreme Court.

Using Apple's operating system, Franklin computers are able to run nearly all of the vast library of Apple software. Franklin says it has sold more than 80,000 Apple compatibles in less than 18 months, at prices lower than Apple's.

Franklin President Avram Miller says the company has developed its own operating system, which will still be compatible with Apple software. Compatibility is a touchy issue, though, and only time will tell whether Franklin's system will run Apple software as well as Apple's did.

An independent arbitrator will settle any future disputes between the two companies. Meanwhile, the important legal debate over whether an operating system can be copyrighted remains unsettled.

Tomorrow's Library, Today

Whither the book?

This is a question of great concern to libraries. Will they become museums for printed relics? Will the book of the future be read screen-by-screen on a home computer?

Some libraries aren't waiting and worrying. They're building on their traditional expertise in dealing with information, and are adapting wholeheartedly to computers.

In Colorado Springs, Colorado, a library card is a ticket to the information age. The library, working with several public and private agencies, serves as a community information center. Its on-line files include a community events calendar, and listings of all local clubs and organizations, public agencies, and adult education classes.

The library also provides computer information on car-pooling and tutoring programs, mass-transit schedules, and day-care centers. But for these you must either call up and speak to a human being or use a terminal in the library. These services will become accessible from the home later this year.

The Pikes Peak Library District even has a complete on-line card catalog.

So far, more than 1,000 home computer users access the library's computer by phone, and there are 96 terminals in the library system.

Within a year, the library may begin planning a full-scale community electronic-mail service, with the goal of serving 6,000 home computer users a day.

Library Director Ken Dowlin acknowledges the need to change old methods. "The purpose of the library is to provide public access to information and knowledge," he says. "I know and love books dearly. And the book remains the primary source of knowledge that takes time to create. But directories and other continuously updated information belong in an electronic-information system, and the library is the perfect vehicle for disseminating this information."

—ROBIN RASKIN

Computer Heroes

Do you know a computer hero? If so, tell the Gusdorf Corporation.

Gusdorf, a manufacturer of computer electronics and furniture, has established an annual "Computer Hero" award, "to salute individuals who have contributed to the improvement of society and the quality of life through use and application of computers." Part of the award is $2,000 in cash.

Company Chairman Paul Gusdorf said, "We want this to be the Nobel Prize of the computer field.

"Our hero may be well known to all, or hiding in the shadows of modesty. It could be a young whiz kid or an experienced scientist with pages of credentials."

Until April 30, Gusdorf welcomes your nominations. But you must submit them on an official ballot. Write: Gusdorf Corp., 6900 Manchester Ave., St. Louis, MO 63143.

If you've got a good bite-sized piece of computer-related news involving people, trends, or innovations, let's hear it. We will pay $25 for each item we publish. Write to Behind the Screens, c/o FAMILY COMPUTING, *730 Broadway, New York, NY 10003.*

A SURVEY OF THE SOFTWARE

Tax programs sprout like wildflowers in the spring, so it's impossible to keep up with all the latest releases. The chart below provides a good cross section of the three types of tax programs. (We've abbreviated them as "calc" for calculation programs, "plan" for planning software, and "prep" for preparation programs.) More details on some of the software listed here is discussed in the accompanying article. And, as with any software, make sure it's right for you *before* you buy. It's also good practice to ask for a demonstration to make sure the program performs as advertised.

NAME/Publisher	TYPE	PRICE	ANNUAL UPDATE	HARDWARE	SCHED/FORMS INCLUDED	OTHER FEATURES
Personal Tax Planner Aardvark/McGraw-Hill 1020 N. Broadway Suite 300 Milwaukee, WI 53202 (414) 225-7500	Plan	$99	$20 off price	IBM PC	None	Compares alternatives quickly
Tax Advantage Continental Software 11223 S. Hindry Ave. Los Angeles, CA 90045 (213) 410-3977	Prep	$69.95	50% off price	Apple II/II plus/IIe; Atari 400/800/1200XL; Commodore 64; IBM PC	A, B, C, D, E, G, W, SE, 4562	Reads from *Home Accountant*; telephone support w/$20 registration
Tax Aid II, III Northland Accounting 606 Second Ave. Two Harbors, MN 55616 (218) 834-3600	Calc	$24.95 (cassette), $29.95 (disk)	$10 (cassette), $12 (disk)	Commodore 64 (*Tax Aid III*); VIC-20 (16K, *Tax Aid II*)	A, B, G	Easy "what-if" comparisons
Tax Break Planner Proforma Software 2706 Harbor Blvd. Suite 200 Costa Mesa, CA 92626 (714) 641-3846	Calc, Plan, Prep	$180	$50	Apple II/II plus/IIe/III; IBM PC	A,D,G, 4972 for Apple; also B, C, D, E, F, G, R, RP, SE, W, 2106, 2119, 2210, 2440, 2441, 3468, 3903, 4137, 4255, 4562, 4684, 4797, 4972, 5695, 6251, 6252	Single-year only calc version: $130; Calif. state tax version avail.
Tax Byte Century Software P.O. Box 26516 Phoenix, AZ 85068 (602) 944-5533	Prep, Plan	$69.95	YES	Apple II/II plus/IIe	A, B, C, D, E, G, W, 4797, 6251, 6252	Does alternative minimum tax
TaxCalc TaxCalc Inc. 4210 W. Vickery Blvd. Fort Worth, TX 76107 (817) 738-3122	Calc	$125	$50	Apple II/II plus/IIe/III; CP/M; IBM PC; Kaypro; Osborne; TRS-80 Models II/III/4	None	Needs spreadsheet; Calif. state tax version costs $100
Tax Command Practical Programs P.O. Box 93104 Milwaukee, WI 53202 (414) 278-0829	Calc	$24.95	NO	Apple II/II plus/IIe; Atari 400/800/1200XL; Commodore 64; Osborne; VIC-20 (8K); Timex Sinclair 1000/ 1500; TI-99/4A; TRS-80 Color Computer	A, D, G	Other schedules avail. for systems with more than 48K
Tax Manager Micro Lab 2699 Skokie Valley Rd. Highland Park, IL 60035 (312) 433-7550	Prep	$180 (Apple), $250 (IBM)	YES	Apple II/II plus/IIe; IBM PC	A, B, C, D, E, F, G, R, RP, SE, W, 2106, 2119, 2210, 2441, 3468, 3903, 4625, 4726, 4797; 5695, 6251	On-screen "tax guide" suggests forms to use
Tax Optimizer Dynacomp 1427 Monroe Ave. Rochester, NY 14618 (716) 442-8960	Plan	$59.95	NO	Apple II/II plus/IIe/III; Atari 400/800; TRS-80 Models I/III/4; CP/M	None	Multi-year planning
Tax Preparer Howard Software Services 8008 Girard Ave. Suite 310 La Jolla, CA 92037 (619) 454-0121	Prep	$250 (Apple), $295 (IBM)	$65 (Apple), $75 (IBM)	Apple II/II plus/IIe/III; IBM PC	A, B, C, D, E, F, G, R, RP, SE, W, 2106, 2119, 2210, 2441, 3468, 4562, 4797, 5695, 6251	Automatic recalculation on all forms
Tax Saver Micromatics Programming Co. P.O. Box 158 Georgetown, CT 06829 (203) 324-3009	Prep	$150	40% off price	TRS-80 Models I/III	A, B, C, D, G, SE, W, 2441, 6251	On-screen tax helps; simple Q & A format
Tax Series Financier P.O. Box 670 Westboro, MA 01581 (617) 366-0950	Plan	$175	YES	IBM PC	None	Graphics function

But you do need to know what kinds of interfaces are commonly used, what types of connectors exist, why software control is sometimes needed, and how to hook everything up.

NEVER BUY ANY PERIPHERAL WITHOUT KNOWING WHAT KIND OF CONNECTORS AND CABLES YOU'LL NEED—AND HOW TO GET THEM.

THE RIGHT CONNECTION

Interfaces are needed to attach the computer to monitors, printers, modems, cassettes or disk drives, and other peripherals. Each kind of peripheral has somewhat different requirements, which we will discuss. Some manufacturers build connection sockets into their computers; some don't. Peripherals may come with the interface you need; some may not. So, careful shopping is required. Never buy any kind of peripheral without knowing what kind of connectors and cables you'll need.

Four different types of cables and connectors, sometimes with slight variations for specific devices, are used to hook up computers and peripherals. [*See diagram.*] Let's look at these common connectors.

Standard DIN Connector. DIN connectors are round and usually have from one to eight pins, depending on what they're being used for. Common configurations include five, six, and eight pins, which are not interchangeable. With these and other connectors, the pins lead to wires inside the cable, which carry signals between the computer and peripherals.

Standard Serial RS-232C Connector. This connector is oblong-shaped and contains 25 pins. RS-232C connectors are used when the computer transmits and receives data "serially," one bit at a time.

In most applications, only some of the 25 pins are used—usually no more than nine. These connectors were originally designed for Teletype printers, but are now also used for modems and printers and other peripherals. Sometimes serial cables will need to be adapted to work properly with modems.

Standard Centronics Parallel Connector. Named after the original Centronics printer, which popularized the genre, this oblong, 36-pin parallel connector is the most common printer connector. It is also probably the most widely accepted standard in the industry.

Centronics-type parallel connectors send eight bits of data at once, and generally have cables no longer than 10 feet, due to signal-strength limitations.

IEEE-488 Connector. The IEEE-488 is rare, but it is used as a serial interface with Commodore computers. The advantage is that up to five devices—a disk drive, a printer, etc.—can be connected at once.

THE MISSING LINK—CABLES

Many hookup issues may be resolved easily, by noting which connectors are used at various points and then picking the right cables and connectors. For example, the connection port on the computer may be a DIN-type, while the connection port on the printer may be a 25-pin RS-232C type. Without the right kind of cable, you won't be able to hook the two together, let alone get the printer to work.

If you are buying a system from a full-price dealer, he or she should be able to provide you with the proper interfaces (connectors, cables, and circuit boards) and demonstrate all parts of your system working together. If you need a specialty cable, have your dealer or local electronics shop make it for you, unless you're an expert. This is a fairly straightforward matter, as long as you can provide specifications from your owners' manuals. Cables generally cost from $15 to $50.

Cables should be long enough to reach where you need them to go, with little slack. If they're too long, you risk power loss.

PRINTER INTERFACES

Depending on your computer brand or model, you may or may not have a printer interface port already built in. Shop carefully, and consider the price of the interface if you'll need to buy it separately. Atari requires that you buy an Atari 850 Interface to use a printer other than an Atari printer with its computers. For TI-99/4A computers, you need a peripheral expansion box. To use a Centronics-type printer, you will need an additional printer card to fit inside the box, and a special cable, such as the TI CEN cable made by Tenex Computer Marketing Systems.

Or look at the Commodore 64 and VIC-20. If you use them with a Commodore-brand printer, no printer interface is needed; a simple cable with compatible connectors will suffice. But, if you want to use a non-Commodore printer, you'll need a separate printer interface, which is a little, box-like device.

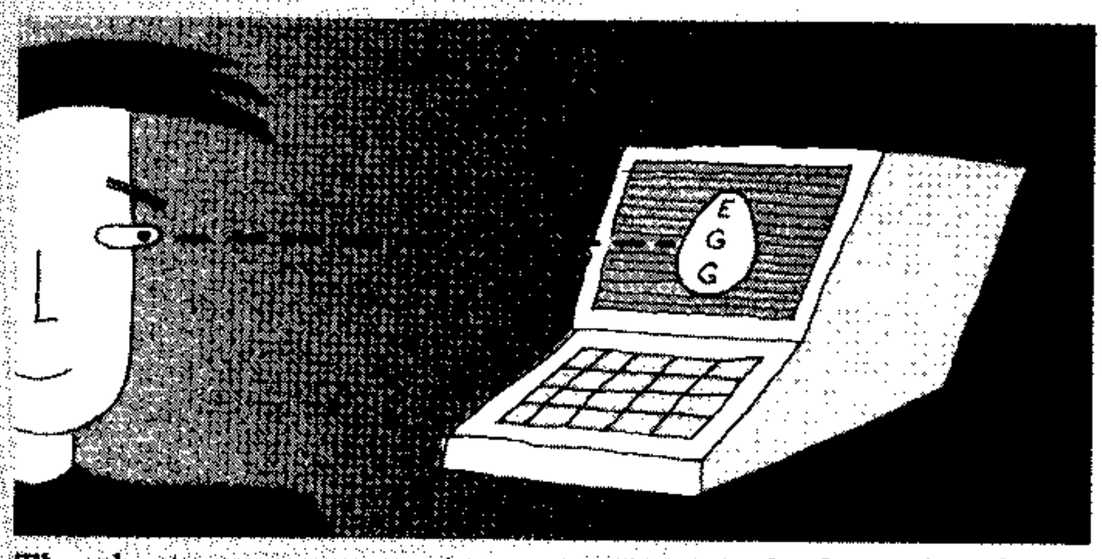
In general, Centronics-type printers will be the easiest kind to connect, as long as you have a parallel port on your computer. The connect-

SAMPLE PRINTER INTERFACES

Product	Manufacturer	Computer
Atari 850 Module	Atari Inc. 1265 Borregas Ave. Sunnyvale, CA 94086; (408) 745-2000	Atari
Printer Interface	Data 20 Corporation 23011 Moulton Pkwy, Suite B10 Laguna Hills, CA 92653; (714) 770-2366	Commodore
Various models	Engineering Specialties 1501-B Pine St., P.O. Box 2233 Oxnard, CA 93030; (805) 486-0817	Various
MPP-1100 Parallel Printer Interface	Microbits Peripheral Products Inc. 205 W. Third St., Albany, OR 97321; (503) 967-9075	Atari
Centronics Parallel; RS-232 Interface	Memotech Corp. 99 Cabot St., Needham, MA 02194; (617) 449-6614	Timex
Smart ASCII Plus	Midwest Micro Inc. 311 W. 72nd St., Kansas City, MO 64114; (816) 333-7200	Commodore
MicroPal Cables	Tenex Computer Marketing Syst. Box 6578, South Bend, IN 46660; (800) 348-2778	TI-99/4A
Interpod	SJB Distributers 10520 Plano Rd., Suite 206 Dallas, TX 75238; (214) 494-3585	Commodore

EGG HUNT

BY JOEY LATIMER



Thanks to your computer, your child can be assured of the fun of an Easter *Egg Hunt*, regardless of the weather. All it takes is a little help from a parent:

Separately color seven hard-boiled eggs each of these colors: Blue, green, yellow, red, orange, white, and purple. Next, hide the eggs in the locations indicated in lines 1000–1060. (For example, the yellow egg should be hidden under the child's pillow.) Place a surprise, such as a chocolate egg, in the last location indicated in line 1070 (your bedroom). Then set your computer to all uppercase letters.

The program is now ready for your child to play. It will start with directions to look under the kitchen sink, where a blue egg should be found. Blue is the code word, which, when typed into the computer, will reveal the next location. (For younger children, you might wish to write the color with magic marker on the appropriately colored egg.)

It's easy to alter the program for various occasions (birthdays, rainy-day activities, etc.) by substituting different locations and code words in lines 1000–1070. When you make these changes, be sure to include the exact line number, the word DATA, the comma between location and code word, and the exact spacing, as in the original program.

Base Version (TRS-80 Model III)/*Egg Hunt*

```
220 CLS
230 PRINT "WELCOME TO THE EASTER"
240 PRINT "        EGG HUNT!"
250 PRINT
260 FOR R = 1 TO 8
270 READ PLACE$,CODE$
280 IF CODE$ = "END" THEN 570
290 PRINT "LOOK ..."
300 PRINT PLACE$
310 PRINT "FOR A COLORED"
320 PRINT "EASTER EGG."
330 PRINT
340 PRINT "TYPE THE COLOR OF"
350 PRINT "THE EGG, THEN"
360 PRINT "PRESS <ENTER>."
370 PRINT
380 PRINT "WHAT IS THE COLOR";
390 INPUT ANSWER$
400 IF ANSWER$ = CODE$ THEN 460
410 PRINT
420 PRINT "SORRY, WRONG COLOR!"
430 PRINT "PLEASE TRY AGAIN."
440 GOTO 380
450 CLS
460 FOR T = 1 TO 59
470 PRINT "COLOR ACCEPTED ";
480 NEXT T
490 PRINT
500 PRINT
510 PRINT "PRESS <ENTER>"
520 PRINT "TO CONTINUE."
530 R$ = INKEY$
540 IF R$ <> CHR$(13) THEN 530
550 CLS
560 NEXT R
570 PRINT "GREAT! YOU'VE"
580 PRINT "DONE IT!"
590 PRINT
600 PRINT "LOOK ..."
610 PRINT PLACE$
620 PRINT "TO FIND A SURPRISE!"
630 END
1000 DATA UNDER THE KITCHEN SINK,BLUE
1010 DATA IN THE REFRIGERATOR,GREEN
1020 DATA UNDER YOUR PILLOW,YELLOW
1030 DATA IN YOUR SOCKS DRAWER,RED
1040 DATA IN THE BATHROOM,ORANGE
1050 DATA IN YOUR CLOSET,WHITE
1060 DATA IN THE MAILBOX,PURPLE
1070 DATA IN YOUR PARENTS' ROOM,END
```

MODIFICATIONS FOR OTHER COMPUTERS

ADAM/*Egg Hunt*

Use the base version, with the following alterations: Change CLS to HOME in lines 220, 450, and 550. Change <ENTER> to <RETURN> in lines 360 and 510. Change 59 to 42 in line 460. Finally, change line 530 to read as follows:

```
530 GET R$
```

Apple/*Egg Hunt*

Use the ADAM version, except change 59 to 57 in line 460.

Atari/*Egg Hunt*

Use the base version, with the following alterations: Change CLS to PRINT CHR$(125) in lines 220, 450, and 550. Change <ENTER> to <RETURN> in lines 360 and 510. Change 59 to 16 in line 460. Add the following lines:

```
10 DIM PLACE$(30),CODE$(10),ANSWER$(10)
210 OPEN #1,4,0,"K:"
```

Finally, change lines 530 and 540 to read as follows:

```
530 GET #1,A
540 IF A<>155 THEN 530
```

Commodore 64/*Egg Hunt*

Use the base version, with the following alterations: Change CLS to PRINT CHR$(147) in lines 220, 450, and 550. Change <ENTER> to <RETURN> in lines 360 and 510. Change 59 to 60 in line 460. Finally, change line 530 to read as follows:

```
530 GET R$
```

IBM PC/*Egg Hunt*

Use the base version, except change 59 to 120 in line 460 and add line 200:

```
200 KEY OFF
```

IBM PC*jr*/*Egg Hunt*

Use the base version, except change 59 to 46 in line 460 and add line 200:

```
200 KEY OFF
```

TI-99/4A/*Egg Hunt*

Use the base version, with the following alterations: Change CLS to CALL CLEAR in lines 200, 450, and 550. Change 59 to 28 in line 460. Finally, change lines 470, 530, and 540 to read as follows:

```
470 PRINT "COLOR OK ";
530 CALL KEY(0,KEY,STATUS)
540 IF KEY<>13 THEN 530
```

Timex Sinclair 1000 & 1500/*Egg Hunt*

Use the base version, with the following alterations: Omit lines 270 and 1000-1070. Change 64 to 15 in line 460. Add the following lines:

```
10 DIM P$(8,30)
20 DIM C$(8,10)
30 SLOW
40 LET P$(1) = "UNDER THE KITCHEN SINK"
50 LET C$(1) = "BLUE"
60 LET P$(2) = "IN THE REFRIGERATOR"
70 LET C$(2) = "GREEN"
80 LET P$(3) = "UNDER YOUR PILLOW"
90 LET C$(3) = "YELLOW"
100 LET P$(4) = "IN YOUR SOCKS DRAWER"
110 LET C$(4) = "RED"
120 LET P$(5) = "IN THE BATHROOM"
130 LET C$(5) = "ORANGE"
140 LET P$(6) = "IN YOUR CLOSET"
150 LET C$(6) = "WHITE"
160 LET P$(7) = "IN THE MAILBOX"
170 LET C$(7) = "PURPLE"
180 LET P$(8) = "IN YOUR PARENTS ROOM"
190 LET C$(8) = "END"
```

Finally, change lines 280, 300, 390, 400, 410, 530, 540, 570, 610, and 630 to read as follows:

```
280 IF C$(R,TO 3) = "END" THEN GOTO 570
300 PRINT P$(R)
390 INPUT A$
400 IF A$ = C$(R,TO LEN A$) THEN GOTO 460
410 CLS
530 LET R$ = INKEY$
540 IF R$ <> CHR$ 118 THEN GOTO 530
570 PRINT "GREAT. YOU HAVE"
610 PRINT P$(R)
630 STOP
```

Timex Sinclair 2068/*Egg Hunt*

Use the base version, with the following alterations: Replace PLACE$ by P$, CODE$ by C$, and ANSWER$ by A$ wherever they appear. Change 59 to 32 in line 460.

In lines 1000-1070, surround each data item by quotation marks. So, for example, you would change line 1000 to read

```
1000 DATA "UNDER THE KITCHEN SINK","BLUE"
```

Finally, change lines 280, 400, 530, 540, and 630 to read as follows:

```
280 IF C$(TO 3) = "END" THEN GOTO 570
400 IF A$ = C$ THEN GOTO 460
530 LET R$ = INKEY$
540 IF R$ <> CHR$(13) THEN GOTO 530
630 STOP
```

TRS-80 Color Computer/*Egg Hunt*

Use the base version, except change 59 to 32 in line 460.

TRS-80 Model 4/*Egg Hunt*

Use the base version, except change 59 to 120 in line 460.

VIC-20/*Egg Hunt*

Use the Commodore 64 version, except omit the semicolon at the end of line 380 and change 59 to 16, not 60, in line 460.

TOP SECRET

BY JOEY LATIMER

This program is so *Top Secret*, we can't say too much about it. We'd like to, understand, but it just isn't safe!

But, let us offer you a few bits of advice. Never, we repeat, *never*, reveal your code number to anyone! Don't run the program if anybody else is in the room. Since it's always better to be safe than sorry, shut the curtains before you begin! And shut the door, too, if you have a loud laugh!

ADAM/*Top Secret*

```
10 TEXT
30 HOME
40 PRINT "This is a top secret program!"
60 PRINT
70 PRINT "Press <RETURN> after"
80 PRINT "each reply."
90 PRINT
100 PRINT "What is your code name?";
110 INPUT n$
120 IF n$ = "" THEN 70
130 HOME
140 PRINT "Congratulations, "; n$; "!"
150 PRINT "your code has been accepted."
160 PRINT "Now, please type a four digit"
170 PRINT "code number, and"
180 PRINT "press <RETURN>."
200 INPUT "What is the number?"; n
220 IF n > 999 AND n < 10000 THEN 290
240 PRINT
250 PRINT "INVALID NUMBER! TRY AGAIN."
270 PRINT
280 GOTO 200
290 HOME
300 PRINT "Your name is: "; n$
310 PRINT
320 PRINT "Your number is: "; n
330 PRINT
340 PRINT "Is that right (Y/N)"
350 GET a$
370 IF a$ <> CHR$(89) AND a$ <> CHR$(121) THEN RUN
380 HOME
390 PRINT "O.K., ";n$;", press <c> to"
400 PRINT "begin a quick hardware check."
420 GET a$
430 IF a$ <> CHR$(67) AND a$ <> CHR$(99) THEN 420
440 HOME
450 FOR t = 1 TO (RND(1)*8)+5
460 PRINT "LOCATION #"; t; "= OK"
470 FOR d = 1 TO 600
480 NEXT d
490 NEXT t
500 PRINT "LOCATION #"; t; "= TROUBLE"
510 PRINT
520 PRINT "Press <RETURN> for help."
530 GET a$
```

```
2030 DATA 1227,1232,1234,1239,1241,1246,1488,1494
2040 DATA 1496,1501,1547,1552,1554,1559,1561,1566
2050 DATA 1576,1581,1707,1711,1736,1741,1954,1959
2060 DATA 1961,1966,1968,1974,1976,1981,-1,-1
2070 DATA 1067,1467,1547,1947,1072,1472,1074,1474
2080 DATA 1554,1954,1079,1239,1559,1959,1081,1481
2090 DATA 1561,1961,1284,1324,1365,1405,1086,1246
2100 DATA 1446,1486,1566,1926,1568,1968,1131,1451
2110 DATA 1096,1496,1576,1736,1741,1981,-1,-1
```

IBM PC with advanced BASIC and PC*jr* with cassette BASIC/*Top Secret*

```
30 CLS
40 PRINT "THIS IS A TOP SECRET PROGRAM!"
60 PRINT
70 PRINT "PRESS <ENTER> AFTER EACH REPLY."
90 PRINT
100 PRINT "WHAT IS YOUR CODE NAME";
110 INPUT N$
120 IF N$ = "" THEN 100
130 CLS
140 PRINT "CONGRATULATIONS, ";N$;"!"
150 PRINT "YOUR CODE NAME HAS BEEN ACCEPTED."
160 PRINT "NOW, PLEASE TYPE IN A FOUR DIGIT"
170 PRINT "CODE NUMBER, THEN PRESS <ENTER>."
190 PRINT
200 INPUT "WHAT IS THE NUMBER";N
220 IF N > 999 AND N < 10000 THEN 290
240 PRINT
250 PRINT "INVALID NUMBER! TRY AGAIN."
270 PRINT
280 GOTO 200
290 CLS
300 PRINT "YOUR NAME IS: ";N$
310 PRINT
320 PRINT "YOUR NUMBER IS: ";N
330 PRINT
340 PRINT "IS THAT RIGHT? (Y/N)"
350 A$ = INKEY$
360 IF A$ = "" THEN 350
370 IF A$ <> CHR$(89) AND A$ <> CHR$(121) THEN RUN
380 CLS
390 PRINT "O.K., ";N$;", PRESS <C> TO"
400 PRINT "BEGIN A QUICK HARDWARE CHECK."
420 A$ = INKEY$
430 IF A$ <> CHR$(67) AND A$ <> CHR$(99) THEN 420
440 CLS
450 FOR T=1 TO RND(8)+5
460 PRINT "LOCATION#";T;"= OK"
470 FOR D = 1 TO 600
480 NEXT D
490 NEXT T
500 PRINT "LOCATION#";T;"= TROUBLE"
510 PRINT
520 PRINT "PRESS <ENTER> FOR HELP."
530 A$ = INKEY$
540 IF A$ <> CHR$(13) THEN 530
550 CLS
560 PRINT N$;", DIAGNOSTICS SHOW"
570 PRINT "THAT YOUR COMPUTER HAS A"
580 FOR X = 1 TO 27
590 READ P
600 PRINT CHR$(P);
610 FOR D = 1 TO 400
620 NEXT D
630 NEXT X
640 PRINT
650 PRINT "PLEASE WAIT 15 SECONDS FOR A"
660 PRINT "COMPLETE DIAGNOSIS. TIME:"
690 FOR T = 15 TO 0 STEP -1
700 FOR D = 1 TO 400
710 NEXT D
750 LOCATE 5,27
760 PRINT T;"  "
770 NEXT T
780 SCREEN 1,0
790 CLS
800 COLOR 3,0
810 RESTORE 2020
820 READ X1,Y1
830 PSET (X1,Y1),2
840 READ X2,Y2
850 IF Y2 = -1 THEN 820 ELSE IF Y2 = -2 THEN 880
860 LINE - (X2,Y2),2
870 GOTO 840
880 CIRCLE (280,184),8,2
890 PAINT (319,199),1,2
900 RESTORE 2210
910 FOR I = 1 TO 12
920 READ PX,PY
930 PAINT (PX,PY),3,2
940 NEXT I
950 FOR I = 1 TO 5
960 READ LX1,LY1,LX2,LY2
970 LINE (LX1,LY1) - (LX2,LY2),1,BF
980 NEXT I
990 CIRCLE (280,56),48,3,,,8/5
1000 PAINT (280,56),0,3
1010 LINE (250,56) - (310,64),2,BF
1020 GOTO 1020
2000 DATA 83,69,86,69,82,69,32,73,78,84,69,82,78,65
2010 DATA 76,32,77,65,76,70,85,78,67,84,73,79,78
2020 DATA 40,8,16,8,8,24,8,88,24,88,24,56,32,56,32,88
2030 DATA 48,88,48,24,40,8,-1,-1,88,8,56,8,56,88,72,88
2040 DATA 72,56,88,56,96,40,96,24,88,8,-1,-1,136,8,104
2050 DATA 8,104,88,120,88,120,56,128,72,128,88,144,88
2060 DATA 144,72,136,56,144,40,144,24,136,8,-1,-1,184
2070 DATA 8,152,8,152,24,160,24,160,72,152,72,152,88
2080 DATA 184,88,184,72,176,72,176,24,184,24,184,8,-1
2090 DATA -1,208,8,192,8,192,88,232,88,232,72,208,72
2100 DATA 208,8,-1,-1,48,112,8,112,8,192,24,192,24,160
2110 DATA 48,160,48,144,24,144,24,128,48,128,48,112,-1
2120 DATA -1,88,112,64,112,56,128,56,176,64,192,88,192
2130 DATA 96,176,96,128,88,112,-1,-1,136,112,112,112
2140 DATA 104,128,104,176,112,192,136,192,144,176,144
2150 DATA 128,136,112,-1,-1,168,112,152,112,152
2160 DATA 192,192,192,192,176,168,176,168,112,-1,-1
2170 DATA 240,136,224,136,240,160,240,176,232,192,208
2180 DATA 192,200,176,200,168,216,168,200,144,200,128
2190 DATA 208,112,232,112,240,128,240,136,-1,-1,296
2200 DATA 112,264,112,272,168,288,168,296,112,-1,-2
2210 DATA 39,9,87,9,135,9,183,9,207,9,47,113,87,113,135
2220 DATA 113,167,113,231,113,295,113,280,184,24,24,32
2230 DATA 40,72,24,80,40,120,24,128,40,72,136,80,168
2240 DATA 120,136,128,168
```

TI-99/4A/*Top Secret*

```
10 RANDOMIZE
30 CALL CLEAR
40 PRINT "THIS IS A"
50 PRINT "TOP SECRET PROGRAM!"
60 PRINT
70 PRINT "PRESS <ENTER> AFTER"
80 PRINT "EACH REPLY."
90 PRINT
100 PRINT "WHAT IS YOUR CODE NAME?"
110 INPUT N$
120 IF N$="" THEN 100
130 CALL CLEAR
140 PRINT "ALRIGHT, ";N$;","
150 PRINT "YOUR CODE NAME IS ACCEPTED."
160 PRINT "NOW, TYPE A FOUR DIGIT CODE"
170 PRINT "NUMBER, THEN PRESS <ENTER>."
190 PRINT
200 INPUT "WHAT IS THE NUMBER?":N
220 IF N>999 THEN 230 ELSE 240
230 IF N<10000 THEN 290
240 PRINT
250 PRINT "INVALID NUMBER! TRY AGAIN."
270 PRINT
280 GOTO 200
```

```
290 CALL CLEAR
300 PRINT "YOUR NAME IS: ";N$
310 PRINT
320 PRINT "YOUR NUMBER IS: ";N
330 PRINT
340 PRINT "IS THAT RIGHT? (Y/N)"
350 CALL KEY(0,A,ST)
360 IF ST=0 THEN 350
370 IF A<>89 THEN 30
380 CALL CLEAR
390 PRINT "O.K., ";N$;", PRESS <C> TO"
400 PRINT "BEGIN A QUICK"
410 PRINT "HARDWARE CHECK."
420 CALL KEY(0,A,ST)
430 IF A<>67 THEN 420
440 CALL CLEAR
450 FOR T=1 TO INT(8*RND)+5
460 PRINT "LOCATION#";T;"= O.K."
470 FOR D=1 TO 300
480 NEXT D
490 NEXT T
500 PRINT "LOCATION#";T;"= TROUBLE"
510 PRINT
520 PRINT "PRESS <ENTER> FOR HELP"
530 CALL KEY(0,KEY,STATUS)
540 IF KEY<>13 THEN 530
550 CALL CLEAR
560 PRINT N$;", DIAGNOSTICS SHOW"
570 PRINT "THAT YOUR COMPUTER HAS A"
580 FOR X=1 TO 27
590 READ P
600 PRINT CHR$(P);
610 FOR D=1 TO 200
620 NEXT D
630 NEXT X
640 PRINT
650 PRINT "PLEASE WAIT 15 SECONDS FOR A"
660 PRINT "COMPLETE DIAGNOSIS."
690 FOR D=1 TO 700
700 NEXT D
710 CALL CLEAR
720 FOR T=15 TO 1 STEP -1
730 PRINT "TIME:";T
740 FOR D=1 TO 200
750 NEXT D
760 CALL CLEAR
770 NEXT T
780 CALL CLEAR
790 CALL SCREEN(10)
800 REM  **BE SURE YOUR ALPHA LOCK KEY IS DEPRESSED!**
810 A$="FFFFFFFFFFFFFFFF"
820 CALL CHAR(128,A$)
830 READ A,B,R
840 IF A=-1 THEN 870
850 CALL HCHAR(A,B,128,R)
860 GOTO 830
870 READ A,B,R
880 IF A=-1 THEN 910
890 CALL VCHAR(A,B,128,R)
900 GOTO 870
910 GOTO 910
2000 DATA 83,69,86,69,82,69,32,73,78,84,69,82,78,65,7(
2010 DATA 32,77,65,76,70,85,78,67,84,73,79,78,2,3,5,2
2020 DATA 9,5,2,15,5,2,21,5,6,3,5,6,9,5,6,15,5,8,16,1
2030 DATA 9,17,1,10,18,1,11,19,1,11,21,5,11,27,4,14,3
2040 DATA 5,14,9,5,14,15,5,14,27,4,18,3,4,18,27,4,23,9
2050 DATA 5,23,15,5,23,21,5,23,27,4,-1,-1,-1,2,3,10,2
2060 DATA 7,10,2,9,10,2,13,5,2,15,10,2,19,5,2,23,10,2
2070 DATA 27,10,14,3,10,14,9,10,14,13,10,14,15,10,14
2080 DATA 19,10,14,21,10,14,27,5,18,30,5,-1,-1,-1
```

TRS-80 Color Computer/*Top Secret*

```
30 CLS
40 PRINT "THIS IS A TOP SECRET PROGRAM!"
60 PRINT
70 PRINT "PRESS <ENTER> AFTER EACH REPLY."
90 PRINT
100 PRINT "WHAT IS YOUR CODE NAME";
110 INPUT N$
120 IF N$ = "" THEN 100
130 CLS
140 PRINT "CONGRATULATIONS, "N$"!"
150 PRINT "YOUR CODE NAME IS ACCEPTED."
160 PRINT "NOW, PLEASE TYPE A FOUR DIGIT"
170 PRINT "CODE NUMBER, THEN PRESS <ENTER>."
190 PRINT
200 INPUT "WHAT IS THE NUMBER";N
220 IF N>999 AND N<10000 THEN 290
240 PRINT
250 PRINT "INVALID NUMBER! TRY AGAIN."
270 PRINT
280 GOTO 200
290 CLS
300 PRINT "YOUR NAME IS: "N$
310 PRINT
320 PRINT "YOUR NUMBER IS: "N
330 PRINT
340 PRINT "IS THAT RIGHT? (Y/N)"
350 A$ = INKEY$
360 IF A$ = "" THEN 350
370 IF A$ = "N" THEN RUN
380 CLS
390 PRINT "O.K., "N$", PRESS <C> TO"
400 PRINT "BEGIN A QUICK HARDWARE CHECK."
420 A$ = INKEY$
430 IF A$<> CHR$(67) THEN 420
440 CLS
450 FOR T=1 TO RND(8)+5
460 PRINT "LOCATION #"T"= OK"
470 FOR D = 1 TO 600
480 NEXT D
490 NEXT T
500 PRINT "LOCATION #"T"= TROUBLE"
510 PRINT
520 PRINT "PRESS <ENTER> FOR HELP."
530 A$ = INKEY$
540 IF A$ <> CHR$(13) THEN 530
550 CLS
560 PRINT N$", DIAGNOSTICS SHOW"
570 PRINT "THAT YOUR COMPUTER HAS A"
580 FOR X = 1 TO 27
590 READ P
600 PRINT CHR$(P);
610 FOR D = 1 TO 400
620 NEXT D
630 NEXT X
640 PRINT
650 PRINT "PLEASE WAIT 15 SECONDS FOR A"
660 PRINT "COMPLETE DIAGNOSIS. TIME:"
690 FOR T = 15 TO 0 STEP -1
700 FOR D = 1 TO 400
710 NEXT D
760 PRINT@153,T
770 NEXT T
780 CLS(7)
790 READ A,B
800 IF A = -1 THEN 850
810 FOR Z = A TO B
820 PRINT@Z,CHR$(191);
830 NEXT Z
840 GOTO 790
850 READ A,B
860 IF A = -1 THEN 910
870 FOR Z = A TO B STEP 32
880 PRINT@Z,CHR$(255);
890 NEXT Z
900 GOTO 850
910 GOTO 910
2000 DATA 83,69,86,69,82,69,32,73,78,84,69,82,78
2010 DATA 65,76,32,77,65,76,70,85,78,67,84,73,79
2020 DATA 78,1,5,7,11,13,17,19,23,98,101,104,106
2030 DATA 109,113,143,143,176,176,209,209,211,215
2040 DATA 217,221,257,261,263,267,269,273,281,285
```

LOST IN SPACE

PUZZLE BY PETER FAVARO
PROGRAM BY JOE GELMAN

It is the year 2050 and space-shuttle travel has become quite commonplace on earth. Shuttle tickets can be purchased at most airport terminals for a moderate fee ($25,000 for a two-way excursion; $18,750 off-peak rates).

Northern Shuttle Carrier, Inc., has just begun its "Explorers Specials," featuring daylong charters to exotic moons and asteroids that have been scouted for safety but are otherwise unexplored and sometimes unpredictable.

Feeling the urge to get away, one day you purchase a ticket for Dormir, a space colony on the coldest side of Jupiter's second moon. An hour later, you find yourself aboard Northern's *Super Shuttle*, enjoying one of their in-flight holographs while whizzing along comfortably at about the speed of light. Your attention wanders from the orientation talks. "They're all the same anyway," you mutter to yourself: " 'Be careful not to separate from the group'; 'Be patient with irritable inhabitants'; 'Stay away from unfamiliar craters and rock formations.' "

Upon arrival, you immediately sense a burning dryness in your throat—stimulated, no doubt, by Dormir's temperature-controlled dome and your poorly adjusted new space suit. Your first order of business is to quench your thirst, and the sight of a refreshment stand off in the distance causes you to breathe an anticipatory sigh of relief.

Unfortunately, as was well explained during orientation, liquid intake upon arrival on Dormir causes drowsiness in humans due to metabolic and environmental factors. Drowsiness is putting it mildly! It isn't until seven and a half hours later that you open your eyes to the prodding of a snickering Dormirian, at which point several things become painfully evident.

First, you have been separated from the group and have no idea which crater your shuttle is docked on. Second, you notice that every crater, although clearly marked, consists of the same five letters but arranged in a different order. And third, all the Dormirians know where your crater is docked, but because of a ruling by their King Proto—a creature with a bizarre sense of humor—they can tell you only one letter in the name of the crater that you seek. "What good is that?" you wonder. You need to discover the key that will unravel the puzzle of the letter sequence.

DIRECTIONS

Set your computer to all uppercase letters before playing *Proto and the Dormirians*. When you run the program, you will be greeted by King Proto. To reach his subjects, type "N" (north), "S" (south), "W" (west), or "E" (east), using the illustration as a guide. You must speak to a minimum of three subjects before attempting to guess. But look at King Proto and his subjects carefully and think before you guess, because you can guess only once, since takeoff is in four minutes.

If you can't guess before the shuttle takes off or if you guess incorrectly, you will be stranded on this ridiculous rock for an entire week until the next shuttle arrives, when you'll have to guess from scratch again, since the shuttle docking location changes each week. However, you can get an additional clue after guessing incorrectly by typing "H" for help, to ensure that you will solve the puzzle in time for next week's takeoff.

The solution will appear in next month's issue.

PETER FAVARO, *Ph.D., is an educational and recreational video game design consultant and the author of several commercial software programs. He plans to "be doing all my space exploring in a homemade shuttle craft" by the year 2050.*

JOE GELMAN *plans to "be on the first ship out to Dormir" that year, but in the meantime is keeping busy as a freelance programmer. He is one of the founders of BASIC, an Atari users' group based in Brooklyn, New York.*

IBM PC*jr* w/Cartridge BASIC/*Proto and the Dormirians*

```
10 WL = 40:WIDTH WL:LOCATE ,,0
30 READ DR$,NL$,CR$,CLU$,SC$,NAM$
60 C = (INT(RND*5)+1)*5-4:ROOM = 1:MC = 0:IF C = LC TH
EN 60
70 TIME$ = "23:59:59":FOR I=1 TO 200:NEXT I
80 LC = C:CLS:PRINT:M$ = "I AM THE MASTER. THE PROTOTY
PE. "
90 M$ = M$+"ATTEND TO ME AND YOU WILL FIND WHAT YOU SE
EK.":GOSUB 3000
110 NR = ASC(MID$(CLU$,ROOM,1))-65:T = C+NR-1
120 IF MC > 0 THEN CLS
130 IF NR < 1 THEN 160
140 M$ = "I AM "+MID$(NAM$,ROOM*3-5,3)+",":GOSUB 3000
150 M$ = "AND THE LETTER I GIVE YOU IS *"+MID$(CR$,T,1
)+"*.":GOSUB 3000
160 PRINT:PRINT:M$ = "YOU CAN MOVE IN THESE DIRECTIONS
:":GOSUB 3000:PRINT:PRINT
170 M$ = " ":FOR X = ROOM*4-3 TO ROOM*4
180 IF MID$(DR$,X,1) <> "*" THEN M$ = M$+MID$(DR$,X,1)
+" "
190 NEXT X:GOSUB 3000:PRINT:PRINT
200 IF MC < 3 THEN M$ = "CHOOSE ONE:":GOSUB 3000:GOTO
220
210 M$ = "CHOOSE ONE, OR PRESS "+CHR$(34)+"G"+CHR$(34)
+" TO GUESS:":GOSUB 3000
220 G$ = INKEY$:IF G$ <> "" THEN 290
230 S = 59-VAL(RIGHT$(TIME$,2)):M = 3-VAL(MID$(TIME$,5
,1))
240 S$ = RIGHT$(STR$(S),2):IF S < 10 THEN S$ = "0"+RIG
HT$(S$,1)
250 IF TIME$ > "00:03:44" THEN SOUND 1000,2
260 IF TIME$ > "00:03:59" THEN 460
270 LOCATE 18
280 M$ = "<TIME TO DEPARTURE> "+STR$(M)+":"+S$:GOSUB 3
000:GOTO 220
290 IF G$ = "G" AND MC > 2 THEN 360
300 T = 0:FOR X = ROOM*4-3 TO ROOM*4
310 IF G$ = MID$(DR$,X,1) THEN ROOM = ASC(MID$(NL$,X,1
))-65:T = 1:MC = MC+1
320 NEXT X
330 IF T <> 0 THEN 110
340 PRINT:M$ = CHR$(7)+"YOU CAN'T GET THERE FROM HERE!
":GOSUB 3000
350 FOR X = 1 TO 1000:NEXT X:CLS:GOTO 110
360 CLS:M$ = "TYPE IN YOUR GUESS;":GOSUB 3000
370 M$ = "THEN PRESS <RETURN>.":GOSUB 3000:PRINT:PRINT
380 INPUT G$:IF G$ <> MID$(CR$,C,5) THEN 480
```

```
.":GOSUB 3000
100 POKE 53280,14:FOR R=54272 TO 54296:POKE R,0:NEXT R
110 NR=ASC(MID$(CLU$,ROOM,1))-65:T=C+NR-1
120 IF MC >0 THEN PRINT CHR$(147)
130 IF NR<1 THEN 160
140 M$="I AM "+CHR$(18)+MID$(NAM$,ROOM*3-5,3)+CHR$(146
):GOSUB 3000
150 M$="AND THE LETTER I GIVE YOU IS *"+MID$(CR$,T,1)+
"*.":GOSUB 3000
160 PRINT:PRINT :M$="YOU CAN MOVE IN THESE DIRECTIONS:
":GOSUB 3000:PRINT:PRINT
170 M$=" ":FOR X=ROOM*4-3 TO ROOM*4
180 IF MID$(DR$,X,1)<>"*" THEN M$=M$+MID$(DR$,X,1)+" "
190 NEXT X:GOSUB 3000:PRINT:PRINT
200 IF MC<3 THEN M$="CHOOSE ONE:":GOSUB 3000:GOTO 220
210 M$="CHOOSE ONE, OR PRESS "+CHR$(34)+"G"+CHR$(34)+"
 TO GUESS:":GOSUB 3000
220 GET G$:IF G$ <>"" THEN 290
230 S=59-VAL(RIGHT$(TI$,2)):M=3-VAL(MID$(TI$,4,1))
240 S$=RIGHT$(STR$(S),2):IF S<10 THEN S$="0"+RIGHT$(S$
,1)
250 IF TI$ >"000344" THEN T=15:PER=100:L=30:H=21:W=17:
GOSUB 1000:POKE 54296,0
260 IF TI$ > "000359" THEN 460
270 PRINT CHR$(19):FOR I=1 TO 10:PRINT CHR$(17):NEXT I
280 M$="<TIME TO DEPARTURE> "+STR$(M)+":"+S$:GOSUB 300
0:GOTO 220
290 IF G$="G" AND MC>2 THEN 360
300 T = 0: FOR X = ROOM*4-3 TO ROOM *4
310 IF G$=MID$(DR$,X,1) THEN ROOM=ASC(MID$(NL$,X,1))-6
5:T =1:MC=MC+1
320 NEXT X
330 IF T<>0 THEN 110
340 M$="YOU CAN'T GET THERE FROM HERE!":GOSUB 3000
350 FOR X=1 TO 500:NEXT X:PRINT CHR$(147):GOTO 110
360 PRINT CHR$(147):M$="TYPE IN YOUR GUESS;":GOSUB 300
0
370 M$="THEN PRESS <RETURN>.":GOSUB 3000:PRINT:PRINT
380 INPUT G$:IF G$<>MID$(CR$,C,5) THEN 480
390 PRINT CHR$(147):M$="CONGRATULATIONS ... YOU MADE I
T!":GOSUB 3000:PRINT
400 M$="ALL ABOARD!":GOSUB 3000:GOSUB 2000
420 PRINT:PRINT:M$="DO YOU WANT TO PLAY AGAIN?":GOSUB
3000
430 GET A$:IF A$="" THEN 430
440 IF A$="Y" THEN 60
450 END
460 PRINT CHR$(147):M$="THE SHUTTLE HAS DEPARTED.":GOS
UB 3000
470 M$="YOU'RE STUCK ON DORMIR UNTIL NEXT WEEK.":GOTO
50
480 PRINT CHR$(147):M$="NOPE! YOUR SHIP LEFT WITHOUT Y
OU.":GOSUB 3000
490 PRINT:M$="YOU'LL HAVE TO WAIT UNTIL NEXT WEEK."
500 GOSUB 3000:PER=600:H=30:L=15:W=129:FOR T=15 TO 0 S
TEP -1:GOSUB 1000:NEXT T
510 PRINT:PRINT "DO YOU WANT TO ...":PRINT " GET <H>EL
P;"
520 PRINT " <P>LAY AGAIN OR;":PRINT " <Q>UIT"
530 GET A$:IF A$="" THEN 530
540 IF A$="Q" THEN PRINT CHR$(147):END
550 IF A$ <> "H" THEN 60
560 PRINT:M$="":FOR X=1 TO 48:M$=M$+CHR$(ASC(MID$(SC$,
X,1))-1):NEXT X
570 M$=M$+".":GOSUB 3000:FOR I=1 TO 1000:NEXT I:GOTO 6
0
1000 POKE 53280,INT(RND(0)*16):POKE 54278,240
1010 POKE 54296,T:POKE 54272,L
1020 POKE 54273,H:POKE 54276,W
1030 FOR F=1 TO PER:NEXT F
1040 RETURN
2000 POKE 54278,240:FOR T=1 TO 15
2010 POKE 54296,T:POKE 54272,81:POKE 54273,3:POKE 5427
6,129
2020 POKE 53280,INT(RND(0)*16):FOR D=0 TO 400:NEXT D:N
EXT T
2030 FOR I=1 TO 300:POKE 53280,INT(RND(0)*16):NEXT I:P
OKE 54296,0:RETURN
3000 IF LEN(M$) <WL THEN PRINT SPC((WL-LEN(M$))/2+.6);
M$:RETURN
3010 L=WL-1:FOR I=2 TO WL:IF MID$(M$,I,1)=" " THEN L=I
-1
3020 NEXT I:PRINT LEFT$(M$,L):M$=RIGHT$(M$,LEN(M$)-L-1
):GOTO 3000
4000 DATA NSEW*SE**SEW*S*WNSE*NSEWNS*WN*E*NSEW*S*WN*E*
N*EWN**W
4010 DATA GLJIAFDAAGECAHADCIGADBHFEJAGFABAHMKBANAJBAMA
JANLKAAM
4020 DATA NIMRONIMORMINORMIRONNIROM,ADBEBCBCCBBBF
4030 DATA DPVOU!UIF!XBZT!FBDI!OBUJWF!EJGGFST!GSPN!UIF!
LJOH
4040 DATA MOXVOVTRIIMODIZKAKCEEZUUOOLUTOEEXJOL
```

TI-99/4A w/TI Extended BASIC/*Proto and the Dormirians*

```
10 WL=28
30 READ DR$,NL$,CR$,CLU$,SC$,NAM$
60 C=(INT(6*RND)+1)*5-4 :: ROOM=1 :: MC=0 :: IF C=LC T
HEN 60
70 TM=240 :: VTAB=1
80 LC=C :: CALL CLEAR :: M$="I AM THE MASTER. THE PROT
OTYPE. "
90 M$=M$&"ATTEND TO ME AND YOU WILL FIND WHAT YOU SEEK
." :: GOSUB 3000
110 NR=ASC(SEG$(CLU$,ROOM,1))-65 :: T=C+NR-1
120 IF MC>0 THEN CALL CLEAR :: VTAB=1
130 IF NR<1 THEN 160
140 M$="I AM "&SEG$(NAM$,ROOM*3-5,3)&"," :: VTAB=1 ::
GOSUB 3000
150 M$="AND THE LETTER I GIVE YOU IS *"&SEG$(CR$,T,1)&
"*." :: VTAB=VTAB+1 :: GOSUB 3000
160 VTAB=VTAB+1 :: M$="YOU CAN MOVE IN THESE DIRECTION
S:" :: GOSUB 3000 :: VTAB=VTAB+1
170 M$=" " :: FOR X=ROOM*4-3 TO ROOM*4
180 IF SEG$(DR$,X,1)<>"*" THEN M$=M$&SEG$(DR$,X,1)&" "
190 NEXT X :: GOSUB 3000 :: VTAB=VTAB+2
200 IF MC<3 THEN M$="CHOOSE ONE:" :: GOSUB 3000 :: GOT
O 220
210 M$="CHOOSE ONE, OR PRESS "&CHR$(34)&"G"&CHR$(34)&"
 TO GUESS:" :: GOSUB 3000
220 CALL KEY(0,KEY,STATUS):: FOR DELAY=1 TO 10 :: NEXT
 DELAY :: IF STATUS<>0 THEN 290
230 TM=TM-0.29 :: M=INT(TM/60):: S=INT(TM-M*60):: S$=S
TR$(S)
240 IF S<10 THEN S$="0"&S$
250 IF TM<15 THEN I=11 :: CALL SOUND(-500,-7,I):: CALL
 SCREEN(INT(12*RND)+3):: TM=TM-0.1 :: I=I-1
260 IF TM<=0 THEN 460
280 M$="<TIME TO DEPARTURE> "&STR$(M)&":"&S$ :: DISPLA
Y AT(20,3):M$ :: GOTO 220
290 G$=CHR$(KEY):: IF G$="G" AND MC>2 THEN 360
300 T=0 :: FOR X=ROOM*4-3 TO ROOM*4
310 IF G$=SEG$(DR$,X,1)THEN ROOM=ASC(SEG$(NL$,X,1))-65
 :: T=1 :: MC=MC+1
320 NEXT X :: TM=TM-3.1
330 IF T<>0 THEN 110
340 VTAB=VTAB+2 :: M$="YOU CAN'T GET THERE FROM HERE!"
 :: GOSUB 3000
350 FOR DELAY=1 TO 1000 :: NEXT DELAY :: CALL CLEAR ::
 TM=TM-2.66 :: VTAB=1 :: GOTO 110
360 CALL CLEAR :: M$="TYPE IN YOUR GUESS;" :: VTAB=1 :
: GOSUB 3000
370 M$="THEN PRESS <ENTER>." :: GOSUB 3000 :: VTAB=VTA
B+2
380 INPUT G$ :: IF G$<>SEG$(CR$,C,5)THEN 480
390 CALL CLEAR :: M$="CONGRATULATIONS ... YOU MADE IT!
" :: VTAB=1 :: GOSUB 3000 :: VTAB=VTAB+1
400 M$="ALL ABOARD!" :: GOSUB 3000 :: GOSUB 1000
420 VTAB=VTAB+2 :: M$="DO YOU WANT TO PLAY AGAIN?" ::
GOSUB 3000
430 CALL KEY(0,KEY,STATUS):: IF STATUS=0 THEN 430
440 IF CHR$(KEY)="Y" THEN 60
450 END
```

```
460 CALL CLEAR :: M$="THE SHUTTLE HAS DEPARTED." :: VT
AB=1 :: GOSUB 3000
470 M$="YOU'RE STUCK ON DORMIR UNTIL NEXT WEEK." :: GO
TO 500
480 CALL CLEAR :: M$="NOPE! YOUR SHIP LEFT WITHOUT YOU
." :: VTAB=1 :: GOSUB 3000
490 VTAB=VTAB+1 :: M$="YOU'LL HAVE TO WAIT UNTIL NEXT
WEEK."
500 GOSUB 3000 :: GOSUB 1000
510 M$="DO YOU WANT TO ..." :: VTAB=VTAB+2 :: GOSUB 30
00 :: M$=" GET <H>ELP;" :: GOSUB 3000
520 M$=" <P>LAY AGAIN; OR" :: GOSUB 3000 :: M$="<Q>UIT
?" :: GOSUB 3000
530 CALL KEY(0,KEY,STATUS):: IF STATUS=0 THEN 530
540 IF CHR$(KEY)="Q" THEN CALL CLEAR :: END
550 IF CHR$(KEY)<>"H" THEN 60
560 VTAB=VTAB+1 :: M$="" :: FOR X=1 TO 48 :: M$=M$&CHR
$(ASC(SEG$(SC$,X,1))-1):: NEXT X
570 M$=M$&"." :: GOSUB 3000 :: FOR I=1 TO 1000 :: NEXT
 I :: GOTO 60
1000 TV=25 :: NV=1
1010 FOR TONE=200 TO 700 :: CALL SOUND(-500,TONE,TV,-6
,NV):: TV=TV-0.05 :: NV=NV+0.05 :: NEXT TONE
1020 RETURN
3000 IF LEN(M$)<WL THEN DISPLAY AT(VTAB,15-LEN(M$)/2):
M$ :: VTAB=VTAB+1 :: RETURN
3010 L=WL-1 :: FOR I=2 TO WL :: IF SEG$(M$,I,1)=" " TH
EN L=I-1
3020 NEXT I :: DISPLAY AT(VTAB,15-L/2):SEG$(M$,1,L)::
M$=SEG$(M$,L+1,LEN(M$)-L):: VTAB=VTAB+1 :: GOTO 3000
4000 DATA NSEW*SE**SEW*S*WNSE*NSEWNS*WN*E*NSEW*S*WN*E*
N*EWN**W
4010 DATA GLJIAFDAAGECAHADCIGADBHFEJAGFABAHMKBANAJBAMA
JANLKAAM
4020 DATA NIMRONIMORMINORMIRONNIROM,ADBEBCBCCBBBF
4030 DATA DPVOU!UIF!XBZT!FBDI!OBUJWF!EJGGFST!GSPN!UIF!
LJOH
4040 DATA MOXVOVTRIIMODIZKAKCEEZUUOOLUTOEEXJOL
```

Timex Sinclair 1000 w/16K RAM Pack & Timex Sinclair 1500/*Proto and the Dormirians*

Because the Timex Sinclair 1000 and 1500 do not allow READ and DATA statements nor more than one statement on a single numbered program line, the 1000/1500 version is much longer than the base version. If you would like a free translation of this program for the 1000 (with 16K RAM Pack) and 1500, send self-addressed, stamped envelope to Karen Cohen, "Timex Prototype," FAMILY COMPUTING, 730 Broadway, New York, NY 10003.

Timex Sinclair 2068/*Proto and the Dormirians*

```
10 LET LC=0
30 READ R$:READ L$:READ C$:READ U$:READ S$:READ N$
60 LET C=(INT (RND*5)+1)*5-4:LET ROOM=1:LET MC=0
70 LET TM=240:IF C=LC THEN GOTO 20
80 CLS:LET LC=C:LET M$="I AM THE MASTER. THE PROTOTYPE
. "
90 LET M$=M$+"ATTEND TO ME AND YOU WILL FIND WHAT YOU
SEEK.":GOSUB 3000
110 LET NR=CODE(U$(ROOM))-65:LET T=C+NR-1
120 IF MC>0 THEN CLS
130 IF NR<1 THEN GOTO 160
140 LET M$="I AM "+N$(ROOM*3-5 TO ROOM*3-3)+",":GOSUB
3000
150 LET M$="AND THE LETTER I GIVE YOU IS *"+C$(T)+"*."
:GOSUB 3000
160 PRINT :PRINT :LET M$="YOU CAN MOVE IN THESE DIRECT
IONS:":GOSUB 3000:PRINT :PRINT
170 LET M$=" ":FOR X=ROOM*4-3 TO ROOM*4
180 IF R$(X)<>"*"  THEN LET M$=M$+R$(X)+" "
190 NEXT X:GOSUB 3000:PRINT :PRINT
200 IF MC<3 THEN LET M$="CHOOSE ONE:":GOSUB 3000:GOTO
220
210 LET M$="CHOOSE ONE, OR PRESS "+CHR$ 34+"G"+CHR$ 34
+" TO GUESS:":GOSUB 3000
220 LET K=CODE INKEY$:IF K<>0 THEN GOTO 290
230 LET TM=TM-1:LET T1=INT (TM/60)
240 LET T2=INT(TM-T1*60):LET T$=STR$ T2:IF T2<10 THEN
LET T$="0"+T$
250 IF TM<15 THEN FOR I=1 TO 8:BEEP .011,34:BORDER (I-
1):NEXT I:LET TM=TM-1
260 IF TM<1 THEN GOTO 460
280 PRINT AT 17,4;:LET M$="<TIME TO DEPARTURE>  "+STR$
 T1+":"+T$:GOSUB 3000:PAUSE 60:GOTO 220
290 LET G$=CHR$ K:IF G$="G" AND MC>2 THEN GOTO 360
300 LET T=0:FOR X=ROOM*4-3 TO ROOM*4
310 IF G$=R$(X) THEN LET ROOM=CODE L$(X)-65:LET T=1:LE
T MC=MC+1
320 NEXT X:LET TM=TM-.55
330 IF T<>0 THEN GOTO 110
340 PRINT :LET M$="YOU CAN'T GET THERE FROM HERE!":GOS
UB 3000
350 FOR X=1 TO 345:NEXT X:CLS:LET TM=TM-1.1:GOTO 110
360 CLS:LET M$="TYPE IN YOUR GUESS;":GOSUB 3000
370 LET M$="THEN PRESS <RETURN>.":GOSUB 3000:PRINT :PR
INT
380 INPUT G$:IF G$<>C$(C TO C+4) THEN GOTO 480
390 CLS:LET M$="CONGRATULATIONS ... YOU MADE IT.":GOSU
B 3000:PRINT
400 LET M$="ALL ABOARD.":GOSUB 3000:GOSUB 1000
420 PRINT :PRINT :LET M$="DO YOU WANT TO PLAY AGAIN?":
GOSUB 3000:PAUSE 0
430 LET A$=INKEY$
440 IF A$="Y" THEN GOTO 60
450 STOP
460 CLS:LET M$="THE SHUTTLE HAS DEPARTED.":GOSUB 3000:
470 LET M$="YOU ARE STUCK ON DORMIR UNTIL NEXT WEEK.":
GOTO 500
480 CLS:LET M$="NOPE! YOUR SHIP LEFT WITHOUT YOU.":GOS
UB 3000
490 PRINT:LET M$="YOU WILL HAVE TO WAIT UNTIL NEXT WEE
K."
500 GOSUB 3000:GOSUB 1000
510 PRINT :PRINT :PRINT "DO YOU WANT TO ...":PRINT " G
ET <H>ELP;"
520 PRINT " <P>LAY AGAIN; OR":PRINT " <Q>UIT?"
530 PAUSE 0:LET A$=INKEY$
540 IF A$="Q" THEN CLS:STOP
550 IF A$<>"H" THEN GOTO 60
560 PRINT :LET M$="":::FOR X=1 TO 48:LET M$=M$+CHR$ (CO
DE (S$(X))-1):NEXT X
570 LET M$=M$+".":GOSUB 3000:FOR I=1 TO 345:NEXT I:GOT
O 60
1000 FOR X=1 TO 69:BEEP .01,33:NEXT X:SOUND 7,62;8,15
1010 FOR X=255 TO 0 STEP-1:SOUND 0,X:NEXT X:SOUND 8,0;
7,63:RETURN
3000 IF LEN M$<32 THEN PRINT TAB((32-LEN (M$))/2+.6);M
$:RETURN
3010 LET L=31:FOR I=2 TO 32:IF M$(I)=" " THEN LET L=I-
1
3020 NEXT I:PRINT TAB (32-L)/2;M$( TO L):LET M$=M$(L+2
 TO ):GOTO 3000
4000 DATA "NSEW*SE**SEW*S*WNSE*NSEWNS*WN*E*NSEW*S*WN*E
*N*EWN**W"
4010 DATA "GLJIAFDAAGECAHADCIGADBHFEJAGFABAHMKBANAJBAM
AJANLKAAM"
4020 DATA "NIMRONIMORMINORMIRONNIROM","ADBEBCBCCBBBF"
4030 DATA "DPVOU!UIF!XBZT!FBDI!OBUJWF!EJGGFST!GSPN!UIF
!LJOH"
4040 DATA "MOXVOVTRIIMODIZKAKCEEZUUOOLUTOEEXJOL"
```

VIC-20 w/8K RAM Cartridge/*Proto and the Dormirians*

```
10 POKE 36878,15:POKE 36879,24:WL=22
30 READ DR$,NL$,CR$,CLU$,SC$,NAM$
60 C=(INT(RND(0)*5)+1)*5-4:ROOM=1:MC=0:IF C=LC THEN 60
70 TI$="240000"
```

GAMES

Title Manufacturer Hardware	Brief description	Hardware/ Equipment required	Backup policy	Ratings O	D	EH	GQ	EU	V
BEACH-HEAD Access Software 925 E. 900 S. Salt Lake City, UT 84105 (801) 532-1134 $34.95 © 1983	Maneuver ships through treacherous waters, sink vessels, and destroy opponent's stronghold in strategy shoot-'em-up that demands calm decision-making and accurate aim from players over 13, younger with adult help.† —DELSON	Commodore 64 (disk or cassette).	Defective material replaced free; $7.50 fee if user-damaged.	★ ★ ★	★ ★ ★	★ ★	★ ★	A	★ ★ ★
BILESTOAD Datamost, Inc. 8943 Fullbright Ave. Chatsworth, CA 91311 (213) 709-1202 $39.95 © 1983	As a robot-like warrior, challenge computerized or human opponent warrior to exciting,if occasionally bloody,hand-to-hand combat on islands littered with magic symbols.† —DELSON	Apple II plus/IIe, 48K (disk). Also available for Commodore 64 (disk). Apple II plus requires joystick.	Defective disks replaced free.	★ ★ ★	★ ★ ★	★ ★ ★	★ ★	A	★ ★ ★
COMBAT LEADER Strategic Simulations, Inc. 883 Stierlin Rd. Bldg. A-200 Mountain View, CA 94043 (415) 964-1353 $39.95 © 1983	As platoon commander of tanks and armored personnel carriers, fight the enemy in terrain that has been preprogrammed or that you create yourself. Sophisticated war game requires time and patience. Good for ages 12+, younger with adult help.† —DELSON	Atari 400/800/ 1200XL, 48K (disk or cassette). Also available for Commodore 64 (disk or cassette).	Defective material replaced free w/ in 10 days; backup copy available for $10.	★ ★ ★ ★	★ ★ ★	★ ★ ★	★ ★	D	★ ★ ★ ★
JUMP JET Avant-Garde Creations, Inc. 1907 Garden Ave. Eugene, OR 97403 (503) 345-3043 $29.95 © 1983	Pilot a heavily armed, powerful jet over enemy attack ships, obliterate ground forces, and liberate loyal island territory in exciting action game, good for ages 12+.† —DELSON	Apple II/II plus/IIe, 48K (disk). Joystick optional.	Defective disks replaced free w/in 30 days; $5 fee if user-damaged.	★ ★ ★	★ ★	★ ★ ★	★ ★	E	★ ★ ★
JUMPMAN Epyx 1043 Kiel Ct. Sunnyvale, CA 94089 (408) 735-1600 approx. $40 © 1982	Jump and leap your way through 30 separate screens, defusing bombs and avoiding assorted perils to save Jupiter headquarters in one of the best ladder games to date, great for ages 8+. —DELSON	Commodore 64 (disk). Also available for Apple II/II plus/IIe, 48K (disk); Atari 400/800/1200XL, 48K (disk), 32K (cassette). Joystick required.	Defective material replaced free w/ in 30 days; $5 fee thereafter or if user-damaged.	★ ★ ★ ★	★ ★	★ ★ ★	★ ★	A	★ ★ ★
THE LAST GLADIATOR Electronic Arts 2755 Campus Dr. San Mateo, CA 94403 (415) 571-7171 $35 © 1983	As gladiator or gladiatrix, choose your weapon and take on everything from octopuses to snakes and 'droids in this clever action game with varying degrees of difficulty, good for ages 10+. Game is flawed by one objectionable characterization (see my games column, p. 26). —DELSON	Apple II/II plus/IIe, 48K (disk).	Defective disks replaced free w/in 90 days; $7.50 fee thereafter.	★ ★ ★	★	★ ★	★ ★	D	★ ★
M*A*S*H Texas Instruments P.O. Box 53 Lubbock, TX 79408 (800) 842-2737 $29.95 © 1983	Fly helicopters to rescue wounded combatants, operate to remove small shell fragments. Flexible system allows for rescue only, surgery only, or combination of both. Best suited for ages 8+. —DELSON	TI-99/4A, 16K (cartridge).	Defective materials replaced free w/in 90 days; $13 fee thereafter.	★ ★	★ ★ ★	★ ★	★ ★	E	★ ★
SPELUNKER Micro GraphicImage 12640 E. Northwest Hwy. Suite 410 Dallas, TX 75228 (214) 270-6688 $39.95 © 1983	Travel into the depths of a cave in search of hidden treasure, outwitting monsters, navigating along an obstacle-laden path in entertaining ladder-type game with rich variety of screens, for ages 10+. —DELSON	Atari 400/800/1200XL, 48K (disk). Joystick required.	Defective disks replaced free w/in 30 days; $5 fee if user-damaged.	★ ★ ★	★ ★	★ ★	★ ★ ★	D	★ ★ ★
THE STANDING STONES Electronic Arts 2755 Campus Dr. San Mateo, CA 94403 (415) 571-7171 $35 © 1983	Set forth on solitary quest in search of the Grail. Take on foes such as footpads and panes of glass in humorous, if simplistic, version of classic *Wizardry* series.† —DELSON	Apple II/II plus/IIe, 48K (disk).	Defective disks replaced free w/in 90 days; $7.50 fee thereafter.	★ ★	★ ★ ★	★ ★	★ ★	A	★ ★

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