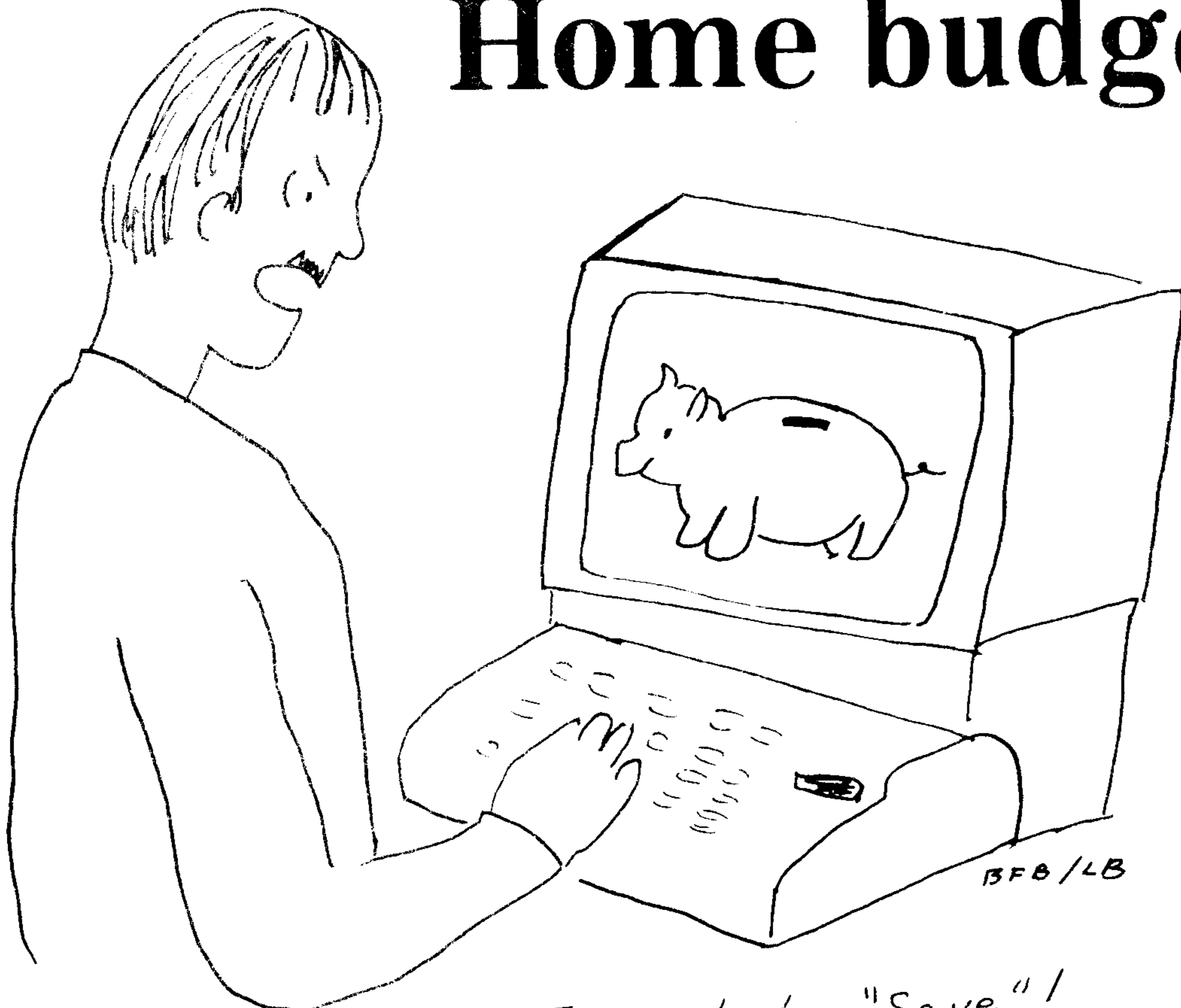

Home Computer Compendium

Volume 1 Number 3

April 1984

\$1.50

Home budgeting



That's NOT what I meant by "Save"!

Contents

Home Computer Compendium

Home Computer Compendium is published 12 times annually, in Round Rock, Texas. No material published in the pages of Home Computer Compendium may be used without permission of the author or the publisher. Computer user groups that have signed exchange agreements with Home Computer Compendium may excerpt articles appearing in Home Computer Compendium without prior approval.

While all efforts are directed at providing factual and true information in published articles, the publisher cannot accept responsibility for errors that appear in advertising or text appearing in Home Computer Compendium. The inclusion of brand names in text does not constitute an endorsement of any product by the publisher. Statements published in Home Computer Compendium which reflect erroneously on individuals, products or companies will be corrected upon contacting the publisher.

Display advertising deadlines and rates are available upon request.

All correspondence should be mailed to Home Computer Compendium at P.O. Box 1343, Round Rock, TX 78680. We cannot take responsibility for unsolicited manuscripts but will give consideration to anything sent to the above address. Manuscripts will be returned only if a self-enclosed, stamped envelope is included.

All editions of Home Computer Compendium are mailed from the Round Rock (Texas) Post Office. Subscriptions are \$12 for 12 issues, delivered via third class mail. In Canada, add \$3.50. Subscribers in the United States who wish first class delivery may also add \$3.50 to the basic subscription price.

Mailing address: P.O. Box 1343, Round Rock, TX 78680

Telephone: (512) 255-1512

Source: TI4596

John Koloen Publisher
Laura Burns Editor

Coming Next Month

—What retailers have to say about the future of the TI market. (How hard will you have to look?)

—What the new peripheral expansion box will look like (we hope).

—Reviews, reviews and more reviews.

Table of Contents

Here today, gone tomorrow

There are a limited number of Milton Bradley games designed for the MBX unit on dealer shelves. When they're gone, there will be no more Page 4

Cor-Comp reorganizes

The California company that is developing the 99/64 computer has a new management team. The 99/64, however, isn't coming out this spring Page 6

Programmers on the TI

They're trying to make a living by programming for the TI. Why'd they pick the TI99/4A in the first place, and where are they going from here? Page 7

Going Forth

Wycove Systems Limited introduces Version 2 of Wycove Forth on disk and cassette Page 11

Home budgeting

Who needs it? Well, anyone who wants to know where the money is going Page 12

Reviews

- Monthly Budget\$ Master Page 13
- Budget Master Page 14
- Home Budget Page 15
- Thief Page 17
- Donkey Kong Page 18
- Khe Sanh Page 19

Newsbytes

There will be nothing from Thorn E.M.I. for the TI Page 20

User Notes

Test screens for three cartridge games and a benchmark program that counts change Page 21

Classifieds Page 23

Comments

What we need is a good database program

Why hasn't anyone produced a good database management program for the TI?

While I'll accept written answers throughout the month, I can't think of many good reasons. Not when you look at the growing proliferation of word processing programs available for the TI. Why so many word processing programs?

It doesn't make any sense. More computer users could put a good database program to work than will ever use a word processing program.

Why?

Economics. It's cheaper. Word processing requires printers, and printers are expensive. Database programs can print to the screen and everyone with a keyboard has a screen of some sort.

Part of the problem may lie in the fact that a good database program requires at least 48K of memory. With databases, the more memory the better. Even so, it's a good bet that there are more TI owners with memory expansion cards than there are owners with printers.

WHO'S PRODUCING WHAT?

The next several months will be very interesting for TI users in the market for hardware and hardware producers in the need of a market. Cor-Comp and Mikel Laboratories Inc. are planning to produce expansion boxes. There are already several sources for memory expansions and RS232 interfaces. Disk drives have never been a problem, though obtaining disk drive manager cartridges may be. There's no shortage of monitors to choose from, color, green, amber or black and white. And, I predict there will not be a shortage of new software for the TI, though obtain-

How long will the hardware producers hang in there? Producing hardware calls for a significant investment, both in time and money, and the big question now is whether there is a market large enough to make it worthwhile.

ing it is probably going to get more difficult as time goes on.

But how long will the hardware producers hang in there? Producing hardware calls for a significant investment, both in time and money, and the big question now is whether there is a market large enough to make it worthwhile.

There are essentially two schools of thought on this issue: One, that everyone who has any intention of having a fully configured TI system already has one. Two, that as long as a manufacturer can produce affordably priced hardware there will be no shortage of people to buy it. If the market is firm, the real problem will be in reaching it. But that could be a bigger problem than anything that occurred during R&D.

This is where TI retailers come in. And I'm not talking about the K-Marts, Sears and department stores that TI relied on. I'm talking about the local businesses scattered all over the country that have dealt largely, if not exclusively, in TI home computer products. We'll be publishing a feature next month about these businesses so I won't go into great detail now. But it is my belief that anyone who is serious about marketing products for the TI

home computer must reach these dealers' shelves. TI users may buy their software at the nearest discount house, but when they need to have a problem solved or want to see a piece of software that doesn't have the mass appeal of Donkey Kong, it's to these businesses they must turn.

WHAT DO YOU WANT?

Now that we've published our third edition, it's time to ask what you the reader would like us to write about. We're not asking this question because we have run out of ideas. Far from it. Rather, we're more likely to run out of space. So we'd like to know what you want to see covered in these pages. As you already know, we tend to focus on product news, reviews and features.

Tell us what you think. It will be of considerable help.

And while I'm on the subject, I appreciate the little notes many of you have included with your subscriptions, particularly the ones which give us ideas for stories, or questions to ask. In a way, that's what our job is—to ask questions for you. And the better the questions, the better the answers. So, if there's something you'd like to know about, let us know what it is and we'll do our best to find out for you.

—JK

Debugged

The saying is: three strikes and you're out.

Well, this is our third try with this item and we hope we get it right. In our first issue, we mentioned a program called Quick-Copy that allows users

to copy disks much faster than with the TI disk manager cartridge permits. Although it costs \$39.95 we neglected to mention that there is a \$2 shipping-handling charge. Purchasers must note whether they want the Extended

BASIC, Editor/Assembler or Mini-Memory version when ordering. For more information, call or write: Quality Software, 1884 Columbia Rd. No. 500, Washington, D.C. 20009, (202) 667-3574.

The last of the MBX games are almost gone and just about forgotten

If you see a Milton Bradley game for the TI99/4A computer on a dealer's shelf, you'd be wise to snap it up if you want it.

Milton Bradley no longer produces cartridge games for the TI computer and after the cartridges that are now out are purchased there won't be any more available, according to a Milton Bradley spokeswoman.

The games were originally designed for use with the Milton Bradley Expander, the game playing peripheral that was supposed to give TI users voice control capabilities. Some of the software that was designed to operate with the MBX unit permitted

users to control the action on the screen by voice commands. However, only a limited number of the units were produced prior to TI's pullout from the home computer market. Production ceased at that point and the units that were produced were quickly gobbled up by TI employees. However, more cartridges were produced than MBX units and some of these cartridges have found their way to retailers' shelves.

The spokeswoman said most of the cartridge-based games will operate on the TI computer without the expander unit, but the voice command capabilities cannot be accessed. Three of the 10

games that Milton Bradley produced, she said, cannot be played without the expander peripheral. These are Championship Baseball, Terry Turtle's Adventure and I'm Hiding.

Games that can be played with the TI console are Meteor Belt, Space Bandit, Big Foot, Super Fly, Sewer-mania, Sound Track Trolley and Honey Hunt.

"Sound Track Trolley, for instance, is a very delightful children's game where you match things up and follow a tune," she said. "On the TI without the expansion unit you can play the game and do the matching but you can't follow the tune."

—LB

Mikel has RS232; developing PEB

Mikel Laboratories Inc. says it is stepping up production and distribution of its RS232-C interface system for the TI99/4A.

The Southern California company is selling its stand-alone unit for \$149.95.

The unit allows home computer owners to use a printer or modem with their computer without buying a peripheral expansion box.

The company also offers a cassette interface system that includes a cassette cable and recorder for \$49.95. It markets TI cassette cables for \$11.95.

Mikel says it is developing a line of peripherals for the TI computer, including a peripheral expansion box, memory card and other accessories.

According to Mikel spokesman David Zislis, there seems to be no shortage of ideas for the TI99/4A. "We're finding there's a lot of engineers out there who have developed different kinds of hardware," he says.

Zislis thinks the TI market will remain firm for some time, noting, "What we're getting is a lot of people calling every day and then I talk to vendors who say there's lots of people coming in for TI products. My perception is it looks pretty good."

HOME BUDGET

FLEXIBILITY
100% MENU DRIVEN
TOTAL FILE MAINTENANCE

HOME BUDGET incorporates these features and much more into its three programs with five user generated files. Some experts have stated that the computer will never truly find its place in individual homes until useful software is written to justify its placement therein. We at DCH Software believe that HOME BUDGET is a step in that direction. HOME BUDGET is flexible enough to satisfy both the casual and the serious budgeter. Printed output includes a list of checks sorted by check number or account number, a budget table with cumulative figures, a table of average and projected annual expenses, and a table of deposits showing the current checking account balance. Documentation includes an 11-page tutorial. The program can be backed-up or customized. SYSTEM REQUIREMENTS: RS232 printer, Memory Expansion, and ONE disk drive and Extended BASIC. Send \$19.95 (VA residents add 4% sales tax) to:

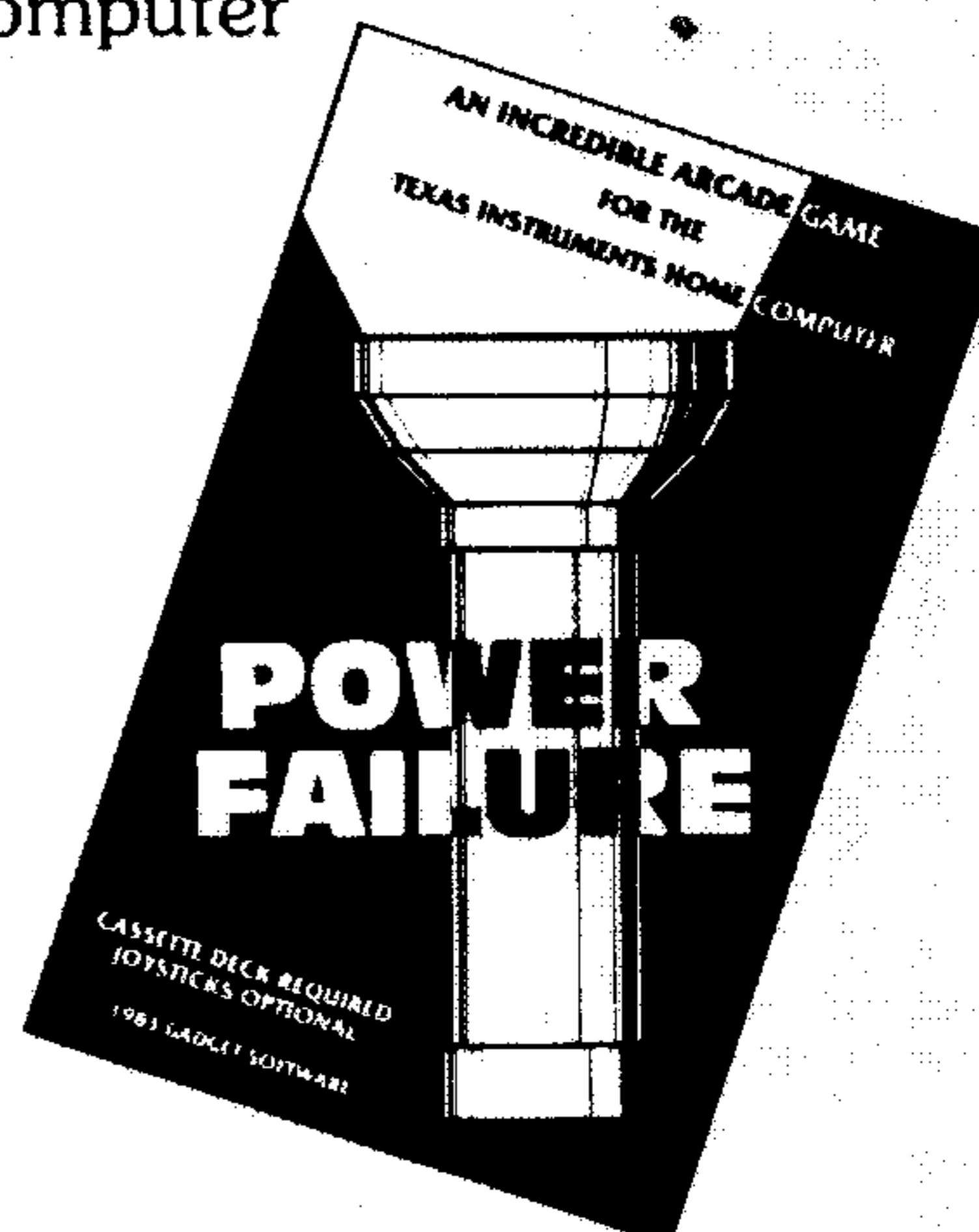
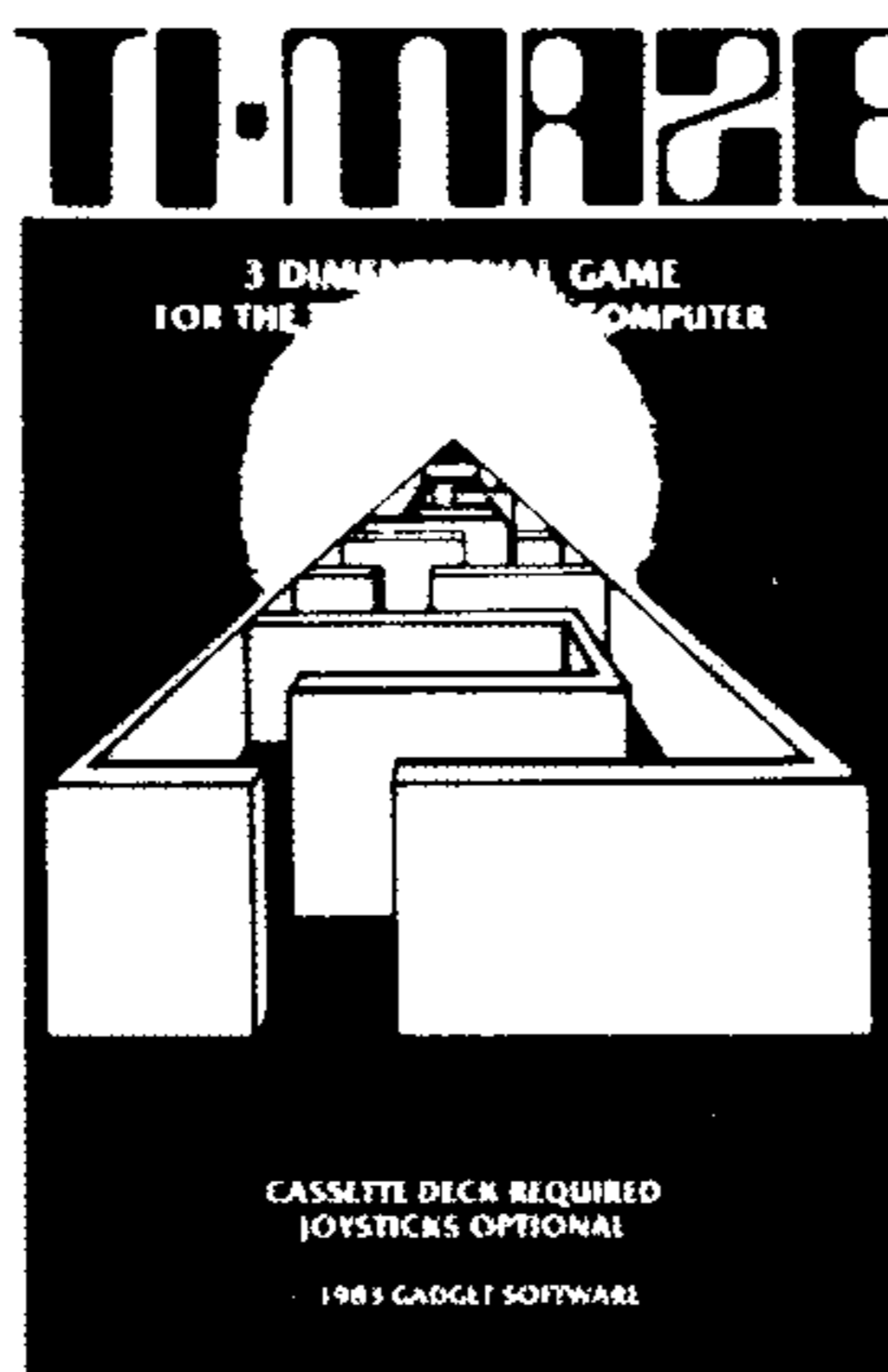
DCH Software
7010 Catlett St.
Springfield, VA 22151

GADGET SOFTWARE

PRESENTS

THREE GREAT GAMES

For the Texas Instruments home computer



MEGAWORLD — A SUPERIOR GRAPHICS ADVENTURE

- * Almost 100 rooms and corridors
- * 16 different monsters to battle
- * 16 different treasures to find
- * Pause game feature
- * Save game feature (at any point during game)
- * 5 different skill levels

TI-MAZE — A 3-DIMENSIONAL MAZE GAME

- * Over 10,000,000,000,000 different mazes
- * Joystick or keyboard control
- * Overhead view of each maze
- * Record of the number of moves you make

POWER FAILURE — A FANTASTIC ARCADE GAME

- * 10 completely different screens
- * Joystick or keyboard control
- * 1 or 2 player capability
- * Bonus screens after 10th level

EACH GAME \$16.99 U.S. AVAILABLE IN BASIC AND EXTENDED BASIC
SPECIFY BASIC OR EXTENDED BASIC WHEN ORDERING

SEND CHECK OR MONEY ORDER TO:

NU-WEST MARKETING

Dept. A

10013 Densmore Ave., North

Seattle, WA.

98133

All games fully guaranteed.

Whither has the Phoenix flown?

Things are changing very quickly at Cor-Comp as it becomes apparent that the company will not be able to deliver its 99/64 computer to dealers this spring. In January company officials had said that demonstrator models of the TI-compatible machine would be at dealers' stores by early spring.

A new management team came on board in February and immediately began passing the word that production of the computer has been delayed.

A former Cor-Comp official indi-

cated in early February that the 99/64, dubbed the Phoenix, "was sent back to R and D."

The new company officials are saying very little about the machine, except to express satisfaction in the interest being shown in the computer. Spokesperson Jacki Sagousse indicated that the marketing of the machine has been delayed.

However, she said, the company's peripheral expansion box may be marketed this spring. The company

also will market a disk drive controller card and an RS232 card for the box. The company also sells a 32K memory card.

It is not certain at this point whether the box will be physically compatible with TI-manufactured cards. Although company officials told the Compendium in early February that the box, with several cards, would retail for about \$300, that may change before it actually reaches dealer shelves.

—JK

Educational software

Sierra-Disney pact includes 3 cartridges

Walt Disney and Sierra On-Line are cooperatively developing three software cartridges for the TI99/4A. As reported last month in the Compendium, the two companies had signed agreements with Texas Instruments to take over development and marketing of several cartridges that were under development by TI before it left the home computer market.

According to Terry Bochanty, marketing manager for Walt Disney Personal Computer Software, Disney had been working with TI to co-develop ten educational game cartridges. However, when TI quit producing home computers development of the software stopped. Sierra On-Line has taken over where TI left off and now some of the cartridges will be completed and marketed, Bochanty said.

Five of the ten cartridges were in the development stage before TI dropped out, Bochanty said, with three of the cartridges on the verge of production. Those three are expected to be marketed sometime by mid-year, he said. Although titles had not been determined by mid-February, Bochanty

said the games involve three subject areas: astronomy, chemistry and language arts.

All three cartridges utilize popular Disney cartoon characters.

The astronomy cartridge, for children ages 8-11, uses Peter Pan. The chemistry cartridge, aimed at children over 11 years old, features Professor Ludwig von Drake. The language arts cartridge, for children six years old and older, features Pinnochio.

Prices have yet to be determined. Bochanty indicated that the cartridges would be marketed through a catalog that will be mailed to some 1.2-1.5 million TI users.

The programs were originally designed to take advantage of the speech synthesizer, Bochanty said, but require nothing more than a console to operate. At this point there are no plans to develop any of the remaining programs, he said. However, that could change depending on how well the first three sell.

Disney has been producing educational films and similar items for 30 years and, Bochanty notes, "we know how to reach and teach kids."

TAKE THE NEXT STEP

To The Next Generation
Video Game
Software Presents:

GALACTIC BATTLE

An inter-galactic battle of exploration and conquest for 1 to 9 who compete for universal superiority!

- Assembly routines for added speed.
- Save game feature.
- Pixel perfect graphics.

Reqs.: Memory Expansion, Disk, X-BASIC
Send check or Money Order for **\$17.95** to:

EB SOFTWARE

12912 Villa Rose

Santa Ana, CA 92705

(CA. Residents add 6% Sales Tax)

• **DEALER INQUIRES INVITED** •

Only \$7 Per Game

Bit Byte Bit Software introduces beautiful and colorful games in BASIC, Extended BASIC and TI Assembly on cassettes or diskettes for \$7 per game! In addition, there is **ONE FREE GAME** with any order as well as a **FREE CATALOG**. Write to:

Bit Byte Bit Software, Inc.

P.O. Box 565

Coram, N.Y. 11727

(516)928-6538

Programmer portraits

What have these six men got in common? A TI, for one thing.

Jobs that have been around a long time have stereotyped images attached to them.

Even though we all can think of preconceptions to them, we have mental images: Policeman—tough-talking; schoolteacher—prim and proper; salesperson—overfriendly and glib.

Except, perhaps, for braininess, computer programmers haven't had any common qualities attributed to them by popular culture yet. And interviews with a group of programmers across the country (one in Canada) show them to be as diverse as the programs they write.

GETTING STARTED

The decision to become a programmer came after experience using a computer for most of those interviewed.

For K.E. Vaughn of Vaughn Software in Arvada, Colorado, after he bought a computer and found out he was "pretty good at it," he decided he would rather sit at a computer than make a business trade."

He says that a field in which it is possible to see the results immediately and apply creativity make programming satisfying.

Vincent Lannie of Texas Software Design in Baytown, Texas, says that the things I was doing on my own could rival anything on the market by a third party operator," and that got him into programming.

Scott Emory, a partner in EB Software in Santa Ana, California, says, "I

just started reading books about it, then I got onto the computer and I guess I had an aptitude for it. It seemed pretty easy to me."

Two of the programmers got their start in computer courses. Dr. Allan Swett of Intelpro in Brossard, Quebec, who is also a math professor at a junior college, says he started programming in 1966 as a student at Penn State "with really old-fashioned stuff, where you'd gnaw your fingers to the knuckles about whether you got a comma in the right place."

He continued in the mathematics field but has "become more interested and motivated in making a going concern out of business."

Walt Dollard of Pittsburgh, Pennsylvania, who is 19 years old, says he began in high school 4½ years ago when he took a computer course.

By contrast, Larry Hughes of Quality 99 Software in Washington, D.C., started programming so as not to take any further courses. His programming career began 25 years ago.

"I was in college, a math major," he says. "To get a job in math you had to get a Ph.D. and I was tired of school."

At the suggestion of an instructor who said that programming looked like an upcoming field, he applied at Univac in Los Angeles.

"The upshot is, I didn't want to be a mathematician so I took an easier job as a programmer."

Gene Harter, a partner in Not-Polyoptics in Woodbridge, Virginia,

saw programming as a variation of what he was already doing.

"I program games," he says. "For years before I programmed computers I would design games on boards and paper and I was always really interested in what a computer could do. I even got to the point where I designed games on programmable calculators—that's all I could afford.

"In 1980 I got a TI computer for \$1,000. I knew what I wanted to do at that point."

WHY TI?

Economy was one reason.

Vaughn says, "I wasn't sure I'd be very good at a computer. I picked the TI because it was cheap."

Now, he says, "It's like a first love. I'd hate to switch," though "if they bring out the new 64 we may go into that."

Swett says, "Had I been a few hundred dollars richer I might have bought an Apple, but TI blows the Apple away. I regret that it's not being made any more."

Emory says, "One, it was available and not as expensive as the others, plus there was a lot of good software I could use."

Harter cites the price also.

"Even at \$1,000 that was a good price at that time."

Dollard says the TI "looked interesting with the color graphics and I sort of thought I'd give it a try."

It's the best," Hughes says flatly.

(Please turn to Page 8)

PROGRAMMERS CITE TI QUALITY—

(Continued from Page 7)

“That’s very true. Two-and-a-half years ago I compared the specifications, TI was clearly the best but too expensive.”

He says that when the TI made the “big drop down to \$500 that’s when I got it. It was such a bargain. The primary reason I got it was I’m a programmer and I wanted to do my own programming.”

Hughes notes that TI BASIC is the only home computer BASIC that meets the American National Standards Institute standards for minimal BASIC. He also cited TI’s guarantee and the company’s “excellent reputation for reliable hardware.”

SHAKESPEARE THE PROGRAMMER?

What is it like in this relatively new field? Could there be, for instance, a similarity between a struggling young writer and a struggling young programmer?

“You have to be creative in both fields,” Lannie pointed out, a view which was often echoed.

Vaughn, however, points out that “the process of programming versus writing is different. With writing you can be inexact.”

“Programs normally speak for themselves in terms of quality,” Swett says. “Writing is more subjective.”

However, he says, a similarity arises in having to make “very small strides on the way to establishing credibility—establishing a business.”

“There’s a lot of programmers out there who are trying to get a good program out like authors trying to get a good book out,” says Emory. “Every once in a while one will come out with a really good one and make it big.”

“When you’re writing a program, more often than not you’re working with an original idea. That’s similar,” Dollard says.

However, he says that writing a program does not take as much time as writing a book and that, “with only 16K in the console,” the programmer is limited while “if you were writing a book the possibilities are endless for the information you could put in.”

Harter sees “a lot of similarities. I know because we also accept other people’s works and it’s really similar. People apply to us all the time just like

“There’s a lot of programmers out there who are trying to get a good program out like authors trying to get a good book out. Every once in a while one will come out with a really good one and make it big.”

a writer would go to a publisher. Sometimes they’re very good and I don’t know what to say because they’re not the kind of game we want to put out or they’re the kind of game we don’t think would sell very well for us. For me, it’s like self-publishing. It’s like when printing was first invented and a writer could get in on the ground floor by forming his own publishing company.”

Hughes says that writers and programmers are the same kind of person with “just slightly different skills.”

For instance, “both create something from nothing,” and can take pride in “elegant, fine-tuned work. Both professions take self-discipline also, he notes.

KINDS OF PROGRAMS

Some programmers specialize in games, others in utilities or applications. Being “more into utility” is “mostly a personal decision” for Vaughn.

“I was tired of watching sprites go from here to there and yon,” he says. “With games the only thing you do is exercise your joystick hand.”

He also notes that at user group meetings there is “a crowd in their mid-30s. It’s a more dedicated and loyal user than with games. There’s a lot of game software on the market.”

He notes that his products include an Extended BASIC mailing list program which can store up to 750 names on one disk.

“I really think my talents lie in serious applications,” Swett says.

He says that with the Companion word processing program, “we have a splendid product, and we’ll develop

auxiliary programs according to demand.”

A filing routine is “in the works,” he says.

“Games are limited,” Harter says. “I like the idea of utilities. Hobbyists and people who are serious about computers will buy utilities. If I want a game, I’ll make a game. I’ll buy a utility. The market is shrinking down to the people who really like computers. Games can be sold to anyone at all, but that market is going away.”

Harter says Not-Polyoptics will be “coming out soon with a word processor.”

I’m not a game person,” Hughes says. “Nothing against those who are game persons, but I personally am a utilities man—I prefer to call them, not utilities, but useful programs, programs to help me and others use the computer better.”

“That little TI with 16K has more memory than the first IBM business computer in 1958 that cost \$200,000 and took up a big room,” he says. “When I saw they could make a little computer as big as a telephone book do what a big computer could do and people were using it to play games, I thought ‘what a waste.’ I think the general population is realizing that computers can do more than shoot down spaceships.”

Game programmers, of course, look at things differently.

Lannie says he “couldn’t really answer” why he does games, but notes that “when people send us other type programs we send them back. We won’t even look at them.”

(Please turn to Page 9)

GAMES VS. UTILITIES DIVIDE THEM—

(Continued from Page 8)

Emory says that games are "fun to write, probably not as tedious as business software. Of course, they don't make enough money."

Dollard says he writes "basically just games" because "utility programs pretty much exist already. Word processing is already out there."

He says he has written "a few little routines to help myself at home—nothing special. There are times you have to write a utility to help you with math homework or something."

EXPECTATIONS AND REALITY

"When we started, I expected we were going to have the Steve Wozniak of software, but you can't become an overnight millionaire," Vaughn says. (Wozniak is the founder of Apple Computers). "We found out the process was slower. There are too many other good programs out there."

Swett says he found "sort of an inertia" in his lifestyle as an academic. "I wanted to see whether I was capable of competing in the marketplace. I measure the success of the business in terms of whether it's profitable or not—it isn't yet."

Lannie says going into programming was "just a way to spend some free time and be creative on my own. You can say it's a form of expression." His expectations have been fulfilled "many times over," he says.

"At first I really didn't expect to even sell programs," Emory says. "Then I got some ideas and then I started selling programs. It's sort of like a hobby, almost."

Dollard says he merely signed up for the high school computer course and "expected nothing. I fell in love with it and started trying to do everything I could with it. I didn't expect anything, because computers weren't a big thing then. People had heard of computers, but they didn't have them in their home."

He started in business as a "a trial experience" with an ad in 99er Magazine a little more than a year ago.

"Making a living is really what I wanted to do when I began," Harter says. "I thought either I could do this or get a job with someone else. I've

"I think it's terrific that people pay me money to write programs. I do it at home for fun anyway."

been really lucky. Anyone who can make money this way is lucky. Anybody whom we publish—anyone who's not in the company and we pick them—is lucky. Any programmer who doesn't have his own company is going to have a hard time. Companies aren't going to be formed as readily as they have been, also."

Hughes says his expectation was "to make a living in a fun way. I think it's terrific that people pay me money to write programs. I do it at home for fun anyway. It's not easy, but that's part of the fun. When you solve a problem it gives you such a great feeling."

Hughes expresses concern about the "popular magazine fallacy" that "you can be a programmer and make a million dollars." He also says that putting computers in the schools and "saying that 20 years from now every child will be a programmer" is like "putting pianos in all the schools and saying 20 years from now everybody's going to be a Chopin. Some have a talent and some don't."

DISAPPOINTMENTS

Vaughn says his greatest disappointment as a programmer was "probably spending about six months on a bit-map program in machine language and finding out it was utterly worthless." With experiences like this, he says, "sometimes you'll go back to square one and sometimes you'll say, 'To heck with it.'"

Swett says his greatest disappointment is with "the inflexibility of the business community. I have a quality piece of software and they'll say 'Is this for a TI? We don't distribute for TI.'"

"I think my biggest disappointment is that people don't think third party software is of such quality," Lannie says. "There's a lot of bad software and that tends to reflect on everybody when in fact there's also a lot of great software."

"It was certainly disappointing when TI dropped the computer," Emory says. "I've also been disappointed with TI and their instructions for assembly language—the help that they give you with the manual. I couldn't learn to do it 'til I went to an outside source."

Dollard also lists as his greatest disappointment "that TI pulled out. My greatest personal disappointment was probably some programs I was looking forward to writing and I ran out of memory space. They were just too big."

This occurred, he adds, before he acquired a disk drive.

Harter says his greatest disappointment is "the limitations of the machine. We' deliberately limited our market to programs anybody can run. I've grown beyond 16K but we're still limited to 16K because most people don't have any more."

However, he adds, "It's fun getting as much out of 16K as you can."

Harter also says that "it would be fun getting recognition. People like a game, but people won't know what was put into it. I'm also disappointed in computer manufacturers, that they haven't expanded their technology more than they have."

(Please turn to Page 10)

THE JOY OF PROGRAMMING—

(Continued from Page 9)

SATISFACTIONS

His greatest satisfactions, Harter says, come from "mostly things that I know I've accomplished and nobody else does. There aren't many people who take a program and pull it apart and see how it's done. But I know how I did it and I'm proud of that."

Also, he adds, "just making a living is an accomplishment."

Hughes says, "The greatest sense of accomplishment is when you succeed in completing a project. It stands up there for all the world to see and it works. For years afterwards and maybe thousands of miles away people are using and enjoying and benefiting from my work. That makes me proud."

Vaughn lists his greatest sense of accomplishment as "probably getting over learning TMS machine language. It takes some time before you get a grasp of what machine language is—getting over the fear of machine language."

Emory also says his greatest thrill was "probably with mastering machine language. Once I figured it out I was so relieved. Also, coming out with our first game was pretty exciting. Seeing our game in the stores was pretty neat."

"The biggest thrill as a programmer is when customers give you feedback that tells you your product is as good as you think," Swett says.

Lannie's view is similar: "Probably gaining satisfaction from people having used your products and those products having been received well."

Dollard also says it is "probably the feedback I've received with the computer business."

He produces adventure games which have "a multitude of places you can get stuck. People I've sold games to have written to me. They say they love these games. Some say they like mine the best of all third party games. That really makes me proud. I've had no complaints in over 1,000 letters."

THE HARDEST THING

"The hardest thing" about being a programmer, according to Dollard, "is creating the idea. That can take

"There aren't many people who take a program and pull it apart and see how it's done. But I know how I did it and I'm proud of that."

two or three times as long as the programming."

Emory says, "Two of the hardest things are coming up with a good idea, first, and the next hardest thing is completing it. Getting all the bugs out—that's the worst."

"The difficulty is the machine itself," says Harter. "You have to work inside the limitations of the machine. That includes what's in the machine and what memory it has. You get frustrated."

However, he adds, "You have to do it a long time before you get to the point where the machine's too small for you."

Another difficulty, he says, is TI getting out of the market.

"If we're going to stay, we have to find another computer," he says.

"I deal with business people who are just beginning to get computers in their offices," Hughes says, "and it's hard to get them to tell me exactly what they want to get the computer to do."

A computer, he adds, is "a dumb machine" which will nevertheless work very fast if given exact instructions—getting those instructions from others is a difficulty.

"Regardless of what kind of program you have, there's always going to be somebody that doesn't like it," Vaughn says. "I find that very difficult to take, personally."

"Sometimes the biggest problem is time constraints, especially if you have a fertile mind," Swett says. "I have an idea a day but I don't have a staff of 100 programmers to carry them out. It takes so long to get the coding polished, and by that time I

have 10 more ideas. But I can only work on one idea at a time."

"Finding time to put the ideas into the computer" is difficult, Lannie says. "I don't have time to pursue each project."

OTHER COMPUTERS

Emory says he does not write programs for computers other than the TI.

"Not for sale," he adds. "We have, just for fun. We're a pretty new company and we thought breaking into the market, the easiest was the TI. A couple of computers are very expensive just to get your game out, like Apple and Atari."

"Shifting to another computer will be a real burden," says Harter.

"Coleco would be good but so much of their stuff is proprietary. They're going all out just like TI did to make the software market all their own. The IBM market is so huge the competition is just fierce. It's just too big for us to get into. Apple has a lot of programs for sale."

He says that Cor-Comp's Phoenix "looks good" and that Radio Shack's home computer "is cheap and it's popular. We may end up supporting one of those two."

"In the business area I've worked on 12 different computers in seven different languages," Hughes says. "In the home area, only on TI. The reason for that is I thought I might absorb everything there is to know about TI and then move on, but I'm still learning about TI."

TI, he notes, has built-in hardware for the multiply-and-divide function and a 16K memory, whereas for the

(Please turn to Page 11)

TI AND THE FUTURE—

(Continued from Page 10)

original Apple, for instance, the memory is 8K and the multiply-and-divide function is on software.

"By no means is the TI an old-fashioned, out-of-date, consigned-to-the-graveyard child's toy," he says. "It's still a very powerful machine whose potential has barely been scratched. That's not to say it won't be superseded."

For instance, he says, the proposed Phoenix looks to be "even more powerful and more wonderful."

Vaughn produces only items for the TI99/4A at present, except for "some in-house used items for the TRS-80. It's mostly because that's where the market is."

He says the quality of a lot of software on the market is not good enough and that when people "get a taste of ours" there is a market.

Compared to, for instance, Apple, "there are not very many producers of software for this machine. Since TI cancelled there's a lot on the market,

but six months from now people will be needing software for this machine."

Swett says he is negotiating with several companies to write software. Because he has written Companion for the TI, he says, his "credibility is very high," with "expertise I can hand them on the basis of this program package."

"I'd just rather concentrate on the TI," says Lannie, conceding that he may have to convert to another machine in a year or two. "I wouldn't jump in with Apple just now. The market's saturated."

Dollard says he works only with TI because "that's all I own presently. Even if I did have another computer I wouldn't have the time to spend on it."

"Studying takes up a great deal of my time," says Dollard, a sophomore electrical engineering major.

FUTURE PROSPECTS

"The future looks dim right now" for TI programmers, Lannie says, "unless another manufacturer decides to pick up rights to the TI console."

Others are somewhat more optimistic.

"The market's not expanding, but the people who have TI's will not be throwing them away," Emory says. "Hopefully, with the Phoenix the market will expand. The people who are out there are still buying."

A TI is worth getting if it can be found, according to Dollard.

"I would say that for a very cheap price of only \$50 to \$100 you can pick up an excellent computer," he says. "This investment for a parent with a kid in school could be very important. You can learn a lot in six months at home, what would take you two years in college. An adult can learn whether or not he's interested in computers for \$50 or \$100 before buying an IBM-PC at \$2,000."

"The TI's a special problem," Harter says. "We don't want to give up on the TI. There may have been two million owners a month ago but a lot of those have put their computers in the closet. The market is still very big."
(Please turn to Page 12)

Going Forth

Wycove Forth is fast and doesn't require a disk drive

Wycove Systems Ltd., P.O. Box 499, Dartmouth, Nova Scotia B2Y 3Y8, (902) 469-9897, has come out with an improved edition of its Forth program. The company says Version 2 is an expanded version of the original issue. The manual has also been rewritten.

Forth is an interpretive language combining the speed of compiled languages with the ease of programming of an interpreter, the company says. The program sells for \$50.

The program requires at least 32 kilobytes of memory and either the Extended BASIC, Editor/Assembler or Mini-Memory cartridges. Purchasers receive the 177-page manual and both the disk and cassette versions of the program. Samples of Forth programming are included.

The company says the program

supports all capabilities of the TI99/4A.

Among the features of the program are:

- 32-column graphics mode display;
- 40-column text mode display;
- 64-column bit-map mode display with 32 sprites and line drawing primitives provided;
- speech support for the 300 predefined words included in the TI Speech Synthesizer vocabulary;
- full support of sound routines with the capability of specifying a complete tune at one time rather than one set of notes;
- file control words to control peripheral devices;
- high level language control structures, including DO loops, WHILE loops, UNTIL loops, nested block IF structures and CASE statements.

Using several benchmark programs, the company says the Forth program operates 30-45 times faster than comparable programs executed in BASIC.

Forth is also configurable, the company says. The means that the user can change or extend its vocabulary. Disk directory programs are also included.

Although the source code is not provided with the basic package, it is not needed for its operation. Purchasers who desire the source code may obtain it on diskette from the company at a charge of \$100.

The company says Forth will provide purchasers with a programming language that is far faster than Extended BASIC and suitable for general computing, game and graphics applications.

Budget programs:

Finding the one that's right for you

The following three reviews concern home budgeting programs produced and marketed by independent programmers. There was no particular reason as to why these programs were chosen for review, other than that each is sufficiently different from the others to give readers a good idea of what is available on the market. There are many others available for the TI home computer and we hope to review some of them in the future.

Although direct comparisons will not be made, each program, it seems to me, is aimed at a different audience. The TXMasters Home Budget is for those who do not have printers while the DCH Budget program requires a printer, memory expansion and disk drive. A printer is optional for the Budget Master\$ program.

So, who needs a home budgeting program?

Just about anyone who wants to gain control of his finances. The assumption here is that if one has control of something one can use it to his advantage.

The simplest use of a home budgeting program is to keep track of expenses as they occur. The user

defines the expense categories he wants to audit and then inputs data as disbursements are made. By doing this the user can detect trends in spending that he may want to change. Also, he will have a record of expenses that will let him know where the money goes.

Of course, tracking expenses is only the beginning for those who are serious about budgeting. The heart of the budget lies in predicting how much to spend on certain expense categories. The real challenge, then, is to live within the budget predictions. This is often far easier to say than to do.

There are varying levels of complexity among budget programs. Some will provide the user with more data than many small businesses need to do business. How much a budgeting program will do for the user depends not only on the price but, in many cases, on the amount of hardware it takes to run it. Those with a system that includes a disk drive, memory expansion and a printer are more likely to want a program that fully utilizes these peripherals. For those with only a console, it doesn't make sense to buy all these peripherals just to create

a family budget. The expense of the hardware would be enough to blow any budget.

Although I do not pretend to be an expert on financial matters, I am familiar with enough home budgeting programs to know what I like. And one feature I believe to be an absolute must is the ability of the user to define his own budget categories. This is one reason I decided not to include a review of TI's Home Budget cartridge, in which all categories are predefined. There's enough standardization in the world already without encouraging more of it.

The value of any budgeting program depends entirely on the user. If the user takes budgeting seriously, a home budgeting program ought to result in enough savings to easily pay for itself. Even if no actual savings are realized, the data that comes from home budgeting can help the user redirect his finances in such a way that he is able to spend more of his money on those things he truly wants.

At any rate, home budgeting is a useful endeavor and among the most common applications for a home computer.

—JK

PROGRAMMERS EXPRESS VIEWS—

(To be concluded next month)

(Continued from Page 11)

Many people wanted a computer and bought a \$50 computer. There's no reason to get another one if you already have this one. There's a hard core market that will be around for a long time."

"I've had three 1972 Chevrolet Vegas. That car was universally panned. Even though Chevrolet stopped making them, they're still around. Edsel owners, too: They keep their cars and they love their cars."

He notes that the TI computer will continue to be serviced.

"They don't fall apart," he says.

"They're very well built. If other companies feel different and abandon TI, we'll just be in a better position."

Harter says, "As long as there's places to advertise, there'll be people selling things for the TI."

"I definitely will stay in until I don't break even any more," says Hughes. "The TI's not relegated to the scrap heap by any means. There's tons of things you can do that haven't been done yet. Five years from now there may be computers that will be better but this one will still do a good job at a very good price. The new ones will have more memory and more power, but they will cost \$500, \$600, \$700. Cer-

tain jobs don't need all that memory or all that power. It is like having a Ferrari race car. You might compare the TI99/4A to the Volkswagen. College kids still buy them, and they work. The TI will not all of a sudden become a piece of scrap iron."

Vaughn says that with other companies "things are becoming larger," while producing software for the TI is becoming "a cottage-type industry. It's sort of a do-it-yourself computer." Sharing of programs is common, he notes, as is going to four or five sources to get what you want for the TI.

—LB

Monthly Budget\$ Master

Modify it for your circumstances

Monthly Budget\$ Master comes in three configurations: two that come on cassette and one that comes on disk. The disk version and one of the cassette versions are written in Extended BASIC. The second cassette version operates out of console BASIC. This review is based on the cassette-based Extended BASIC version. It should be noted at this point that the program designers, Steven and Susan Albert, warn that the cassette version cannot be transferred to disk without major modifications by the user. Purchasers of the BASIC or cassette versions may trade for an upgrade at a cost of \$5.

Performance: As the title suggests, this program is designed to track monthly expenses. It does this through the use of 31 predefined categories and as many as 14 user-defined categories. Each predefined category may have more than one entry, though only the total is recorded. Each month may included up to 75 entries. For example, you may enter, say, four weeks of grocery bills but only a cumulative amount will appear in the printout or on the screen display. However, the four entries would constitute four of the 75 entries.

Because the program comes unprotected, the user may modify it to his heart's content.

This menu-driven program includes two parts. The main program is devoted to the accumulation and display of data on the screen while a second program, which is loaded separately, is used to output data to a printer.

The main screen of the main program features an eight-item menu. Included are commands to review account codes (the preset categories use one or two-letter codes), enter data, revise data, save data, erase data, input data from cassette, output results to screen and quit. The output to screen command allows the user to choose either screen display or printer options. Choosing the printer option results in a message telling you to load the printer routine into memory.

Account codes are simple to understand, based usually on the first word

Review

Report Card

Performance: A
Ease of Use: B
Documentation: B
Value: B+
Final Grade: B

Cost: \$12.00 (cassette) \$14.00 (diskette)

Manufacturer: SA2 Software, P.O. Box 2465, Naperville, IL 60565

Requirements: console, monitor or television, cassette recorder or disk drive and controller, Extended BASIC cartridge, printer is optional though recommended

of the budget item they represent. "F", for example, represents "food."

Data entry is directed by screen prompt. Each entry must include the account code and the amount. Entering a non-existent code results in an error message. You may then reenter the proper code and continue. At any time, you may press a key to return to the main menu. Also, this screen dis-

plays the number of data entries you have left before the available memory is used up. Total amounts for any data entry may be up to \$99,999.99.

The revise data screen lets you change any data entry. It includes a command to change data filed under the predefined categories and another command to change data filed under a user-defined category.

The save data screen lists the number of items in memory. You are asked to enter the name of the month prior to actually saving the data. This feature allows you to use up to 20 characters, essentially to define the data file. As with all the screens, if you change your mind you may press a key to return to the main menu without affecting the data in memory.

The erase data screen gives you a choice of erasing all data in memory or erasing either predefined data or user-defined data.

The data input screen allows you to load data out of one of two cassette recorders. While loading, the name that you gave the data file, whether the name of the month or something else, appears as well as the number of data entries.

(Please turn to Page 16)

VARIABLE EXPENSES			
CATEGORY	BUDGET	ACTUAL	%B
FOOD	200	0	0
BEER/WINE/L	30	0	0
MISCELLANY	90	0	0
CASH	60	0	0
GAS/AUTO	50	0	0
CLOTHING	30	0	0
ENTERTAIN	30	0	0
HOME IMP	20	0	0
SUBTOTAL	510	0	0
PRESS ANY KEY TO PROCEED			

Budget Master

No printer? Check this out

Budget Master is designed for TI users who want to maintain a budget but do not have a printer for printouts. It is very well done and extremely easy to use. Included with the software is a file box containing preprinted index cards that the purchaser may use to record the data from the screen. The program was designed by Don W. Strickland.

This review is based on the cassette version.

Performance: I was impressed with this program from the moment the title screen came into view. Unlike most such programs, Budget Master does not have a "step through" menu. In other words, the user is not faced with a menu screen that, after a function is chosen, results in the appearance of another menu screen. The 11 one word commands are listed in four rows at the bottom of the screen. The user chooses the command by moving an arrow-shaped cursor using the arrow keys. After positioning it in front of the desired command, the enter key is pressed and the function is initiated.

All functions are executed via the following commands, which remain on the screen most of the time:

Actual: for inputting data

Budget: for inputting budgeted amounts

Category: used to name categories (using up to 8 letters)

Month: used to select the month you want displayed

Page: allows the user to "page" through a month's data

Annual: displays annual totals for each category

Average: displays averages of expenses or incomes for a selected range of months

Duplicate: allows the user to copy the budget items and data into all months (a real time saver)

CALC: acts as an adding machine

READCS: reads from cassette

SAVECS: writes to cassette.

Budget Master allows the user to create up to 30 budget categories and

Review

Report Card

Performance: A
 Ease of Use: A
 Documentation: B+
 Value: B
 Final Grade: B+

Cost: \$24.95 (cartridge, diskette)
 Manufacturer: TXMasters, 12306 Rustic Manor Court, Austin, TX 78750
 Requirements: console, monitor or television, cassette recorder or disk drive and controller, Extended BASIC cartridge.

up to 10 income categories. Each month is divided into four pages. Page 1 is for income items while the remaining pages are for budget input.

Once the budget is set up, input and updating are very easy. In fact, the most time-consuming parts of this program are the save-read functions. It takes 8-9 minutes to save or read regardless of how much data you've inputted. Although the manual that comes with this program suggests that

you save data frequently as a matter of routine, this seems to be impractical in view of the length of time it takes to do so. After entering the save or read modes, the program will ask you to verify that you want to execute the function before activating the read-save routines. When a read or save routine is completed, the program lets you know via a sounding of distinctive tones.

Other things I like about this program include the ease with which one can correct errors, the easy to read screen and, in general, the attention to detail that is evident in such small things as a red warning indicator, actually a colored square, that appears next to any expense item that exceeds the amount budgeted for it. The program designer deserves a pat on the back for including the Duplicate command, which can save users a lot of time when setting up a budget.

The user can make corrections or update amounts simply by typing over the figure already entered.

Ease of Use: This is one of the easiest to use home budgeting programs that I've seen. The command structure is similar to the structure used in
 (Please turn to Page 16)

JAN PG 2		EXPENSE	
CATEGORY	BUDGET	ACTUAL	
PHONE	55.00	50.00	
FUEL	90.00	100.00	T
HEAT	35.00	34.56	
-----	.00	.00	
-----	.00	.00	
-----	.00	.00	
-----	.00	.00	
-----	.00	.00	
-----	.00	.00	
TOTAL IN	195.50	253.56	
TOTAL EX	180.00	184.56	
BALANCE	15.50	69.00	

ACTUAL	PAGE	CALC
BUDGET	ANNUAL	READ
CATEGORY	AVERAGE	SAVE
MONTH	DUPLICATE	

Home Budget

This will exercise your printer

Home Budget by DCH Software is a sophisticated, home finance program that can provide the user with more detail about the state of his financial affairs than he may be prepared to accept. This menu-driven program provides a variety of printouts that allow the user to analyze his financial situation from many angles.

Performance: Home Budget is entirely menu driven. There are several menus to work through, depending on what functions you want to perform. Trying to describe in detail how each works would take more space than is available, since some of the menus have as many as 11 options to choose from. Instead, I will capsule the function of each to give you an idea of how the program is organized.

Income Journal: This program allows the user to enter income data. It requires not only how much money is deposited in the user's checking account but how much he took back in cash. It totals the amounts and, based on expense entries elsewhere in the program, keeps track of the balance in the user's checking account as well as how much more income the user is expected to receive before the month is out.

Budget Program: This program, using the user's checkbook register as the primary source of data, calls for entering each check. The user gives each category an account number, enters the date and amount of the transaction and the payee. It allows the user to change any data item and to print a check register. The user may reorder the data file on the basis of check numbers or account numbers. Entries may be listed to the screen. A submenu allows the user to print several reports, including an income table and year-to-date data.

Budget Set-up Program: This program is used to create the budget. The user may create as many categories as he likes. Files for year-to-date totals and amounts spent to date are also created during the budget set-up phase. Accounts may be listed to the screen.

Home Budget will provide seven printouts for the user, including a

Review

Report Card

Performance: A
Ease of Use: B
Documentation: B
Value: A
Final Grade: B+

Cost: \$19.95 (diskette)

Manufacturer: DCH Software, 7010 Catlett St., Springfield, VA 22151

Requirements: console, monitor or television, 32K memory expansion, RS232 interface, disk drive and controller, printer.

chart of accounts, monthly budget, check list by check number, check list by account number, budget table with monthly, year-to-date and over/short information, a table of average amounts spent and an annualized projection of those amounts. It also prints an income journal, which provides the user with the balance in his checking account as well as how much the

month's income is over or under budget.

All calculations for totals, averages and other data are done automatically by the program.

This program uses several screen colors to differentiate between menus and input screens. I wish it would have had a few more screen prompts to remind the user of the type of information he is entering. After becoming thoroughly familiar with the program the user would probably not need it, but the neophyte has to guess on occasion whether to enter dollar amounts or category numbers. Because the program comes unprotected, this can be corrected by the user. Although the program is designed to operate out of one disk drive, the user can modify it to operate with two drives.

The program is well-organized despite its complexity. Because the menus feature many options, the first-time user may well be nonplussed by it. However, after an hour or so, one can move quickly from one function to the next. The manual is written in a tutorial style, and I recommend that

(Please turn to Page 16)

MONTHLY BUDGET						
JANUARY 31 1983						
EXPENSE CATEGORY		BUDGET	YTD BUDGET	AMOUNT SPENT	YTD SPENT	OVER (SHORT)
MEDICAL INSURANCE	101	150.00	250.00	250.00	250.00	.00
DOCTORS	102	200.00	250.00	125.00	125.00	125.00
DENTIST	103	200.00	300.00	20.00	20.00	280.00
AVERAGE EXPENSES						
JANUARY 31 1983						
EXPENSE CATEGORY		YTD SPENT	AV SPENT PER MONTH	ANNUALIZED AMOUNT		
MEDICAL INSURANCE	101	250.00	250.00	3000.00		
DOCTORS	102	125.00	125.00	1500.00		
CHECK REGISTER						
JANUARY 31 1983						
PAGE	CK#	DATE	PAYEE	AMOUNT	ACCT #	
ELECTRICITY						
15	118	011683	AC ENTERPRISES	75.00	501	
HEATING GAS						
16	113	011683	SMELL OUR GAS CO.	75.00	502	
TELEPHONE						
17	114	011683	OUT OF ORDER PHONE	6.97	504	

TXMASTERS

(Continued from Page 14)

Microsoft Multiplan, with all the keywords on the screen practically all the time. This means that the user does not have to step through menu after menu in search of a function or command structure. Also, correcting errors is extremely easy.

Documentation: Budget Master comes with a thoughtfully designed, 26-page manual. The table of contents adequately gets the user to the information he needs. Designed by John Treble, the booklet includes a step-by-step introduction to the program. Several pages of budgeting suggestions are included.

Value: Although this is the most expensive cassette-based home budgeting program I've seen, it's also among the most elegant in design. Unlike many such programs, which are so complex that it takes days to learn how to use them, Budget Master is simple to use. Also, it is the only such program that I know of that is truly designed to be used without a printer. Factor in the file box and monthly budget file cards and it may well be worth \$24.95.

—JK

DCH BUDGET

(Continued from Page 15)

the user read it thoroughly as it takes him step-by-step through the program. It also has some excellent advice about budgeting in general which could benefit anyone. The program itself seems to be foolproof and bug-proof. It's possible to overwrite a file by accident but only if you ignore the warnings about saving data before moving on to another program segment.

Ease of Use: This is not a simple program to use. You must come to grips with a number of issues before seriously getting down to the business of budgeting. You must decide how to organize budget categories so that they make sense to you, and then you must be scrupulous in entering all your income and expenses (at least those having to do with your checking

account) so that an accurate picture of your financial condition can emerge.

In short, you must be thoughtful in using this program.

Documentation: Home Budget comes with a lengthy manual printed on a dot matrix printer on 8½-x 11-inch paper. It is single-spaced. There is neither an index nor a table of contents. However, it is not organized to be a reference document. It is designed as a tutorial to take the new user through the program, from beginning to end. While I would fault the format, it is apparent from reading it that the writer has a genuine interest in conveying his thoughts about how to use Home Budget to the reader. It does the job, too.

Value: This program is for those who are serious about developing a home budget and record of expenses. It generates an array of printouts that the conscientious user can study to his heart's content in an effort to gain control over his finances.

—JK

SA2 BUDGET

(Continued from Page 13)

The output screen allows you to display the data on the screen or to call up the printer routine. The screen display is not nearly as effective as the printer routine, which uses 64 columns. The printout includes the name of the category, the amount budgeted, the actual amount spent, the difference between the budgeted and the actual amount and the percentage of the actual amount to the budgeted amount. One problem with the screen display is that once you start you must view all data before you can return to the menu. Although this takes only 20 seconds or so, I'd just as soon have the option to return to the menu immediately after viewing the data I wanted to see.

The budget is divided into five sections: variable expenses, fixed expenses, utilities and credit, off-budget expenses (user defined) and monthly balance. The monthly balance category shows the entries made for income, dividends and interest income and other income sources. It then shows the entries made in federal, state and social security taxes. The amount spent under the total of budget categories is then deducted

from the net income and the amount of money remaining is reported. This screen summarizes total expenses and displays the net results for the month.

Ease of Use: Using any financial program takes a bit of experimenting and reading. You have to learn the codes and functions before you can get down to business, and this budget program is no exception.

Because all data entry is directed by prompts, data entry is a snap. All totaling and other operations is done by the program.

Documentation: Monthly Budget Master comes with a lengthy manual that takes the user through each step of the program. Though it has a table of contents, I would like to have seen some sort of index.

Value: This program has a number of things going for it, and one of them is its price. Because the program comes unprotected, the user has the prerogative to modify it to fit his own circumstances. In fact, the manual provides advice for the user who wishes to redefine account names, codes and other items. I think any user will appreciate this kind of flexibility.

—JK

Machine Shoppe Software

Cassette-Catalogue™: Cassette indexing program. Will assist in locating and loading programs at any point along a C-60 cassette. Catalogs up to a maximum of 20 programs per cassette. Please specify console or Extended BASIC. \$10.95.

Rapid Reader: Reading drill. Flashes randomly assembled words, phrases, short and long sentences on the screen at rates up to approximately 3,000 words per minute. Please specify console or Extended BASIC. \$12.95.

Price includes Postage & Handling.

Send check or money order to:

Machine Shoppe Software

P.O. Box 1153—Ozark, AL 36360
205-774-9162

(AL residents add 7% sales tax)

Thief

Who says crime doesn't pay?

Thief is a graphic adventure with a two-dimensional perspective. The object of the game is to break into a house and steal a million dollars that is hidden in a safe. You must do this without setting off any alarms.

Performance: The game starts with Stelthful [sic] Smith already in the front room of a two-story summer home. Stelthful Smith, the thief, your alter ego, is represented by a black cursor that the player moves about the screen with the joystick.

Other rooms include a kitchen, dining room, bedroom, closet, living room, maze and walk-in safe. There are eleven rooms in all. Each room includes appropriate furniture, doorways, windows and walls. Running into a wall automatically sets off an alarm which brings the police, ending the game. Your score is indicated by the number of "years" you must serve in prison.

The cursor serves several purposes. For one, it allows you to move from room to room. When you position the cursor over an object and press the joystick fire button, the name of the object will be displayed at the bottom of the screen. Pressing the fire button while moving the cursor reduces its velocity, which is critical when moving about in tight quarters such as the maze.

By moving from room to room you can figure out the floor plan of the house, which is always the same. However, locating the safe is more than a matter of moving from room to room. Since you are told you will encounter a locked door somewhere in the house, you may assume that you will need to have a key to unlock it. Finding the key can be difficult. Then, too, to open the safe you will need a combination to the lock. This you will find somewhere in the house. The key and combination are hidden in different places each time you play the game.

The block graphics used in Thief are simple and, for the most part, representational. You can tell a chair from a

Review

Report Card

Performance:	A
Ease of Use:	A
Documentation:	C
Value:	B
Final Grade:	B

Cost: \$14.99 (cassette)

Manufacturer: Tomputer Software,
1550 Montgomery Dr., Deerfield, IL
60015 (312)945-9677

Requirements: console, monitor or
television, cassette recorder, joystick,
Extended BASIC cartridge

couch and a dinner table from a coffee table. Color, too, is used to good effect.

Each room appears as a single screen so that Thief is actually an eleven-screen adventure.

Joysticks are used as the principal source of input. Input from the keyboard is required to enter the combination to unlock the safe. I found the program to be crashproof except when I was required to enter the combina-

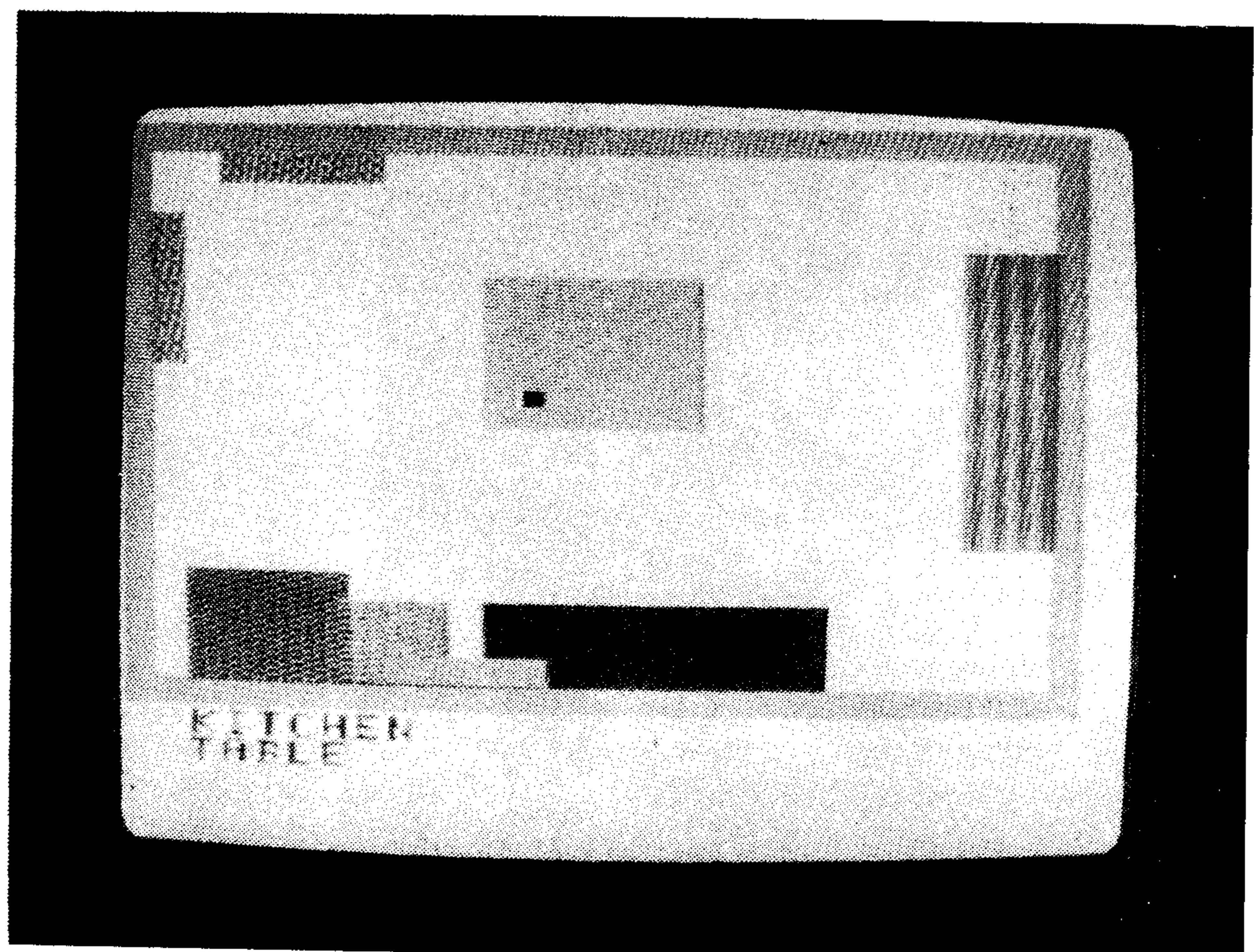
tion. I managed to get an error message on my second try, which resulted in half the room I was in at the time scrolling off the top of the screen. I exited the room and then reentered and everything was as it was supposed to be.

Ease of Use: What difficulty there is in playing this game lies principally in maneuvering the cursor around the screen, which is not difficult at all. The object of the game is straightforward.

Documentation: I was disappointed in the manual that comes with Thief. For example, under the category Alarmed Doors, it reads: "One door is wired and must be disarmed before you can pass through it." There are no hints as to how to disarm the alarm. I managed to figure it out myself but it didn't seem to make much difference because the alarm can be set off at this point without any apparent consequences.

Value: Young teens and children seemed most amused by Thief. During the testing stage, I found several roughly drawn floorplans fashioned by young hands littering the computer station. I take this to be a good sign.

—JK



Khe Sanh

It's hard to beat the Viet Cong

Khe Sanh has been around for several years. Programmed in BASIC, the game concerns guerilla warfare during the 1968 Tet offensive in South Vietnam. Although it is an easy game to play, it is difficult to win. And, as with the Vietnam War itself, the longer the battle the less likely you will win.

Performance: All entry is through the keyboard in this strategy game. Before the game gets under way, you are asked how many "weeks" you'd like to play. The game starts by drawing the battlefield, which consists of several roads leading out from a base camp to the edges of the screen. There is also a village near the camp and an airstrip where a squadron of four helicopter gunships is based. You are in command of five platoons of troops.

Your mission is to search out two companies of North Vietnamese Regulars. You do this by sending your platoons out in hopes of encountering the enemy in the "jungle" and by using your helicopters to find and attack them. Whenever your troops have encountered the enemy, you will hear the sound of machinegun fire. When the enemy hits, principally by blowing up the road, you will hear explosions.

The platoons are represented by five letters: A-B-C-D-E. Though this is not visible, the screen is divided into 28 rows of 25 columns, or 700 squares. Each platoon moves one square at a time in any of eight directions using the arrow and other keys. Helicopters are used by using column x row coordinates. You input the row and column you want a chopper to fly to and it heads in that direction. If it happens to fly over the enemy it will automatically fire upon them.

The frustration of fighting against guerillas becomes apparent as the battle goes on. First, you must keep the roads in good repair lest convoys carrying supplies are destroyed trying to reach your base. Eventually, protecting the roads becomes a full-time job. The business of defeating the enemy then becomes a secondary goal, achieved only as you happen

Review

Report Card

Performance:	A
Ease of Use:	B
Documentation:	B+
Value:	B
Final Grade:	B

Cost: \$18.00 (cassette)

Manufacturer: Not-Polyoptics, 13721 Lynn St., Suite 15, Woodbridge, VA 22191

Requirements: console, monitor or television, tape recorder

upon him in the course of defending your lifelines, the roads.

Points are scored based on how many convoys are able to reach your base as well as the number of NVA companies you destroy. Enemy troop movement is essentially random with some non-random movement occurring after attacks.

The graphics used in this game are simple but adequate. The most inter-

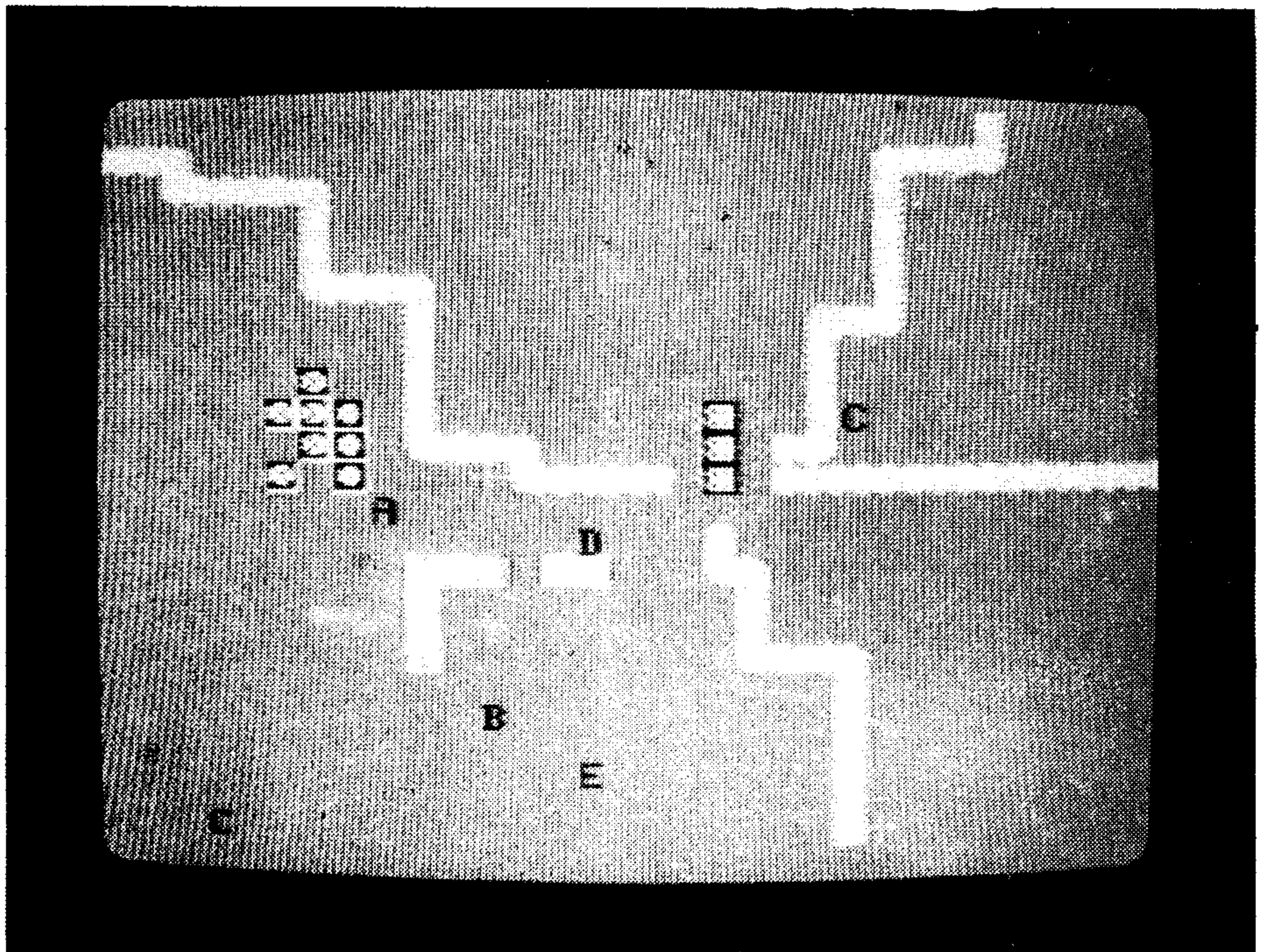
esting visual effect lies in the movement of the helicopters as they fly across the battlefield. A small truck occasionally drives down the roads with supplies, but that's about as realistic as it gets. The basecamp, village, airstrip and roads are represented by squares with varying symbols so that you won't confuse one with another.

Ease of Use: The program loads easily and the directions are easy to follow.

Documentation: Khe Sanh comes with a six-page manual that adequately explains how to play the game.

Value: Because it is programmed in BASIC, the game is somewhat slow, though this is not a problem. Once you get into it, trying to develop a winning strategy takes up most of your time anyway. Playing Khe Sanh gets to be frustrating after awhile, just as the actual fighting of the Vietnam War was a frustrating experience for individuals and the country as a whole. Eventually you learn that as long as you try to protect something, in this case the roads and airstrip, your hopes of winning the war will be realized only

(Please turn to Page 19)



Donkey Kong

Who needs quarters anymore?

The popular Donkey Kong arcade game has been translated remarkably well for the TI99/4A computer by Atari. Sold in a colorful yellow box under the Atarisoft trademark, this version of the Nintendo Co. Ltd. arcade game is faithful to the original. It is one of more than a dozen popular games that are now or will be available from Atari this year.

Performance: Donkey Kong is a climbing game. The user maneuvers a man-like figure named Mario from the bottom of structure made of girders to the top where he rescues a maiden named Pauline from Donkey Kong. The game may be played by one or two persons.

The joystick is used to move Mario. Pressing the fire button allows him to jump over barrels that roll down the girders in the first and third screens. In the second screen Mario is pursued by flaming barrels and in the fourth screen he must avoid a couple of flaming barrels while jumping onto a series of fast-moving elevators.

The fifth screen consists of a series of conveyor belts that Mario must negotiate while avoiding moving piles of sand and flaming barrels.

Since this game can be seen just about anywhere, I will waste no more words on describing it. The graphics are very good and sound is used in much the same manner it is used in the arcade version.

This game will not work with all joysticks I tried out. It worked fine with TI joysticks but did not work with those by other manufacturers that required an adapter to be plugged into

KHE SANH—

(Continued from Page 18)

if the battles are short and few. I've won several "five-week" wars, but none that were longer.

If you are a patient sort who enjoys the challenge of plugging away at an impossible goal, you may enjoy this game. I do. Joystick jockeys may want to think twice about it. A shoot-em-up this is not.

—JK

Review

Report Card

Performance:	A
Ease of Use:	A
Documentation:	B
Value:	B
Final Grade:	B+

Cost: \$39.95 (cartridge)

Manufacturer: Atari Inc., P.O. Box 61657, Sunnyvale, CA 94086

Requirements: console, monitor or television, joystick

the joystick port on the console. Mario would not move backward with these joysticks.

Also, this game will not work with all

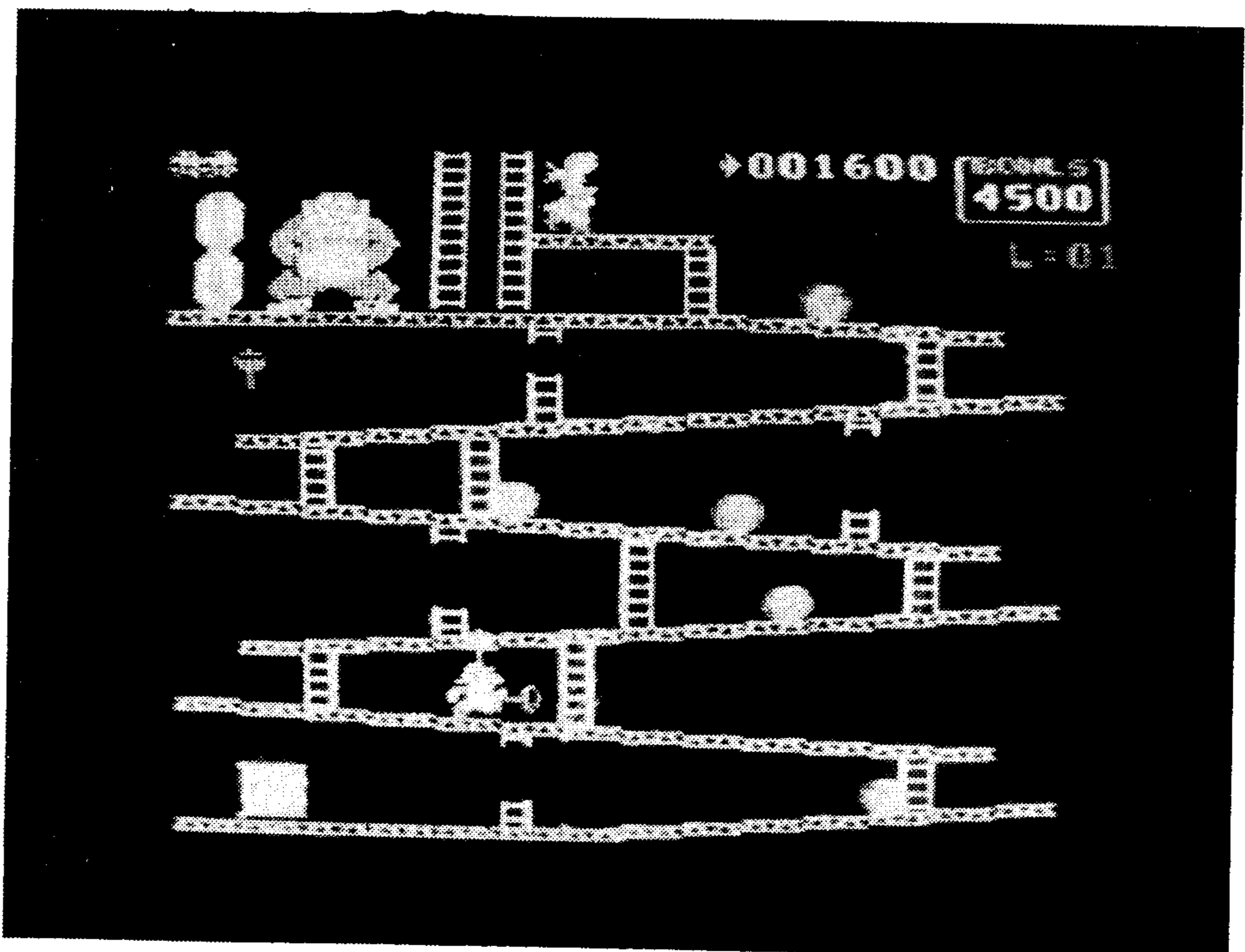
beige consoles. Those that have a 1983 copyright on the title screen will not operate this or other Atari games. You can thank TI for this.

Ease of Use: This is a simple game to play. What difficulty there is is a matter of hand-eye coordination and strategy.

Documentation: Donkey Kong comes with a four-page pamphlet. It is colorful and adequately describes how to play the game.

Value: I found Donkey Kong to be far more enjoyable than Alpiner. I've seen this game selling for as little as \$21.50. The list price is far too much to pay for a game that is several years old. For \$21.50, or thereabouts, it's a very good value.

—JK



A reader recently wrote to ask about the fate of TI Mini-Writer, the cassette based word processing program. According to a TI spokesman in Dallas, Mini-Writer is currently available from TI. However, he said, he does not know how long it will continued to be available. Contact a TI exchange center or, if you've got the patience, call the TI toll free line for more information.

Newsbytes

Software demos

Software Carousel, of Valencia, California, is adding a new twist to software marketing with a demonstration cassette that it will send to the curious for \$4. The firm markets a program called the Graphics Code Generator. TI users who order the demonstration tape load the demonstration program into memory and then disconnect the tape recorder from the computer. The tape recorder is then turned on and the user listens as an announcer talks him through a demonstration of the Graphics Code Generator. Users may return the tape for a \$2 refund or \$3 credit on purchase of the graphics generator program.

According to William S. Schwartz, who developed the program, the demonstration tape is a way in which potential buyers can preview a program with minimum risk. "Our demo allows your readers to see the program in use while listening to a fully synchronized sound track that explains exactly how it works and what it will do for them."

The program and demonstration tape require Extended BASIC. For more information, contact the company at 23757 Via Kannela, Valencia, CA 91355. Phone: (805) 254-4141.

Compiled BASIC

A St. Louis company is planning on introducing a BASIC compiler this year as well as several games written in assembly language.

Challenger Software, 4127 Quincy, St. Louis, MO 63116, says all of its new programs will require a disk drive, expansion memory and the Extended BASIC cartridge.

According to company spokesman Mark Sumner, titles include Gravity Master, Maze Master and what is tentatively being called Pizza Parlor. The games are expected to sell for about \$20 each.

The compiled BASIC program is expected to sell for about \$50.

"I always had a problem with assembly language," Sumner said by way of explaining the usefulness of a BASIC compiler. "With this compiled BASIC I managed to accelerate development time for programs by 10 to 100 times."

Sumner says the program includes commands not found in Extended BASIC, including sprite coincidence checking that is much faster than what can be done with Extended BASIC.

Cutting back

A company that had been producing a parallel printer interface and 32K memory expansion for the TI99/4A has eliminated the interface from its inventory. Doryt Systems Inc., 14 Glen St., Glen Cove, NY 11542 (516) 676-7950, has dropped its Paraprint 18A interface. The 18A was designed to be an interface between the TI home computer and any parallel printer, eliminating the need for an RS232 card. A spokesperson said the company will continue to market the 32K memory expansion.

Nothing from Thorn

Despite reports published recently in a leading home computer magazine that indicated that Thorn E.M.I. is marketing Computer War for the TI home computer, the company is doing no such thing. According to spokeswoman Val Demeo in the company's New York office, Thorn E.M.I. has no plans to market any of its games for the TI. The company had planned to produce several games for the TI computer but everything was cancelled last December after TI pulled out of the home computer market. Demeo says the company has "nothing planned" for the TI.

Foundation update

Software routines from Foundation which will let users save their BASIC programs into files with the company's 128K memory card and EPROM chip will be available "in a

few weeks," Foundation officials said near the end of February.

The routines will also allow the memory to be used as a sequential file.

The routines can be used in BASIC, Extended BASIC and assembly language.

Bill Hunter, vice president of operations, said the wait for the software routines is because they are being enhanced. The software to access the extra 96K memory in the card is already in the EPROM chip, he says. 32K of the card is directly accessible by the computer.

He said that the 128K card itself is basically a memory assembly language. The 128K card is four memory banks which can be switched back and forth at an assembly language level.

He noted that it is not accessible with such cartridges as Microsoft Multiplan and TI-Writer.

Kathy Hunter, vice president for marketing for Foundation, said that the wait for the routines is "frustrating" but was "to the customer's benefit" because the routines will do "everything we said in our brochure and more."

She said that the TI market "short-term looks very healthy. As for the long-term, we want to enhance it."

She commented that she feels the TI home computer will be around for a long time as "the Volkswagen Beetle of the computer set."

More TIs

Texas Instruments didn't actually end production of its home computer last year. As late as last month the company was still producing a limited number of the machines to be used by the company's 46 exchange centers.

Newsbytes is a column of general information for TI99/4A users. It will include product announcements and other items of interest. Vendors and others are encouraged to submit items for consideration. Items submitted will be verified by the staff before inclusion and edited to fit the Newsbytes format. Items may be mailed to the Compendium, P.O. Box 1343, Round Rock, TX 78680.

User Notes

Keeping track

Extended BASIC programmers can use the exclamation point at the end of a program line to enter remarks. In BASIC, however, TI says the remark statement, REM, is supposed to come at the beginning of a line. For programming purposes, the computer ignores anything that follows a REM statement until it reaches the next programming line. However, the Hoosiers Users Group of Indianapolis says the REM statement can be written on the same line as a program statement, with a few limitations. First, the program line, including the REM statement, cannot be longer than one screen line. This may limit this technique to remarks following GOSUBs, GOTOs and other short commands. Here's an example:

```
100 GOSUB 200 REM DRAW LINE
```

The Hoosiers caution that the line must end with a blank space.

Bucks for tips

You won't be able to retire on this, but the Compendium will pay \$10 for tips sent in by readers that appear in the User Notes column. In case of duplicate tips, the earliest received will be used. We are most interested in publishing information that will be of interest to BASIC and Extended BASIC programmers. Ideas that help users overcome hardware problems or limitations are also welcome. Please send items to the Compendium, P.O. Box 1343, Round Rock, TX 78680. Include your name, phone number and address with each submission. Unused submissions cannot be acknowledged or returned.

Nonstop running

Protecting software from being copied is an increasing problem for TI home computer programmers. While this tip isn't going to stop everyone from copying an Extended BASIC program, it will stymie most. The Central Iowa 99/4A Users Group suggests that in addition to using the Extended BASIC protection feature, pro-

grammers included an ON BREAK NEXT command to prevent their programs from being cleared. This command disables the CLEAR (Function 4) key so that the program can't be stopped after the RUN command is issued.

Test screens

Just about anybody can get a high score in Munch Man, Alpiners and Star Trek using a simple code that provides the user with the keys to the kingdom, so to speak.

This code opens the cartridge-based games to a test mode that lets the user get additional men in Alpiners and Munch Man and provides virtually unlimited photon and torpedo supplies in Star Trek.

The code that brings up the test mode for all three cartridges is SHIFT 8, SHIFT 3, SHIFT 8, or **.

Following is how to input the code for the three cartridges:

Munch Man: Input ** immediately after the title screen comes on. If you've done it properly you should see the following line: RND(0-2). This stands for the round number. The higher the round number, the faster the Hoonos move. Select the round number and then press the enter key. This will produce a second line: SCN(0-19). This refers to the screen number. After entering the screen number, a third line appears: MM(1-9). This lets you choose the number of munch men you want to start with, up to nine. After entering the number the game will start at the round number and screen number your chose. The screen will indicate that you have only four munch men in reserve if you chose four or more. However, they will be replenished until you've used the number you selected.

Alpiners: The test mode in this climbing game lets you start play with as many as nine alpiners. You also get to choose the level of difficulty, ranging from 1 to 18.

After the title screen comes on, input the ** code. The screen will ask for the number of players. Then you will be asked to select the number of alpiners you wish to start with. Then you

(Please turn to Page 22)

**Backup a disk in
3 passes or less!**

with

QUICK-COPYer™

Save work

Save hours of your time

Save wear and tear on
your disk drive

QUICK-COPYer™

will backup a disk in **3 passes or less**, no matter how full the disk is, or how many filenames it has (4 passes or less with Ex. BASIC). Ten times faster than the Disk Manager module. No more swapping of disks 30 to 40 times to get a backup. It's almost like having a second disk drive—only it's faster and cheaper.

QUICK-COPYer™

will backup a double-sided disk in 6 passes or less! It also speeds up backups on a two-drive system. If you use TI-WRITER, MULTIPLAN, Mail List, or PRK, then you need **QUICK-COPYer™**! May be tax-deductible if used for business, stocks, or taxes. "A great time-saver!"—Enthusiast '99.

ORDER NOW!!

a \$49.95 value

Only \$39.95

Req: 32K & either

Ex. BASIC or Mini Memory.

Customer's Comments

"Great!"

"Excellent!"

"I'm very impressed."

"Very good documentation."

"Thanks for your fast service."

QUALITY 99 SOFTWARE

For the TI-99/4A

from Larry Hughes

creator of Super Cataloger

Many more **QUALITY** programs

Games—Utilities—Educational

Send for **FREE** catalog

QUALITY 99 SOFTWARE

1884 Columbia Rd #500

Washington, D.C. 20009

(202) 667-3574

- Send free catalog
 Mini Mem or Ex. BASIC
shipping and handling \$2

Name _____

Street _____

City _____

State _____ Zip _____

VISA MasterCard

_____ Exp. _____

Phone () _____

Signature _____

User Notes

(Continued from Page 21)

will be asked to input player names followed by the level of difficulty. The game will then start. The screen will display up to six shoes, each shoe equalling one alpinist.

Star Trek: Inputting the ****** code after the title screen comes on results in an unspecified supply of shields and photon torpedoes. A reasonably good player should be able to parlay these resources into a million points. However, the Klingons seem to be more aggressive in this mode and the first screen that you face has many of them, most of which turn white very quickly. Warp power also seems to be replenished rapidly so you can outmaneuver the Klingons for awhile. Be warned, however, that once you've entered the test mode in this game, the only way to get out of it is to hit Function QUIT.

Also, if you've got a speech synthesizer attached, you can turn the voice off by simply entering ***** at the title screen. I don't know why anyone would want to do this, but ours is not to reason why.

More on scrolling

There's more than one way to get your TI to scroll. Last month's User Notes column carried an item about using the Function REDO key to scroll forward and backward in Extended BASIC. According to Jeff Schultz of Sprite-O-Lite, scrolling is easy to do in BASIC, too. All you need to do is to enter the line number you wish to start scrolling and then hold the Function X (down arrow) key down. Depress the up arrow key (Function E) to scroll up.

Another benchmark

Benchmark programs are often used to compare one computer with another. While no single such program will provide any definitive conclusions about what computer is best, running a number of them provide insight into a machine's strengths and weaknesses.

This program, written in BASIC, will run on most microcomputers. What it does is calculate 292 change combinations for a dollar. Some

machines will run it in less than a second while others take nearly an hour. The program had to be aborted on a mainframe it was running on after 25 minutes because the main processor was so occupied with it that it had almost stopped processing all other tasks.

By the way, it runs perfectly well in Extended BASIC, too.

```
10 FOR H=0 TO 100 STEP 50
20 FOR Q=0 TO 100 STEP 25
30 FOR D=0 TO 100 STEP 10
40 FOR N=0 TO 100 STEP 5
50 FOR P=0 TO 100 STEP 5
60 IF (P+N+D+Q+H)<>100 THEN
90
70 C=C+1
80 PRINT C; P; N/5; D/10; Q/25; H/50
90 NEXT P
100 NEXT N
110 NEXT D
120 NEXT Q
130 NEXT H
140 PRINT "TOTAL"; C
```

Cursor under control

This routine takes up 416 bytes and permits the user to move the cursor around the screen. It comes from the Sidney Australia Users Group via the Tri-State Users Group in Lincoln, Rhode Island.

```
100 CALL CLEAR
110 CALL CHAR(44,"FFFF")
120 R=1
130 C=3
140 CALL HCHAR(R,C,44)
150 CALL KEY(0,K,S)
160 IF S=0 THEN 150
170 IF K=68 THEN 210
180 IF K=69 THEN 230
190 IF K=83 THEN 250
200 IF K=88 THEN 270
210 C=C+ABS(C<>30)
220 GOTO 280
230 R=R-ABS(R<>3)
240 GOTO 280
250 C=C-ABS(C<>3)
260 GOTO 280
270 R=R+ABS(R<>24)
280 CALL HCHAR(R,C,44)
290 GOTO 150
```

Adventurous words

Members of the Cedar Valley 99er Users Group of Grand Rapids, Iowa, know that a good vocabulary can lead

to success in adventure gaming. Here's some words to remember from Grand Rapids: east, west, north, south, go, climb, drop, enter, exam (examine), help, leave, light, look, move, pull, push, quit, read, save game, say, take, wear, lift, score, open, unlock, lock, unlight, close, dig, jump, crawl, feel, touch, poke, get, drink, chew, eat, give, put, ride, fix, up, down, left and right.


Looking better

Those who use a black and white television with their computers can do something to make a clearer display. The Arizona 99 Users Group recommends that you add this line to the beginning of your programs: CALL SCREEN (15). This will disable the color-generating circuit in the computer and remove the vertical lines often seen on black and white televisions. They say it also increases the sharpness of the characters.

User Notes is a column of tips and ideas designed to help readers put their home computers to better use.

The information provided here comes from many sources, including TI home computer user group newsletters. We encourage everyone to contribute items for publication in this column.

WIZARD'S DOMINION



ONLY THE BRAVEST DARE TO ENTER!! ARM YOUR CHARACTER WITH WEAPONS AND MAGIC. THEN FIND GOLD AND FIGHT OGRES AND GAIN NEW MAGICAL POWERS.

- * 3-D PERSPECTIVE
- * SUPERB GRAPHICS
- * COMPLEX BATTLES
- * LOTS OF MAGIC
- * THOUSANDS OF CAVES

COMMODORE 64
TI 99/4A (EXTENDED BASIC)
CASSETTE \$19.95 DISK \$21.95

DEALER INQUIRIES WELCOME

INSTRUCTIONS INCLUDED. To order send check or money order plus \$1.50 shipping/handling to:

American Software
Design & Distribution Co.
P.O. Box 246 Dept. HCC
Cottage Grove, MN 55016

Classified

Policy

Classified advertising is a unique feature of Home Computer Compendium. The cost is 20 cents per word. Classified advertisements must be paid in advance. Classified advertisers may request a category under which they would like their advertisement to appear, but the final placement decision is the responsibility of the publisher.

Classified deadlines will be kept open for as long as practical. For the purpose of classified advertising deadlines, any

classified ad received later than the first day of any month cannot be assured of placement in the next edition. We will do our best to include every advertisement that is submitted in the earliest possible edition.

The publisher offers no guarantee that any advertisement will be published in any particular issue. Any damages that result either from errors in copy or from failure to be included in any particular edition will be limited to the amount of the cost of the advertisement itself. The publisher reserves the right to reject any advertisement.

The advertiser may elect to publish the advertisement in subsequent editions at the same charge, payable prior to publication. The deadline for carryover classifieds is the same as for new advertising.

In submitting an ad, please indicate whether you would like a refund if it is not published in the requested edition or whether you would like us to hold it for the next edition. Cancellations and refunds cannot be made after the second day of the month.

Send classified advertising to: Home Computer Compendium, P.O. Box 1343, Round Rock, TX 78680.

Software for Sale

TI-99/4A SOFTWARE BARGAIN!

A complete library of 120 Terrific cassette programs ONLY 50 cents each! A GREAT BUY! Send for Free Catalog. THE EXCHANGE, HCC-2, P.O. Box 46, Sterling, VA 22170. n6

TI-99/4A Software

125 programs available, only \$3 each! Not public domain, not translations, not pirated, not brief routines, these are absolutely original innovative programs utilizing full color and sound capabilities of the TI-99/4A. Programmed in BASIC but XBASIC etc. often optional. Games, education, music, displays, programmers' aids, etc. Catalog \$1, refundable. Tigercub Software, 156 Collingwood, Whitehall, OH 43213. n3

RECORD KEEPING

Flex-File program allows translation of Personal Record Keeping module files into a format which can be accessed by your BASIC or Extended BASIC programs. Use data from your module files without restraints imposed by the module. Write programs to perform customized data analysis or print specialized reports. Program uses "secret" module routines to allow access to data files. Send SASE for catalog or \$9.95 for cassette or \$10.95 for disk to TSS SOFTWARE: 8249 Bunnell Hill Rd., Springboro, OH 45066. n3

LEARN by experiences. Motivating interactive educational software for the TI99/4A, designed and field-tested by professional educators. Free Catalog. Specialities include Math, Science, Administrative and

Authoring system. Intelstar, 25 West Middle Lane, Rockville, MD 20850, (301)251-0046. Phone orders accepted. n3

Budget Management System

A complete accounting system to manage simple & complex home or small business financial matters; consists of a family of six individual programs that operate as a single friendly package. Up to 150 user definable accounts, can group accounts into maximum 30 categories; very friendly, minimizes keystrokes; complete income, expense, asset and liability reports; extensive Operating Guide included; compares monthly & YTD budget/actual, computes Net Worth; all data retained for other programs. Requires TI99/4A, 1 or 2 disk drives, Extended Memory, 80-column wide printer. Send \$28.95 (CT residents add 7.5% sales tax) to: Sound Computer Design, 470 Haviland Road, Stamford, CT 06903. cor

ARRO-SOFT SYSTEMS

Send \$1.00 for catalog (refundable) of QUALITY TI99/4A SOFTWARE for HOME and BUSINESS including CREAT-A-FILE, ARRO'S new Menu Driven DATA BASE MANAGEMENT SYSTEM featuring User Defined Files, Keyword Search/Sort and built-in WORD PROCESSORS to print records as Labels, Data format or letter quality text. Store 350 132-character records per single sided disk. \$49.95. ARRO-SOFT SYSTEMS, P.O. Box 1761, EDMOND, OK 73083. n3

FREE surprise program listing when you send for our brochure of software and books exclusively for the TI-

99/4A. RAL 543 Wilsonia Dept. CC, Cincinnati, OH 45205. n5

INSTRUMENTAL MUSIC

If you play or teach violin, trumpet, flute or clarinet, now use your TI as tutor in daily practice! These music educator acclaimed programs provide unison tuning, major scales, chromatic fingerings, and metronome. Clear graphics show instrument fingerings, note name and position on staff while note plays the correct pitch with tone color of instrument. Violin and trumpet—BASIC. Flute and clarinet—XBASIC. Cassette only. No other hardware needed. Each \$15.00 Post-paid. Guaranteed. UNISONIC RESOURCES, 922 Sherman, Toledo, OH 43608. n3

TI99/4A PRODUCTS

ASSEMBLY LANGUAGE TUTORIAL (step by step guide) for the TI99/4A.....\$14.50. 10 Examples in ASSEMBLY LANGUAGE (including DSR, BITMAP MODE, SORT, SPRITE, PRINT).....\$10.00. Program Writer, an advanced programming tool to allow you to create, document, update BASIC or Extended BASIC programs in a word processing environment. (Editor and tutorial manual included).....\$18.00. Send check or money order to: The Softies, 7300 Gallagher Ste 220, Edina, MN 55435. n5

EXTENDED BASIC PROGRAMS

Telephone Tone Dialer, SUPER SORTER, Math Teacher. Cassette \$14.95, disk \$19.95, each program. Alpha2, 4859 South Spencer, Seattle, WA 98118. n3

We'll Support You

(will you support us?)

Home Computer Compendium is not a conventional magazine, with deadlines that must be met months in advance of publication. We want to give you up-to-date information when it's still news, and not months after the newspapers have had it. We hope to grow, both in circulation and pages, but our commitment is to producing a product that we can be proud of and that you can trust.

If you think we mean what we say, we urge you to send us a check or money order for \$12 and get the next 12 issues of Home Computer Compendium hot off the presses.

(Canadian subscribers add \$3.50 for postage).

**SUBSCRIBE
NOW!
Return This
Form**

Send me the next 12 issues of **Home Computer Compendium**. I'm enclosing a check or money order for \$12 for my subscription. Mail to: Home Computer Compendium, P.O. Box 1343, Round Rock, TX 78680.

Name: _____

Address: _____

City: _____

State: _____

ZIP: _____

(or use your own form but let us know which issue you'd like your subscription to start with)

**