

FREE*
Ready-to-Run
DISK!
(see page 62)

POWER TIPS FOR DOS DIRECTORIES!

November 1989

COMPUTE!

THE CHOICE OF HOME PC ENTHUSIASTS SINCE 1979

9 Home Office Setups!

- ▶ What You Need
- ▶ What It Costs
- ▶ 21 Home Office Resources

BE THE BOSS!

Good Computing Habits
Make Good Sense
—and Good Business

EXPLORE—

- ▶ Memory Strategies
- ▶ Foreign Languages
- ▶ Computer Simulations



USA \$2.95 Canada \$3.50



WIN A TRIP TO MTV STUDIOS TO SEE "YO! MTV RAPS"

Now to find your real claim to fame
Write down five of these TAITO™ games
Sky Shark®, QIX®, Bubble Bobble®, Renegade® and Rastan®
Demon Sword®, Operation Wolf®, Rambo® III, Revenge of DOH®
And ya just might win a trip to **"YO! MTV RAPS!"**

All red hot rappers wear cool dark shades
It's the way to look, it really makes the grade
You're a guaranteed winner struttin' down the street
With the right pair of shades and a rappin' beat
Like cool **RAY-BAN® DRIFTERS.**

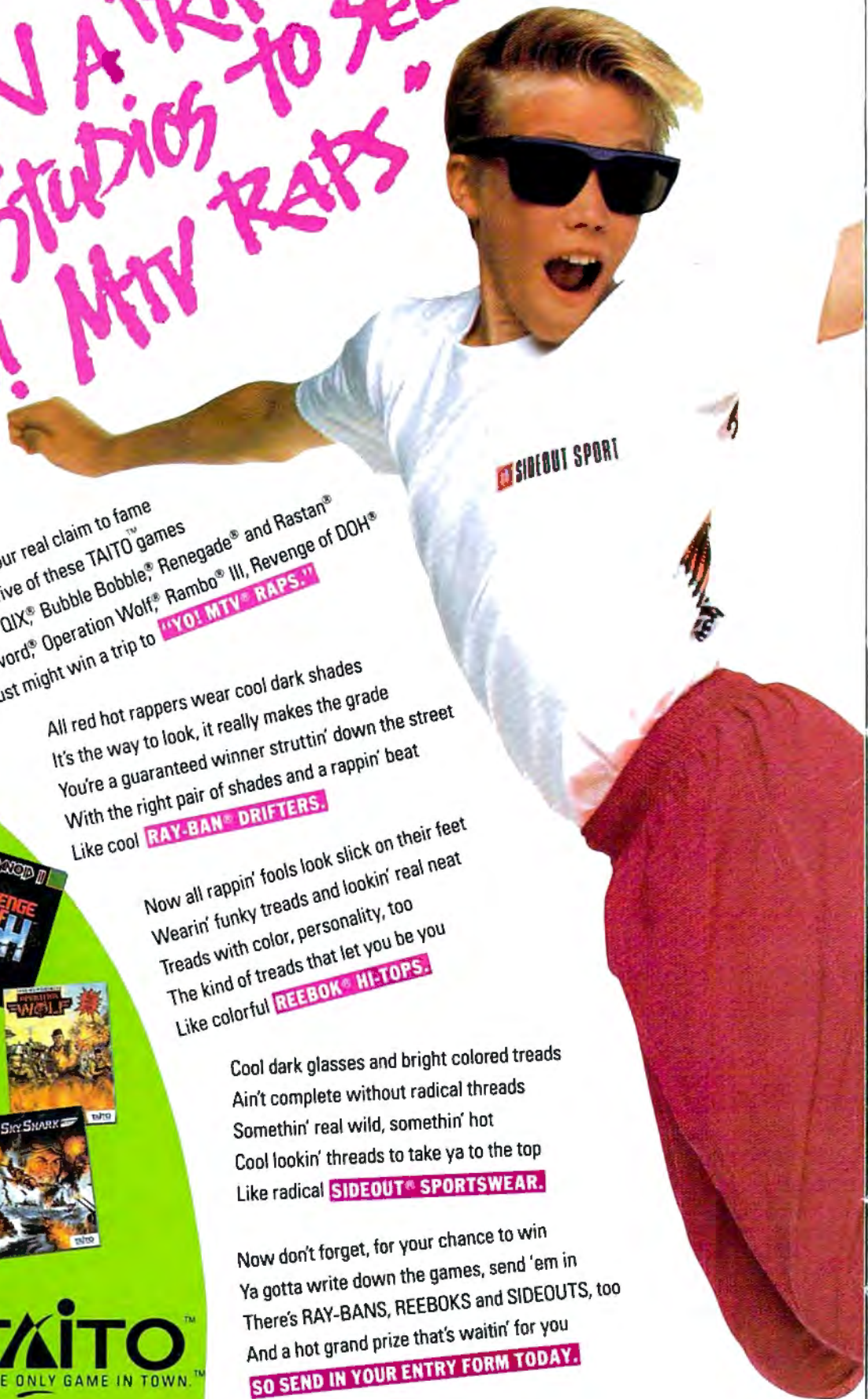
Now all rappin' fools look slick on their feet
Wearin' funky treads and lookin' real neat
Treads with color, personality, too
The kind of treads that let you be you
Like colorful **REEBOK® HI-TOPS.**

Cool dark glasses and bright colored treads
Ain't complete without radical threads
Somethin' real wild, somethin' hot
Cool lookin' threads to take ya to the top
Like radical **SIDEOUT® SPORTSWEAR.**

Now don't forget, for your chance to win
Ya gotta write down the games, send 'em in
There's RAY-BANS, REEBOKS and SIDEOUTS, too
And a hot grand prize that's waitin' for you
SO SEND IN YOUR ENTRY FORM TODAY.



TAITO™
THE ONLY GAME IN TOWN.™



HERE'S HOW TO WIN

To qualify for prizes, print the names of five Taito games here:

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____

Mail your entry to: "Say Rap Say Taito Say Yo!" Sweepstakes, P.O. Box 7768, Woodside, NY 11377

Name _____

Address _____

City _____ State _____ Zip _____

Telephone _____

Brand of home computer you play on?

Commodore 64 Amiga Apple II IBM/Compatible

Apparel Sizes: T-Shirt _____ Shorts _____ Shoes _____

Age _____

OFFICIAL SWEEPSTAKES RULES

No Purchase Necessary

1. To enter, correctly hand print the names of any five Taito games and your name, address and zip code on an official entry form or a 3" x 5" card. Mail entries to: "Say Rap, Say Taito, Say Yo!" Sweepstakes, P.O. Box 7768, Woodside, NY 11377. Entries must be received by February 1, 1990. Only one entry per envelope. No mechanical reproductions permitted. Sponsor not responsible for lost, late or illegible mail. One prize per family.

2. Winners will be selected in a random drawing by the Independent Judging Organization, Inc., a subsidiary of Comart-KLP, and will be notified by mail. By entering the sweepstakes, entrants agree to these rules and the decisions of the judges. Odds of winning depend on the number of entries. Affidavits of eligibility and liability/publicity releases may be required for major prize winners (in case of a minor, their parent/guardian). Travel companion of Grand Prize winner must sign release. Void where prohibited or restricted by law.

3. One Grand Prize: A five-day trip for two to New York City consisting of round-trip airfare from the major airport nearest the winner's residence, four nights hotel accommodations, a visit to MTV studios and \$10,000.00 spending money. Winners under 18 must be accompanied by parent/guardian. Dates to be determined by sponsor. (Approximate Retail Value \$3,500.00.) 100 First Prizes: Reebok Hi-Tops (ARV \$65.00.) 250 Second Prizes: Sideout Sportswear "Rap Ensemble," including T-shirt and pants. (ARV \$65.00.) 1,000 Third Prizes: Ray-Ban Drifter sunglasses. (ARV \$60.00.) No prize transfers or substitutions except by sponsor due to availability at time of drawing. Such replacement will be of equal or greater value.

4. Open to residents of the United States except employees and their families of Taito Software, Inc. and their promotion agencies.

5. For a list of major winners, send a self-addressed, stamped envelope to: "Say Rap, Say Taito, Say Yo!" Winners, P.O. Box 7768, Woodside, NY 11377.

© 1989, Taito America Corporation. All rights reserved. Printed in USA. Sky Shark® Bubble Bobble® Operation Wolf® Demon Sword® A.L.C.O.N.® Rastan® Renegade® QIX® and Arkanoïd® If The Revenge of DOH® are registered trademarks of Taito America Corporation. Taito® Say Rap, Say Taito, Say Yo!™ and THE ONLY GAME IN TOWN™ are trademarks of Taito America Corporation. Rambo® III is a registered trademark of Carolco. Ray-Ban® is a registered trademark of Bausch & Lomb, Inc. SIDEOUT® is a registered trademark of SIDEOUT Sportswear. MTV® is a registered trademark of MTV. Reebok® is a registered trademark of Reebok, Inc. Commodore is a trademark of Commodore Electronics, Ltd. Amiga is a trademark of Commodore-Amiga, Inc. Apple is a registered trademark of Apple Computer, Inc. IBM is a trademark of International Business Machines Corp. MTV Network is indemnified and held harmless along with its officers, directors, agencies, employees and affiliates from and against any and all claims arising out of this promotion.

1-800-663-8067

For more information on Taito games, or to purchase Taito games, call this toll-free number.

Circle Reader Service Number 129

Ray-Ban

Reebok

WIN!

One of these exciting prizes just by naming 5 Taito™ games

Grand Prize

5 Days/4 Nights in New York
A Visit to MTV Studios to See
"Yo! MTV Raps"
\$1,000 Spending Money

100 First Prizes
Reebok Hi-Tops

250 Second Prizes
Sideout Sportswear T-Shirt
and Pants

1,000 Third Prizes
Ray-Ban Drifters

COMPUTE!

THE CHOICE OF HOME PC ENTHUSIASTS SINCE 1979

CONTENTS

IN FOCUS: YOUR HOME OFFICE

YOUR HOME OFFICE: DRESSED FOR SUCCESS

/24/ NEIL RANDALL

Nine smart scenarios for setting up your home office within your budget.

MY VIEW /38/ PAUL AND SARAH EDWARDS

The personal computer makes the home office a possibility for millions.

TAKE FIVE /42/ KEITH FERRELL

Sometimes the best thing you can do with your home office computer is to turn it off.

BUYER'S GUIDE /50/ CAROLINE D. HANLON AND JEFF SLOAN

Home Office Sampler: Get to work with these packages.

COMPUTE!'S NOVEMBER SHAREPAK DISK /62/

DON WATKINS

An electronic checkbook and a contact manager for your personal and business needs.

RESOURCES /64/ EDITORS

An informational guide to home office computing.

DEPARTMENTS

NEWS & NOTES /6/ EDITORS

Macworld Expo '89, a little Zenith, computer detectives, and more of what's new and interesting.

LETTERS /10/ EDITORS

Wills by the book, C64 defense, and a screen-shot dilemma.

REVIEWS /116/

NEW PRODUCTS /148/ MICKEY McLEAN

HOTWARE /152/ SOFTWARE BESTSELLERS

COMPUTE! SPECIFIC

MS-DOS /11/ CLIFTON KARNES AND JACK NIMERSHEIM

Commodore 64/128 /13/ NEIL RANDALL

Apple II /13/ GREGG KEIZER

Amiga /16/ DENNY ATKIN

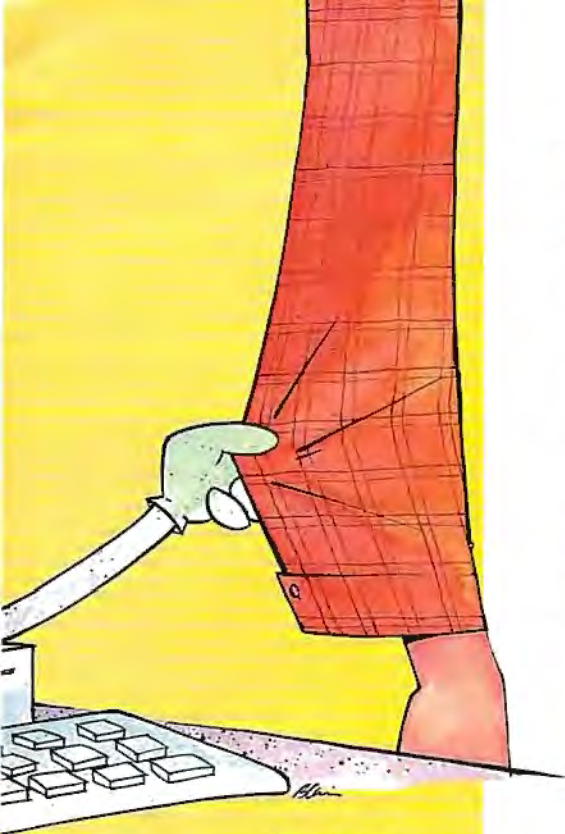
Macintosh /16/ HEIDI E. H. AYCOCK

Cover Photo © 1989 Mark Wagoner

COMPUTE! The Choice of Home PC Enthusiasts Since 1979 (USPS 537250) is published monthly by COMPUTE! Publications, Inc. ABC Consumer Magazines, Inc. Chilton Company, one of the ABC Publishing Companies, a part of Capital Cities/ABC, Inc. Editorial Offices are located at 324 West Wendover Avenue, Greensboro, NC 27408. Domestic Subscriptions: 12 issues, \$19.94. POSTMASTER: Send Form 3579 to: COMPUTE!, P.O. Box 3245, Harlan, IA 51537. Second-class postage paid at New York, NY and additional mailing offices. Entire contents copyright © 1989 by COMPUTE! Publications, Inc. All rights reserved. ISSN 0154-357X



84



76

9



PRODUCTIVITY

COMPUTE! CHOICE /68/ DAVID STANTON

Use the VGA-TV board to convert VGA graphics to NTSC video signals for dynamic presentations.

PLEASE FEED THE PC/76/ DAN GOOKIN

Make memory chips part of a balanced PC diet.

PC PRIMER /82/ HINTS AND TIPS FROM OUR READERS

Give new power to the DIR command.

LEARNING

COMPUTE! CHOICE /102/ JOEY LATIMER

Version 3.0 of *The Music Studio* teaches music composition to budding Bachs.

SPEAKING IN TONGUES /108/ TOM NETSEL

Personal computers are helping a lot of people learn foreign languages.

HOMEWORK /114/ HINTS AND TIPS FROM OUR READERS

Teach shapes and colors with your PC and a drawing program.

ENTERTAINMENT

COMPUTE! CHOICE /84/ PETER SCISCO

Drive into the world of 3-D graphics with *Vette*.

GET REAL /92/ HEIDI E. H. AYCOCK

Computer simulations are the next best thing to reality.

GAMESCOPE /100/ HINTS AND TIPS FROM OUR READERS

Golf lessons from our resident pro.

COLUMNS

EDITORIAL LICENSE /4/ PETER SCISCO

A price tag is no measure of your home computer's worth.

IMPACT /72/ DAVID D. THORNBURG

Computer simulations make you wonder what's real anymore.

DISCOVERIES /106/ DAVID STANTON

Computers—powerful research tools.

GAMEPLAY /88/ ORSON SCOTT CARD

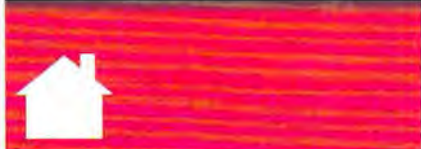
The best of the new games call for more than just reflexes.

CONVERSATIONS/18/ KEITH FERRELL

It's all software to Les Crane of Software Toolworks.

OFF LINE /146/ DAN GOOKIN

With its planned product line, Apple is really cooking.



EDITORIAL LICENSE

P E T E R S C I S C O

Don't quote me on the figures, but I think it's fair to say that 90 percent of American households own a television, and a sizable percentage of those homes own two or three. Yet at the same time, only about 20 percent of American households (I'm being generous here) own personal computers.

The most persistent explanation for the relatively low penetration rate of personal computers is price: You can pick up a decent color TV for less than \$300, a pretty good VCR for about \$400. A decent home computer system—one that you can expand to take care of your computing needs for the next five years—will run you about \$1,200. Computers cost too much, period.

The harder you look at that argument, however, the less convincing it becomes. Don't compare computers with televisions; compare them with goods of equal value and equal worth. Take camcorders, for example. One of those babies will set you back a cool grand, yet Americans can't buy them fast enough. Or consider a moderate-quality home stereo with a compact disc player, tape deck, graphic equalizer, speakers, tuner, and turntable: You're looking at about \$1,200.

So it's not price, it's value. It's what you get out of your purchase compared with what you put into it. I'm talking perception here. Given a choice, more people would see greater value in a camcorder than in a comparatively priced computer. After all, they would use a camcorder a lot more than they would a computer, right? Think about it. How many everyday events are worth recording on video? The family's summer vacation. The baby's first steps. Your son's wedding. Your daughter's graduation. Not everyday occurrences. Most of the time, after the first few weeks of excitement, a camcorder will sit on a closet shelf and gather dust.

But your stereo is different, right?

You play it all the time, you buy new recordings every week, you've always got the radio tuned to beautiful classical music—probably not. Most likely you turn it on every couple of days. If you turn it on more regularly, are you an active listener, or does the music drone in the background as you perform other tasks? I love music, even taught myself the guitar, but I seldom sit still and listen to records more than once or twice a week.

So price alone isn't the culprit. Value, which is a perception of worth, is the key to bringing computers home in greater numbers. And since most people don't fully appreciate the value of personal computers, they don't buy them or use them to their full potential. For example, a fellow recently wrote a letter to the editor of our local paper in which he berated the education establishment for abandoning what he called "the basics" in favor of teaching kids how to work with com-



puters. Although I sympathized with his concerns, I found his lack of vision disconcerting.

I have no problem with schools teaching reading, writing, and arithmetic; in fact, I encourage it. But my encouragement is tempered by an appreciation of technology as an agent of change. The personal computer isn't simply a blackboard for the 1990s. It's a unique medium with inherent possibilities too undervalued by an establishment that equates test-taking skills with critical thinking. That isn't to say

that you need a computer to teach your kids to think. (More books! Less TV!) But by incorporating computers into the learning process, we can see true value.

There's more to home computers than education, of course. They provide intriguing entertainment and make it possible for you to earn a living without the large support staff required of so many small businesses. In both cases, work and play, a certain amount of perspective is required to appreciate your computer's value. Flying a jet, reliving history in feudal Japan, building a city from the ground up, shooting 68 at the Kemper Open—these are but a few of the worlds awaiting any computer gamer. But, to really appreciate any of them, you need to play some summer softball, take a woodland hike, ride a carousel with a child. In short, you need to take part in the world around you to discover the worth of the world inside your computer.

The same goes for working. Your computer can be your best working partner or your worst office slouch. Don't get caught up in new technology just for its glitz and glitter (hard advice for an enthusiast). Corporate America and business computer magazines notwithstanding, the Intel 80286 has a lot of life to give. And don't forget the Amiga, the lower-priced Macintosh models, the Apple II line, even that old workhorse Commodore 64, all of which can perform more than adequately according to your needs. Most important, don't become a slave to your computer; develop the best tool for the job and use it wisely.

At the risk of preaching to the converted, I believe home computers have yet to fulfill their promise of revolutionizing the world as the printing press did 500 years ago. Too many people still see computers as difficult machines with no discernible value. As computer users, we have the opportunity to change that perception through our own habits. Appreciate your computer. For what it's worth. □

NEW FOR IBM!

The Children's Writing & Publishing Center™
Easy Desktop Publisher For Children 8-14

A Book Report on
Columbus

By: Pat Davis

In 1492, many people, like Columbus, thought that the world was round. This meant that you could sail a boat from Spain on to the Indies, which we now call Japan and China, by going westward across the Atlantic Ocean. But no one knew how long a trip it would be.

Columbus thought that going east around Africa would be shorter than going like a very good idea, because everyone wanted spices from Japan and China, but going around Africa took too long.

Spain's king and queen agreed to let Columbus try, so they gave him boats and supplies. But Columbus found what no one had expected. While going west to get to the Indies, he bumped into AMERICA!

THIS IS CLEARLY WRITING.

THIS IS WRITING AND THINKING MORE CLEARLY.

Now there's a tool that encourages children to write down what they think: *The Children's Writing & Publishing Center*. This new fun and easy-to-use software program picks up where pencil and paper leave off. *The Children's Writing & Publishing Center* stimulates the natural creativity of young people and makes the process of writing both fun and rewarding. It combines powerful features in word processing, picture selection, and page design to help children, families and schools produce first-class illustrated reports, letters, stories, newsletters, and more. Now children can write more freely and creatively. . . and explore more possibilities! *The Children's Writing & Publishing Center*: an easy, powerful way to get it in writing.



Call for information and your free
Parent/Teacher Software Selection Guide
Toll free: 1-800-852-2255



Suggested retail price: \$69.95
(IBM/Tandy & compatibles),
\$59.95 (Apple II/IIGS)



The Learning Company®



NEWS & NOTES

LITTLE ZENITH

Zenith gave the laptop arena a new contender in July with the release of its MinisPort, which weighed in at less than six pounds and hit the price scales at just under \$2,000.

The computer's 9½-inch display combines backlit and reflective technologies. In dark or dimly lit settings, the backlight provides illumination, while in normal light Zenith's "transflective" screen eliminates the need for backlighting and extends battery life.

A removable ni-cad battery pack lasts three hours under heavy use and more than four hours with MinisPort's Intelligent Power Management features, which include a "silicon" drive that functions as a virtual disk—with a capacity ranging from 360K to 1.36MB.

Zenith's most significant development is the MinisPort's 2-inch, 720K floppy disk drive. Less than half the weight of a 3½-inch drive, it also consumes



150 percent less power. Although the same relative size, Zenith's small disks aren't interchangeable with the 2-inch floppies used in video cameras.

The accessory list includes an internal modem, a carrying case, extra battery packs, a battery charger, and external drives. Suggested retail prices are \$1,999 for the one-megabyte model and \$2,799 for the two-megabyte model.

RICHARD C. LEINECKER

LIE TO A COMPUTER?

Georgia Tech researchers have found that job applicants answer questions more honestly when asked by a computer. The results don't apply uniformly to everyone, however. Management candidates often exhibit resentment, and computer phobia afflicts some job applicants.

Four different questioning techniques were compared: using a friendly interviewer, an impersonal interviewer, paper-and-pencil application forms, and a computer. Although there were more accurate answers when answering a computer's questions, Dr. Dennis Nagao of Georgia Tech points out, "People are an essential part of the system."

RICHARD C. LEINECKER

MAKE IT MOVE —MACINTOSH MULTIMEDIA

Media—multiple and optical—were the big stories at Macworld Expo, held in Boston this past August.

In his keynote speech, Apple president John Sculley envisioned the Mac as *the* information tool of the 1990s.

More importantly, he said desktop multimedia and presentations would have the same growth potential in the 1990s as desktop publishing enjoyed during the 1980s.

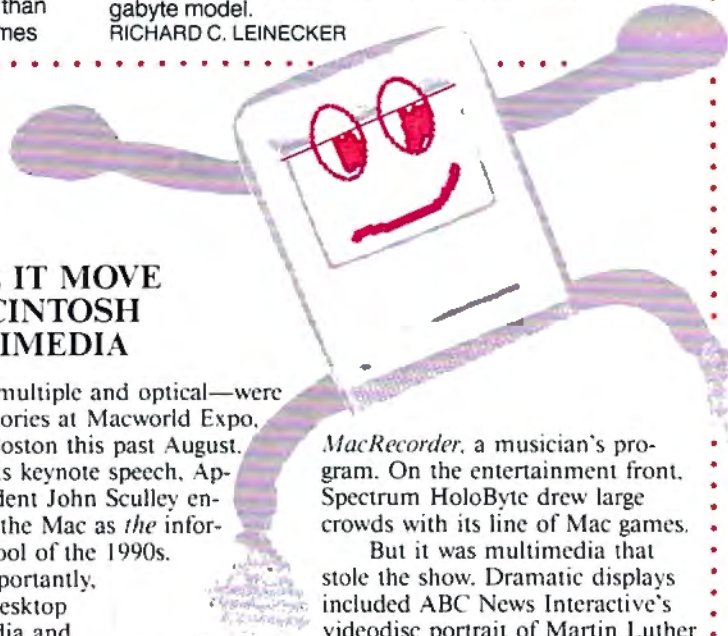
Multimedia tools are expensive, though, aimed squarely at the Fortune 500 market. There was little at Macworld for the home consumer, although Electronic Arts made a strong showing with *Studio 1*, an animation program, and

MacRecorder, a musician's program. On the entertainment front, Spectrum HoloByte drew large crowds with its line of Mac games.

But it was multimedia that stole the show. Dramatic displays included ABC News Interactive's videodisc portrait of Martin Luther King; *Newsweek's* interactive look at unrest in China; and disc-based programs from Harvard, WGBH ("NOVA"), Warner New Media, and McGraw-Hill.

Multimedia is even being used to help Mac users: Datapro's Macintosh Consultant is a CD-ROM consumer guide to Macintosh products and information.

KEITH FERRELL



Amiga Gets More Perfect

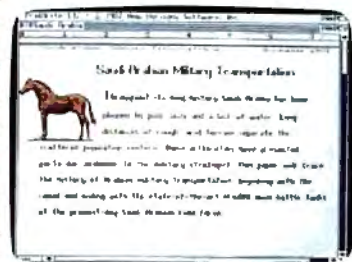
In the wake of rumors that WordPerfect would pull out of the Amiga market (*COMPUTE!*, August 1989), the company released an updated version of Amiga WordPerfect 4.1.

"The file requesters are Amiga-style now," explained Lynn LeBaron, WordPerfect's manager of Amiga Development. The new version also adds default directory paths for documents and macros, audible beeps and backup warnings, automatic hyphenation, resizable edit buffers, and "a lot of bug fixes." The program opens on its own custom screen and will support taller onscreen fonts.

LeBaron said work continues on an update that will incorporate many features found in IBM WordPerfect 5.0.

To upgrade, send \$12.50 and a photocopy of your serial number to WordPerfect Amiga Update, 81 North State Street, Orem, Utah 84057.

New Horizons' Amiga word processor, *ProWrite*, is new and improved, too. Using version 2.5, you can mix graphics with your printer's standard near-letter- or draft-quality fonts. Other new features include adjustable page size, an

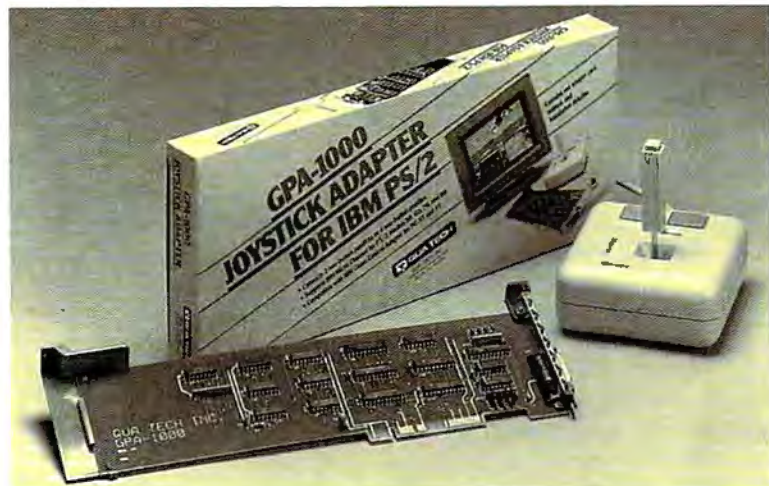


Mix graphics and fonts with the updated version of *ProWrite*.

interactive spelling checker, and a ruler that can be turned off. Typing and spell-checking speeds have been improved; it's almost impossible to out-type version 2.5.

The upgrade costs \$20 for *ProWrite* 2.0 owners, and \$30 for *ProWrite* 1.0 owners. Add \$5 for shipping (\$10 outside the United States). Send your original program disk with a check or money order to New Horizons Software, P.O. Box 43167, Austin, Texas 78745.
DENNY ATKIN

ANY GAME PORT IN A STORM



All work and no play makes your PS/2 a dull machine.

Your new Micro Channel Architecture PS/2 blows the socks off your old XT when it comes to number crunching, database sorting, and desktop publishing. Now, with Qua Tech's affordable new game-port board, it can also play a mean game of *Pac-Man*.

The GPA-1000 interface board supports two joysticks and can be used on the IBM PS/2 Models 50, 60, 70, and 80. The \$79.95 board is compatible with the standard IBM Game Control Adapter, so it will work with most MS-DOS game software, such as Microsoft's *Flight Simulator 3.0*.

For more information, write Qua Tech, 478 East Exchange Street, Akron, Ohio 44304; or call (800) 553-1170.
DENNY ATKIN

Finding Missing Children

By "aging" photos of missing children, Lewis Sadler and Scott Barrows have helped police locate 21 missing children in the last four years. The process is slow and involved by hand, but, recently, the team has started using computers. Although the procedure is still new, it is much faster.

"Basically, we were working with mathematical algorithms anyway," said Sadler, head of the Department of Biomedical Visualization at the University of Illinois at Chicago. "It just was the wrong way to be doing it. Our software proves that."

To age the image of a child, Sadler and Barrows start with an old photograph. "Based on average growth indicators, we're able to move points on the

face," said Sadler. "Then, the computer warps the face based on that information."

A grant from AT & T has helped the two professors carry on their work; Sadler and Barrows charge nothing for their help.

"We have always done this as a free service to law enforcement and parents, and, by hook or by crook, we'll keep it that way," said Sadler.

Sadler and Barrows provide the service on a national basis in cases where children have been missing for more than three years. Cases come to Sadler and Barrows through the National Center for Missing and Exploited Children in Washington. For more information, contact the center (800-THE-LOST).

HEIDI E. H. AYCOCK

Cure home finance headaches.



Keeping your personal finances in order can be a pain. And if you've tried the existing software, you probably have an even bigger headache.

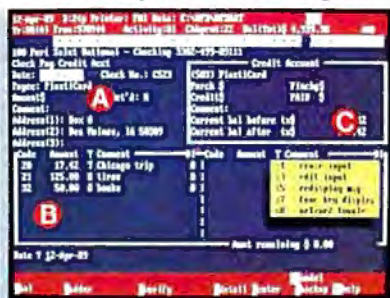
HFS-III is written by a non-accountant, for non-accountants. It works the way you do.

Home Finance System-III is set up very much like your checkbook and check register. You can start using it immediately to track payments, deposits, ATM transactions, and to balance your checkbook. It's so easy to use that people are calling it smart.

HFS-III is designed to meet your needs month after month, year after year.

Define up to 100 asset accounts including checking, savings, CDs, cash, mutual funds, you name it. Because HFS-III integrates all your accounts, you can transfer funds between accounts with a single transaction. And your reports can include summary information from all your accounts.

Models let you enter recurring transactions with just a keystroke.



Pay monthly bills. All the information you need is on one screen: balance before and after transaction and your checking account balance.

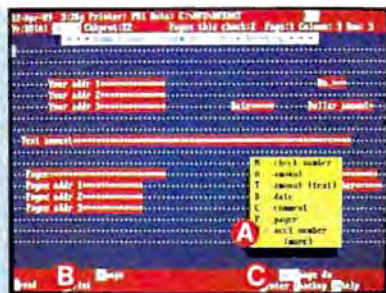
- A.** Just start typing the account name or number and a Smart Menu finds the closest match. Payee, address and date are filled in automatically.
- B.** Up to 14 expense codes per transaction, each with tax flag and space for a comment.
- C.** Remembers amount owed and expense codes.

You get full editing capabilities.

To start with, HFS-III helps you enter error-free data. But if you do make a mistake, you can correct your entries from previous months and years. There is no artificial "archiving" of data.

Printing checks. HFS handles two "hand-written" checkbooks plus a computer-printed checkbook for each account. Custom design the printout for ANY business-size check, with or without stubs, including checks for laser printers.

- A.** Automatically print payee's account number on checks.
- B.** Keep checks in one printer, report paper in another. Toggle with one keystroke.
- C.** Design and save 3 different formats.



Order HFS-III today. Kiss financial headaches good-bye.

ONLY \$49.95

Add \$3.50 shipping and handling. In Iowa, add 4% sales tax. MasterCard® and VISA® accepted. Or send for more information.

Requirements: DOS 2.0 or higher, IBM® PC, XT, AT or 100% compatible; or Zenith® Z100 computer, two disk drives or hard disk and 256K RAM. HFS-III includes three program disks and a 106-page, IBM® style, 3-ring instruction manual. Not copy protected.

Capacity: Define up to 100 asset or checking accounts, 100 credit accounts, four 30-character macro keys, three check formats, 14 expense codes per check, 100 expense codes, 15 deposit codes. Number of models and transactions limited only by disk space. Up to 10 years of data on-line as disk space allows. 100% assembly language.

Printers: For reports, printer must be wide-carriage, or able to print 132 columns in compressed mode.

CALL 1-800-541-0173

Circle Reader Service Number 141



Jay Gold Software, Inc.
PO Box 2024
Des Moines, IA 50310
515-279-9821 or 800-541-0173


COMPUTE!

Editor **Peter Scisco**
Senior Art Director **Janice R. Fary**
Features Editor **Keith Ferrell**
Assistant Editors **Denny Atkin**
Heldi E. H. Aycock
Richard C. Leinecker
Manager Disk Products **David Hensley, Jr.**
Assistant Features Editor **Tom Netsel**
Editorial Assistant **Mickey McLean**
Copy Editors **Karen Slepak**
Karen Uhlenford
David Thornburg
Contributing Editor
ART DEPARTMENT
Assistant Art Director **Robin L. Strelow**
Mechanical Art Supervisor **Robin Case**
Junior Designers **Scotty Billings**
Meg McArn
PRODUCTION DEPARTMENT
Production Director **Mark E. Hillyer**
Assistant Production Manager **De Potter**
Production Assistant **Kim Potts**
Typesetting **Terry Cash**
Carole Dunton
Advertising/Production Assistant **Tammie Taylor**
ADMINISTRATIVE STAFF
Executive Assistant **Sybil Agee**
Senior Administrative Assistant **Julia Fleming**
Administrative Assistant **Linda Benson**
Customer Service Coordinator **Elfreda Chavis**

COMPUTE! PUBLICATIONS
Group Vice President **William Tynan**
Publisher/Editorial Director **Lance Elko**
Associate Publisher/Editorial Associate Publisher/Advertising Managing Editor **Bernard J. Theobald, Jr.**
Editorial Operations Director **Kathleen Martinek**
Editorial Marketing Manager **Tony Roberts**
Caroline D. Hanlon

ABC CONSUMER MAGAZINES, INC.
President **Gary R. Ingersoll**
Senior Vice President **Richard D. Bay**
Director, Financial Analysis **Andrew D. Landis**
Director of Circulation **Harold Buckley**

CIRCULATION DEPARTMENT
Subscriptions **Maureen Buckley**
Beth Healy
Raymond Ward
Newsstand **Peter J. Birmingham**
Jana Friedman

ONE OF THE COMPANIES 
Robert G. Burton, President
825 Seventh Avenue
New York, NY 10019

ADVERTISING OFFICES
New York: ABC Consumer Magazines, Inc., 825 Seventh Ave., New York, NY 10019. Bernard J. Theobald, Jr., Associate Publisher/Advertising, (201) 989-7553. Susan Annexstein (212) 856-9897.

Greensboro: COMPUTE! Publications, 324 West Wendover Ave., Suite 200, Greensboro, NC 27408. (919) 275-9809. Kathleen Ingram, Marketing Manager.

New England & Mid-Atlantic: Bernard J. Theobald, Jr. (201) 989-7553. Susan Annexstein (212) 856-9897. Kathleen Ingram (919) 275-9809.

Midwest & Southwest: Jerry Thompson, Lucille Dennis (312) 726-6047 [Chicago], (713) 731-2605 [Texas], (303) 595-9299 [Colorado], (415) 348-8222 [California]

West, Northwest, & British Columbia: Jerry Thompson (415) 348-8222. Lucille Dennis (415) 878-4905.

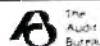
Southeast & International: Bernard J. Theobald, Jr. (201) 989-7553. Susan Annexstein (212) 856-9897; Kathleen Ingram (919) 275-9809.

National Accounts Offices:
Midwest: Starr Lane, National Accounts Manager (312) 462-2872. 191 S. Gary Ave., Carol Stream, IL 60188-2089
West Coast: Susan Annexstein (213) 284-8118, 2029 Century Park East, Suite 800, Los Angeles, CA 90067.

Address all advertising materials to Tammie Taylor, COMPUTE! Publications, Inc., 324 West Wendover Ave., Suite 200, Greensboro, NC 27408.

Editorial inquiries should be addressed to The Editor, COMPUTE!, Suite 200, 324 West Wendover Ave., Greensboro, NC 27408.

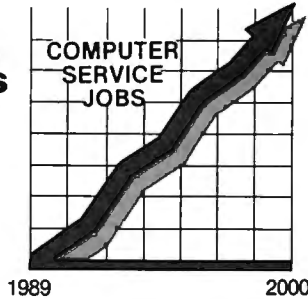
PRINTED IN THE U.S.A.



5 sure steps to a fast start as a high-paid computer service technician

1. Choose training that's right for today's good jobs

Jobs for computer service technicians will almost double in the next 10 years, according to the latest Department of Labor projections. For you, that means unlimited opportunities for advancement, a new career, or even a computer service business of your own.



But to succeed in computer service today, you need training—complete, practical training that gives you the confidence to service any brand of computer. You need NRI training.

Only NRI—the leader in career-building, at-home electronics training for 75 years—gives you practical knowledge, hands-on skill, and real-world experience with a powerful XT-compatible computer you keep. Only NRI starts you with the basics, then builds your knowledge step by step until you have everything you need for a fast start as a high-paid computer service technician.



2. Go beyond "book learning" to get true hands-on experience

NRI knows you learn better by doing. So NRI training works overtime to give you that invaluable practical experience. You first read about the subject,

studying diagrams, schematics, and photos that make the subject even clearer. Then you do. You build, examine, remove, test, repair, replace. You discover for yourself the feel of the real thing, the confidence gained only with experience.

3. Get inside a powerful computer system

If you really want to get ahead in computer service, you have to get inside a state-of-the-art computer system. That's why NRI includes the powerful new Packard Bell VX88 computer as the centerpiece of your hands-on training.

As you build this fully IBM PC XT-compatible micro from the keyboard up, performing key tests and demonstrations at each stage of assembly, you actually see for yourself how every section of your computer works.

You assemble and test your computer's "intelligent" keyboard, install the power supply and 5¼" floppy disk drive, then interface the high-resolution monitor. But that's not all.

You go on to install a powerful 20 megabyte hard disk drive—today's most-wanted computer peripheral—included in your training to dramatically increase the data storage capacity of your



computer while giving you lightning-quick data access

By getting inside this powerful computer, you get the confidence-building, real-world experience you need to work with, troubleshoot, and service today's most widely used computer systems.



4. Make sure you've always got someone to turn to for help



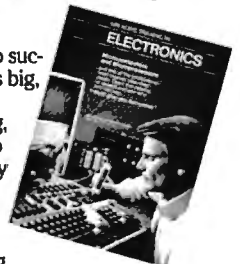
Throughout your NRI training, you've got the full support of your personal NRI instructor and the entire NRI technical staff. Always ready to answer your questions and help you if you should hit a snag, your instructors will make you feel as if you're in a classroom of

one, giving you as much time and personal attention as you need.

5. Step into a bright new future in computer service—start by sending for your FREE catalog today!

Discover for yourself how easy NRI makes it to succeed in computer service. Send today for NRI's big, 100-page, full-color catalog describing every aspect of NRI's one-of-a-kind computer training, as well as training in robotics, TV/video/audio servicing, electronic music technology, security electronics, and other growing high-tech career fields.

If the coupon is missing, write to: NRI School of Electronics, McGraw-Hill Continuing Education Center, 4401 Connecticut Avenue, NW, Washington, DC 20008. IBM is a registered trademark of International Business Machines Corp.



NRI School of Electronics

McGraw-Hill Continuing Education Center
4401 Connecticut Avenue, NW, Washington, DC 20008



For career courses approved under GI Bill
 check for details.

- CHECK ONE CATALOG ONLY
- Computers and Microprocessors
 - Robotics
 - TV/Video/Audio Servicing
 - Data Communications

- Security Electronics
- Electronic Music Technology
- Digital Electronics Servicing
- Computer Programming
- Basic Electronics

Name _____

Address _____

City _____ State _____ Zip _____

Accredited Member National Home Study Council

198-119



LETTERS

NEC PORTABLE MULTISPEED EL LAPTOP COMPUTER

FACTORY NEW! FACTORY PERFECT!



Dual 3 1/2" Drives - Superwist Backlit Screen!

Super-fast action and superwist backlit screen make this the computer for all your personal and business needs!

- 8086 microprocessor (4.77 MHz/9.54 MHz) software & hardware switchable.
- 640K RAM • Detachable backlit superwist display • Resolution: (640x200 dpi).
- Two 720KB 3-1/2" disk drives.
- 1 RS232 serial port.
- 1 Centronics parallel port • 1 CRT adapter.
- MSDOS 3.2 • Standard keyboard with HELP & POP-UP keys • Separate numeric keypad • AC adapter.
- Nicad battery pack • Resident software programs: Notepad—20,000 word spell checker, Filer, Dialer, Telcom, & Setup.
- Model #, EL1-1602.
- Dim.: 13.6"W x 12.4"D x 3.25"H.
- Weight: 11.5 lbs. • One Year Warranty!

PUBLIC NOTICE

Due to a manufacturer's closeout, we were able to obtain a large inventory of these portable computers. As a result, we can now offer them to you at **HUGE SAVINGS!**

Manufacturer's Suggested Retail
\$2,499.00

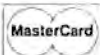
DAMARK PRICE:

\$899

Item No. B-1435-127713
Insured Ship/Hand.: \$12.00

**FOR FASTEST
SERVICE CALL
TOLL FREE**

1-800-729-9000



RUSH DELIVERIES ONLY
\$3.95 plus normal S.H. Ask an operator to "SHIP IT FED EX'S Delivery Service!"

DAMARK INTERNATIONAL, INC.

6707 Shingle Creek Parkway, Minneapolis, MN 55430
Customer Service • 612-566-4940

Please rush me:

____ NEC Portable Laptop Computer(s)
@ \$899 each, plus \$12.00s/h each
MN res. add 6% sales tax.

Name _____

Address _____

City, State, Zip _____

Check/MO VISA MasterCard Discover

Card No. _____

Exp. Date _____ Ph. # (____) _____

Signature _____

Item No. B-1435-127713

DELIVERY TO 48 U.S. STATES ONLY

Legal Impact

In the August 1989 "Impact" column, David D. Thornburg suggested that "Another avenue you might explore [for making money] is a will-writing service. You can use a commercial software program to help you create wills for clients, or you could create them yourself with a word processor."

There is a name for this business; the preparation of wills for others for a fee is called the practice of law. In most states the practice of law by a person who is not a licensed attorney is a crime. Although some might argue that such laws benefit attorneys rather than the public, they are on the books and are enforced.

CHARLES V. GERKIN, JR.
ATLANTA, GA

Many states do consider writing wills for hire to be practicing law. You should contact your local bar association to determine whether it's legal in your area.

Nolo Press, publisher of WillMaker, told us that it doesn't license its software for commercial will writing. If you want to help people write their wills, Nolo suggests you buy each client a copy of WillMaker and walk each one through the program.

Suspicious Confirmed

COMPUTE! does not consider the Commodore 64 to be a personal computer! A feature article in the July 1989 issue, "Nintendo: Just Kids' Play or Computer in Disguise?" states, "You can get started with a Nintendo base system for about \$100—several hundred dollars less than even the least costly personal computer."

Eight pages further into this issue, an advertiser offers for sale the Commodore 64C with GEOS software for \$119.95.

In my opinion, with both systems using a television as the display, the Commodore 64 only needs a \$4.95 joystick and any one of the many cartridge games available to put Nintendo out to pasture.

COMPUTE! was the first of many computer magazines to which I

have subscribed since the early 1980s. Sadly, I will not be renewing again. No wonder dedicated game machines are taking over videogaming, when this publication, which owes its beginnings to Commodore 8-bit computers, no longer considers the Commodore 64 to be a personal computer.

SAMUEL J. HAND
COLUMBIA, SC

Keith Ferrell replies: Not only do I consider the Commodore 64 a personal computer, I think it's an important one. But while you can buy the 64 CPU for about the same price as a Nintendo Entertainment System (NES), you still have to add a disk drive—roughly doubling the price. It's been some time since games for the 64 were available on cartridge. Price aside, the 64 is superior to the NES. It's a computer. The NES is a toy.

Which Computer?

Thanks for putting out a magazine which attempts to tackle the monstrous task of covering all types of personal computers under one cover.

However, this multicompuser coverage can sometimes cause a bit of confusion as it relates to computer screen shots, usually used in your reviews of recreational software. I would suggest that below each screen shot you print which computer and, if applicable, which video mode—that is, EGA, VGA, and so on—the screen shot represents. This would assist computer owners in knowing whether or not they can expect their systems to display the program similar to the screen shot used in the review.

DAVID G. BRITT
MADISON, MS

Whenever possible, we use the IBM-version screen shot to illustrate our reviews. We understand the confusion an Apple or Commodore screen shot might cause readers who think they're looking at an IBM screen. We're working on ways to make the identification of screen shots clearer.



COMPUTE! SPECIFIC

MS-DOS

Power Up

Let's face it: If you don't have a hard drive, you *need* one; if you have one, you need a *bigger* one; and if you have a big one, you need *two*.

With scores of hard drives available, shopping for a new one can be confusing. But when it comes to value, the Seagate 251 (Seagate Technology, 920 Disc Drive, Scotts Valley, California 95066-4544; 408-438-6550) is hard to beat.

This 5¼-inch, half-height drive comes in two versions: the 251-0 has an access time of 40 ms and a street price of \$350, and the 251-1 has an access time of 28 ms and a street price of about \$400. Except for the access times, the two models are identical.

Since adding a hard drive to your system can present a few challenges, here's a run-down of what to expect when installing a Seagate 251 as a single or a second drive. But first, an anatomy lesson.

Your hard drive system consists of a controller card and the drives themselves. The controller is connected to the hard drives by two types of cables—the control cable, which is 34 pins wide and has connectors for two hard drives on it, and two data cables, which are each 20 pins wide.

The standard controller card supports two control cables: one for two daisy-chained

hard drives and one for two daisy-chained floppy drives. On the daisy-chained cables, the connector at the end is for drive 1; the connector in the middle is for drive 2. On some systems, the control cable has a twist just before the end connector. This is important.

Seagate drives have a drive-select jumper that configures it as number 1 or 2, and each drive has something called a *terminating resistor*, which tells the hardware that this is physically the last drive in the daisy-chain.

If you're installing a 251 as a single drive in your system, things couldn't be easier. First, if your control cable is smooth, put the drive-select jumper on DS-1; if the cable has a twist in it, put the jumper on DS-2.

Make sure the terminating resistor is in place, and connect the *end* of the control cable to the drive. Slide on the data cable, and you're ready to go.

Things are a little more involved if you're installing the 251 as a second hard drive. The first thing you need to do is tell your system which hard drive is 1 and which is 2. If your control cable is smooth, simply configure the two drives as numbers 1 and 2 by setting drive-select jumpers on DS-1 and DS-2. If your cable has a twist in it, you'll want to set

both drives on DS-2.

Now connect drive 1 to the end of the cable and drive 2 to the middle. Remove the terminating resistor from the drive attached to the middle of the cable (drive 2), and make sure the drive at the end of the cable (drive 1) has its terminating resistor in place.

After you've tightened the screws, you're ready to take your new Seagate for a spin. To introduce the new drive to your system, run your computer's setup program (if you have an AT), partition the new drive, perform a low-level format, and last, perform a high-level format.

Please note that DOS 3.3 or lower normally requires that you partition large drives like the 251 into two logical drives (DOS versions through 3.3 can manage partitions of 32MB or smaller; DOS 4.0 and higher can handle much larger partitions).

To its credit, Seagate supplies a special device driver with the 251 that allows you to create partitions larger than 32MB, so you can allocate the 251's entire 40 megabytes to one large partition if you wish.

Installing a 251 should be easy, but if you encounter any problems, Seagate provides technical support by phone. You may have to wait on hold

for quite a while before you get a representative, but I found Seagate's techs know their products inside out and are eager to help.

How does the Seagate 251 perform? Flawlessly. I've run my 251-0 nonstop, 24 hours a day for three solid months without a hint of trouble. It's fast and reliable, and I've found performance to be as good as or better than Seagate's specifications. The Seagate 251 is a byte-for-the-buck winner.

Big Deluxe

You've seen the ads: Throw away an entire shelf of software and replace it all with one package—*PC Tools Deluxe* (Central Point Software, 15220 NW Greenbrier Parkway, Suite 200, Beaverton, Oregon 97006; 503-690-5160; \$129). I thought it was all hype.

It's not. With version 5.5, released this past June, Central Point's *PC Tools Deluxe* goes head to head with heavyweights Peter Norton Computing (*Norton Commander* and *Norton Utilities*), Borland (*SideKick Plus*), and Fifth Generation (*Fastback Plus*) for the title Number 1 Power Tool.

PC Tools Deluxe is really three programs all rolled into one: Desktop, a memory-resident organizer; PC-Shell, a DOS shell and menu program that acts as a front end for many of *PC Tools Deluxe*'s disk utilities; and PC Backup, which is an easy-to-use backup program. You can use just one of these programs or all three. They have a consistent interface (one of the program's nicest features), but they're independent.

Desktop is a revelation. You can run the program either as a stand-alone command or as a TSR. In memory-resident mode, Desktop uses just 40K, loading itself from disk when you press its hot key. The pen-

HARD-DRIVING PC
DOS ROAD MAPS
SPOTLIGHT ON 64
NEW APPLE POWER
HAM AND AMIGAS
PALMTOP MACINTOSH

alty for this lean memory usage is the time it takes to call *PC Tools Deluxe*—about five seconds on a 12-MHz AT compatible. If you have EMS or enough extended memory to install a 400K ramdisk, however, Desktop will use these and give you lightning-fast access.

Desktop's modules provide just about everything you could want in a memory-resident organizer: a notepad (with spelling checker), a *dBase*-compatible database, a scheduler (complete with repeating alarms), three calculators, telecommunications (including an optional background mode), an outliner, macros, a clipboard for cutting and pasting between applications, autodialing, and an ASCII chart. All modules include excellent mouse support, and you can have as many as 15 Desktop windows open at once.

While many programs (such as *Norton Commander*) provide a limited but well-rounded diet of functions, PC Shell is an extravagant smorgasbord of features. For example, *Norton Commander's* bottom-line menu bar lists 10 selections; PC Shell has 22. *Commander's* main menu has 9 selections; PC Shell has 17. You'll find this everywhere in the program. Novices may find the large number of possibilities in PC Shell a little daunting, but power users will enjoy the feast.

PC Backup is the least exciting component of *PC Tools Deluxe* (backup programs are never interesting until you get an unfriendly *General failure* error message), but the program is easy to use and reliable.

There's much more to *PC Tools Deluxe*—disk utilities, PC Secure, and Mirror—but the recommendation is clear: Even if you don't need everything this ensemble offers, there's almost certainly something you'll find indispensable, and you'll have a blast playing with the rest of the programs.

The Great Detective

Your chances of encountering a computer virus are slim, but their existence is a dark cloud hanging over many computer users. There are several anti-virus programs around, but they tend to be difficult to learn and time-consuming to use.

Enter *Viruscan* (McAfee Associates, 4423 Cheeney Street, Santa Clara, California 95054; 408-988-3832; Shareware, \$15 registration plus \$4

postage and handling; also available on McAfee BBS, 408-988-4004), a fast, easy-to-use program that scans your disks for 29 known viruses and issues a report on its findings.

Checking your hard disk is as simple as entering the command SCAN C: at the DOS prompt. The program examines your entire hard disk in a matter of minutes. It checks the partition table and boot block, and it opens every COM and EXE file to search for 29 known viruses.

If you find a virus, you can call the company for assistance. If your infestation is deep-seated, McAfee sells disinfectors that range in price from \$30 to \$70.

McAfee is dedicated to updating *Viruscan*. You can always find the latest version of the program on McAfee's BBS. *Clifton Karnes*

DOS PROMPT

If you've been working with PCs for any length of time, you know how overpopulated a hard disk can become. Files proliferate on one of these babies like mosquitoes on a farm pond. After a while, sifting through a 30-megabyte hard disk to find a single program or data file begins to resemble King Arthur's legendary quest for the Holy Grail. Fortunately help is on the way in the form of two programs, *Magellan* and *ViewLink*, each of which takes a different approach to solving the problem of hard disk clutter.

Like the Portuguese sailor after whom it is named, *Magellan* (Lotus Development, 55 Cambridge Parkway, Cambridge, Massachusetts 02142; 617-577-8500; \$195) explores your hard disk, discovering hidden data and claiming files in the name of the application programs that originally created them. To accomplish this, *Magellan* takes a bottom-up approach—that is, it begins at the lowest level, with the actual data your files contain, and then works its magic from there.

Suppose, for example, that you need to review any information on your hard disk relating to the ABC Manufacturing Company. To accomplish this, you'd simply type *ABC Manufacturing* at the *Magellan* query screen and send that request sailing on its way. Within a few seconds, *Magellan* returns a listing of all files containing the specified phrase. Furthermore, in scan-

ning the listing, a separate window displays the phrase in the context of the currently highlighted file. *Magellan* recognizes and can display data files created by a wide range of popular programs, including all Lotus products, *dBase*, and most major word processors. *Magellan* also includes a Launch option to automatically run whatever application program created a highlighted file and then load that file for further review or editing. You'll no longer have to navigate your way through twisting subdirectories.

ViewLink (Traveling Software, 18702 North Creek Parkway, Bothell, Washington 98011; 206-483-8088; \$149.95) takes a more long-term approach to hard disk management. Rather than specializing in quick, one-time data searches, *ViewLink* lets you create and maintain collections of related files, called *views*, which then become the basic foundation of your operating environment. In essence, *ViewLink* superimposes a logical structure over your hard disk's directories and subdirectories.

Take the example of ABC Manufacturing again. You could create a view called *ABC* comprised of all your files containing information about that company. You could include files in that view regardless of where they are on your hard disk and no matter what application program you used to create them. Then, anytime you had to work on a project involving ABC Manufacturing, you could call up your *ABC view*. Like *Magellan*, *ViewLink* lets you scan the contents of a file in a display window and open an application by simply identifying the data file on which you want to work.

Both *Magellan* and *ViewLink* chart new territory. Each has its own advantages and disadvantages, and which one is the better program for you depends largely on how you use your PC. Information buffs who demand quick access to tons of data should sail with *Magellan*. Obsessive organizers might want *ViewLink*. Regardless of your choice, a little organization can provide a lot of relief for anyone needing to tame their wild hard disk.

The Rite Stuff

While we're on the subject, let me mention a package that's a must-have for anyone who owns a hard disk. *SpinRite* (Gibson Research, 22991 La

Cadena, Laguna Hills, California 92653; 714-830-2200; \$59) is a nifty little program that does one thing, does it well, and doesn't set you back on next month's mortgage payment in the process. *SpinRite's* entire *raison d'être* is to test the performance of your hard disk and, if necessary, take the appropriate steps to improve it.

Perhaps the most impressive feature of *SpinRite* is its ability to perform a low-level format and reset the sector interleave on a hard disk without destroying the data on the disk. Some of you might recognize immediately what an amazing feat this is. For the uninitiated, let me offer a brief explanation.

Basically, the sector interleave represents how far apart successively numbered sectors are placed on your hard disk. For example, with the sector interleave set to 3—the standard setting for XT systems—each successively numbered sector will be spaced three sectors from the prior one.

The problem lies in the fact that this standard setting is pretty much an arbitrary value and might not represent the most efficient sector interleave for your hard disk. For instance, if your hard disk is capable of reading successive sectors placed only two sectors apart, then an interleave setting of 3 makes your disk travel farther than it needs to between each read operation. On the flip side, hard disk performance may also suffer if its current interleave value is lower than its optimal setting.

SpinRite includes a utility that automatically calculates the most efficient sector interleave for each hard disk installed in your system. It then gives you the option of changing any current values to their ideal setting.

Normally, the low-level format required to reset a sector interleave erases all data on the hard disk being recalibrated. *SpinRite's* reformat doesn't. As a result, you can change the interleave on your hard disk to its ideal setting without first having to back up your hard disk, reformat it, and then restore your data to it (and pray that everything worked as expected). One friend of mine realized a 200-percent improvement in hard disk throughput with *SpinRite*. The program performs a number of other hard disk maintenance chores, but its interleave reset feature easily earns it my highest recommendation.

Jack Nimersheim

▷

Problem

Locate the Problem Fast with System Sleuth™

Your computer is a unique harmony of hardware and software. When things run smoothly, everything's terrific. When they don't...you have to guess at a solution as well as the problem! Stop the guessing.

Get System Sleuth, an easy-to-use but powerful toolbox of valuable system diagnostic aids all rolled into a single software utility.

Now you can troubleshoot system problems in a flash. For the first time you can get fast, accurate information about the current status of your entire system as well as any or all installed devices.

Novice or expert users can finally locate problems on their own and be able to talk intelligently with tech support staffs. You can even identify potential conflicts with your new add-in boards BEFORE opening your computer!

Accidents can't happen with System Sleuth. Explore your system with the peace of mind that everything is left just as it was discovered. View the contents of files knowing that no slip of the cursor can change a thing.

System Sleuth retails for only \$149.00.

"...System Sleuth, an absolutely wonderful new utility... It shows an even better idea than IBM's on how to help the PC user and those who try to keep him up and running."

—Jim Seymour, PC Week, Dec. 1988

"...a Great Tool for technical analysis..."

—Info World, Oct. 1988

"...This is one of those programs that I didn't know I needed until I got it; now, what with all the hardware I try out around here, I use it all the time, and I can't think how I got along without it."

—Jerry Pournelle, Byte Magazine, May, 1989

For Orders call: (714) 994-7400

23704-5 El Toro Road, Suite 348
El Toro, CA 92630
Telephone: (714) 587-2226

DTG



SYSTEM SLEUTH™

PC Diagnostic Software

Solving

Get Automatic Formatting and Increased Speed with FloppyDRIVER™ The Final Floppy Drive Solution.

For the first time since diskette met data, you can actually update your floppy disk drive into the next century!

Get complete automatic formatting and 500% increased disk drive efficiency with FloppyDRIVER, the unique software utility solution from DTG, Inc.

Imagine formatting diskettes without exiting your application program. FloppyDRIVER's convenient pop-up feature allows you to continue your work AND automatically format at the touch of a button.

FloppyDRIVER takes care of the media specifics, even 3.5" drives without BIOS support. It is also intelligent enough to inspect each diskette and automatically format the disk ONLY if it is unformatted. Even proprietary formats will not be reformatted unless you choose to.

Whether you are reading, writing, creating, saving or copying files, FloppyDRIVER gives you dramatic improvements in speed. Reduce the time required to read disk data by as much as 85%. Imagine your diskettes working up to 500% faster without any special commands.

FloppyDRIVER retails for \$89.95. At that price, FloppyDRIVER has to be the greatest value in software today!

"It's rare to find a utility that you can't live without. But I found one... FloppyDRIVER sold by DTG, Inc. is such a program."

—Info World, Vol. 11, Issue 7

"...few products can provide such obvious performance improvement at such a low price."

—Mark Brownstein, Info World

"It lets you use unformatted disks with impunity, because it absorbs data into its buffer and lays that data on the disk as it formats... it lets you format floppies in the background, and even read and write them as they are being formatted... not a byte of data was lost."

—Winn L. Rosch, PC Week

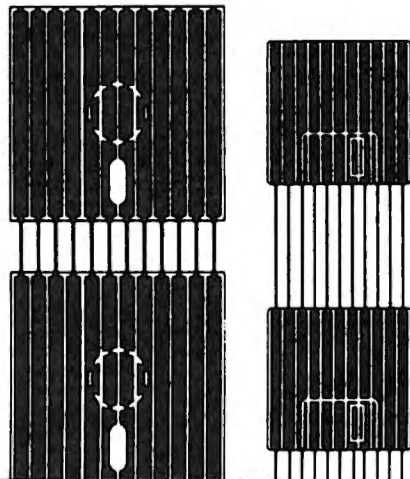
For Orders call: (714) 994-7400

23704-5 El Toro Road, Suite 348
El Toro, CA 92630
Telephone: (714) 587-2226

DTG

FloppyDRIVER™

Diskette Utility Software



System Sleuth is a trademark of DTG, Inc. FloppyDRIVER is a trademark of Concept Technologies, Inc. Other brands and product names are trademarks of their respective holders.

Visa/MasterCard

Circle Reader Service Number 183

Lycos Computer Marketing & Consultants

Since 1981

Air orders processed within 24 hours.

star
BITABLES

NX-1000

- Standard parallel interface
- High speed draft printing
- High resolution NLQ text and graphics
- Four built-in fonts
- Paper parking

\$149⁹⁵*

* With cable purchase



Panasonic
Office Automation

KX-P 1180

- multiple paper paths
- front panel programmability
- EZ set operator panel
- near letter quality (38 cps)
- draft (192 cps)

\$178⁹⁵



CITIZEN

120D

- 120 cps draft speed with improved throughput capabilities
- Built-in variable-width tractor
- compact design w/bottom paper feed to minimize space requirements.

\$138⁹⁵



Panasonic

1180	\$178.95
1181	\$216.95*
1124	\$309.95
1592	\$379.95
1595	\$429.95
1524 24 pin	\$528.95
4450 Laser	\$1359.95*

* Quantities Limited

Brother

M1709	\$345.95
M1724L	\$519.95
HR20	\$319.95
HR40	\$539.95
HR60	\$825.95
1809	\$349.95
1824L	\$489.95
HL6ps (Post Script)	\$CALL
HL6a	\$1789.95

PRINTERS

Epson

LX-810	\$184.95
LQ-510	\$329.95
FX-850	\$344.95
FX-1050	\$459.95
LQ-850	\$529.95
LQ-950	\$529.95
LQ-1050	\$729.95
LQ-2550	\$929.95

Printer ribbons, cables, and connections available for all applications

Star

NX-1000 Series II	\$NEW
NX-1000	\$149.95*
NX-1000 Color	\$209.95
NX-1000C-64	\$159.95
NX-1000C-64 Color	\$209.95
NX-2400	\$274.95
XR-1000	\$329.95
XR-1500	\$419.95
XB-24-10	\$419.95
XB-24-15	\$549.95
Laser8	\$1729.95

* with cable purchase

Citizen

120 D	\$136.95
180 D	\$154.95
HSP-500	\$315.95
HSP-550	\$445.95
Premiere 35	\$499.95
Tribute 124	\$384.95
Tribute 224	\$559.95

We carry the accessories for many printers. Please Call.

Okidata

Okimate 20w/cart	\$194.95
172	\$195.95
182 Turbo	\$229.95
183	\$264.95
320	\$335.95
321	\$464.95
390	\$453.95
391	\$634.95
393	\$989.95
Laser6	\$1349.95

Toshiba

321 SL	\$499.95
341 SL	\$599.95
351 SX 400 cps	\$999.95

IBM SOFTWARE

Activision:	Printshop Comp	\$28.95	Rad Warrior	\$13.95	Silent Service	\$22.95	Wargame Constr.	\$25.95
Beyond Zork	Graphic Library & Ilea	\$19.95	Sir. Sport Baseball	\$22.95	Gunship	\$27.95	Quotron II	\$29.95
Champ. Baseball	Carman San Diego Eu.	\$25.95	Winter Games	\$11.95	Pirates	\$22.95	Sublogic:	
GFL Football	Electronic Arts:		Sir. Sport Basketball	\$22.95	Origin:		Flight Simulator	\$34.95
Championship Golf	Alien Fires	\$25.95	Firebird:		Moobius	\$22.95	Scenery Disks	\$CALL
Leather Goddess	Hunt for Red Oct.	\$30.95	Starglider	\$16.95	Ultima I	\$22.95	Timeworks:	
Zork I	Pegasus	\$25.95	Elite	\$25.95	Ultima III	\$22.95	Data Manager PC	\$22.95
Zork Trilogy	Starflight	\$32.95	Jinxter	\$22.95	Ultima IV	\$33.95	Partner PC	\$22.95
Might & Magic	Epy:		Microleague:		Ultima V	\$33.95	Publish It	\$99.95
Maniac Mansion	California Games	\$22.95	Microleague Bsbll	\$22.95	Strategic Simulations:		PC Quintet	\$49.95
Last Ninja	World's Greatest		General Manager	\$16.95	Wizard's Crown	\$25.95	Swiftcalc PC	\$27.95
Broderbund:	Baseball	\$11.95	Stal Disk	\$13.95	Kampgruppe	\$36.95	Word Writer PC	\$27.95
Ancient Art of War	Death Sword	\$11.95	Microprose:		Gettysburg	\$36.95	Unison World:	
Ancient Art of War	Impossible Mission 2	\$22.95	Conflict in Vietnam	\$22.95	Phantasia	\$25.95	Print Master	\$29.95
At Sea	LA Crackdown	\$27.95	Crusade in Europe	\$22.95	Phantasia III	\$25.95	Newsmaster II	\$39.95
Printshop	Print Magic	\$33.95	F-15 Strike Eagle	\$22.95	Shiloh	\$25.95	Art Gallery 1 or 2	\$14.95

*** Apple and Commodore titles also available. Please call for pricing. ***

MAGNAVOX

CM8702

- 14" screen
- Green text switch
- Built-in speaker, tilt star and cabling for most Commodore computers

\$189⁹⁵

GoldStar 2105 A

- 12" amber display
- 640h x 200v
- IBM and Commodore compatible

\$69⁹⁵



Magnavox: MONITORS

BM7652	\$84.95
BM7622	\$84.95
7BM623	\$89.95
CM8702	\$189.95
CM8762	\$239.95
8CM-515	\$259.95
9CM-043	\$299.95
9CM-053	\$329.95
9CM-082	\$399.95

GoldStar:

2105 A Composite	\$69.95
1410 CGA14"	\$204.95
1420 EGA 14"	\$319.95
1430 VGA 14"	\$379.95
1440 SuperScan	\$459.95

Avalex:

1200e	\$89.95
1200hc	\$89.95
2400	\$129.95

Everex:

Evercom 12 (INT)	\$54.95
Evercom 24 (INT)	\$124.95
Evercom 24 + MNP	\$139.95
Evercom 24E + MNP	\$179.95

Cardinal:

2400 MNP EXT	\$189.95
MB2400EX EXT	\$109.95
MB2450 INT	\$89.95
MB1200EX EXT	\$89.95
MB1250 INT	\$39.95

Flashlink MNP (software)

64C Computer	\$129.95
C 128 D computer Drive	\$418.95
1541 II Disk Drive	\$174.95
1802 D Monitor	\$169.95
1084 Monitor	\$279.95
1764 NAME C&L	\$109.95
1581 Disk Drive	\$179.95
Excel FSD-2 + C64 Drive	\$148.95
1670 Modem	\$59.95

Cardinal. MB1200EX External Modem

- Low error data transmission and reception over standard dial-up telephone lines
- Hayes compatible with the universally-accepted AT command set
- Automatic Data Standard and Speed Adjust features

\$69⁹⁵

EVEREX Evercom 12 Internal modem

- 300/1200 bps internal modem
- Fully Hayes compatible
- Bitcom communications software half card

\$54⁹⁵



Amiga 500 Fasttrak Hard Drive by XETEC

- For Amiga 500
- 40 MB
- SCSI
- One Year Warranty
- Installation Kit Included

\$879⁹⁵

* Call for Accessories
* FCC Certified



TOSHIBA 3.5 Floppy Drive

- IBM PC XT/AT Compatible • 720 K • 3.5" DSDD • Universal Installation Kit Included • Full Manufacturers Warranty

\$69⁹⁵

See complete listings under Toshiba Drives.

1-800-233-8760

Circle Reader Service Number 102

Price Guarantee
Since 1981 we have led the industry in continuing to offer the lowest prices on the market while providing quality service. Many companies have come and gone trying to match our quality and service. If by some miracle we do not have the lowest price advertised on the products you desire, then we would appreciate the opportunity to verify the price.

The Best Selection.... The Best Prices.... For You!

Panasonic
Computing

FX-1650

The Panasonic FX-1650 Business Partner personal computer is the solution to many business needs. Featuring an 8086 CPU running at 4 or 8 MHz. The 1650 comes with a full 640K of RAM, and one 3 1/4" 720K floppy drive. A one year limited parts and labor warranty for your protection, and the backing of Panasonic, a name you can trust.



\$599⁹⁵

FCC Class B Approved

LASER 286/2



Here's the proof that power does not have to be expensive. The Laser 286/2 computer is twice as fast as the original IBM PC/AT. Its IBM compatibility gives you access to the widest selection of business software available. Yet, the Laser 286/2 is affordable enough for even the most modest

\$749⁹⁵

FCC Class B Approved

Seagate

ST138R 30 Meg Internally Mounted Card

- Premounted on its own Controller Card
- EZ Slot Installation (app. 10 min.)

\$313⁹⁵

20-30-49- meg drives available!

Osicom Executive 88/10

The Osicom Executive 88/10 is a powerful, lowcost, 8088-based desktop computer with 10MHz, 1 wait speed and a small footprint that make it an ideal choice for LAN workstations. The basic model comes standard with 640K RAM on the motherboard, a 360KB floppy drive and an enhanced 101-key, AT-style keyboard and many more features.

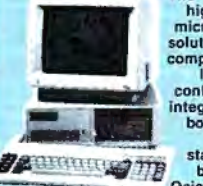


\$589⁹⁵

Monitor Optional
FCC Class B Approved

Osicom Executive 286/12

The Osicom Executive 286/12 is a high performance, 80286-based microcomputer that's the perfect solution for your most demanding computing and networking needs. It features a floppy/hard drive controller, and an EGA controller integrated directly on the motherboard. With 12/6.25MHz switch-selectable speed and 1 wait state, 1MB RAM on the motherboard, 1.2MB floppy drive, the Osicom Executive 286/12 is packed with features for the executive who means business.



\$1269⁹⁵

Monitor Optional
FCC Class B Approved

Osicom Executive 386/20

The Executive 386/20 is quickly becoming a trend setter in the 80386 based microcomputer field. The standard memory of 1MB is expandable to 8MB. Plus, you can use the 32 bit expansion slot for a total of 16MB RAM. Switch selectable 20/8 MHz with 0 wait state, Phoenix bios and 80387 supported numeric coprocessor slot makes the Executive 386/20 the obvious choice for serious business applications.



\$CALL

Monitor Optional
FCC Class B Approved

ACCESSORIES

- Joysticks:**
- Suncom Tac 2 \$10.95
 - Suncom Tac 5 \$12.95
 - Epya 500 XJ \$13.95
 - Boss \$12.95
 - Bathandie \$17.95
 - I Controller \$12.95
 - 3-Way \$19.95
 - Powerplay Joystick \$16.95
 - Suncom Tac 1 - IBM/AP \$22.95
 - Wico IBM/AP \$25.95
 - Kraft KC III AP/PC \$18.95
 - Kraft PC Joystick Card \$23.95
- Diskettes:**
- 5 1/4 Disk Notcher \$5.95
 - Xidex 5 1/4 DSDD \$4.95
 - Xidex 3 1/4 DSDD \$12.95

- Commodore Printer Interfaces:**
- Xetec Jr. \$35.95
 - Xetec Supergraphics \$55.95
 - Xetec Gold \$74.95
 - PPI \$29.95
 - MW 350 \$49.95
- Everex Video Cards:**
- Everex Evergraphics \$59.95
 - Everex MicroEnhancer \$119.95
 - Everex MicroEnhancer DI \$129.95
 - Everex Viewpoint VGA \$249.95
- Cardinal Video Cards:**
- Cardinal VGA 200 \$169.95
 - Cardinal VGA 256 \$189.95
- Drive Maintenance:**
- 5 1/4 Drive Cleaner \$7.95
 - 3 1/4 Drive Cleaner \$10.95

TOSHIBA floppy drives

- 5 1/4" 360 KB PC/XT Compatible \$67.95
 - 3 1/4" 720 KB PC/XT Compatible \$69.95
 - 3 1/4" 1.44 MB PC/AT Compatible \$82.95
 - 5 1/4" 1.22 MB PC/AT Compatible \$82.95
- Toshiba disk drives offer you the latest in VLSI technology and low power consumption.

SEAGATE hard drives

- 5.25" Half Heights:**
- ST 225 20Meg \$194.95
 - 65 MSEC MFM \$209.95
 - ST 225N 20 meg \$263.95
 - SCSI ST 238R 30 meg RLL \$209.95
 - ST 251-I 40meg \$319.95
 - 28 MSEC MFM \$349.95
 - ST 277-I 65 meg \$349.95
 - 28 msec RLL \$349.95
 - 3.5" ST 125 20 meg \$225.95
 - 40 MSEC MFM \$225.95
- ST 125N 20 meg \$274.95
SCSI ST 138R 30 meg \$239.95
RLL ST 138N 30 meg \$305.95
SCSI ST 157R 40 meg \$299.95
RLL ST 157N 48 meg \$329.95
SCSI ST 157R 48 meg \$329.95
- Seagate Internal Cards**
- ST125 20 meg Int. Card \$287.95
 - ST157R 48 meg Int. Card \$369.95
- New on the market are Seagate's Paired Solution hard drives. Call for pricing.
- Controllers available from Western Digital to DTC. Call for pricing.

LASER Turbo Model II

The Laser Turbo provides everything you expect plus some standard features as 4.77/10 MHz speed, 102 key enhanced keyboard, security lock and a clock/calendar with battery backup. Laser's compatibility is guaranteed through a 150W power supply, four accessible drive slots, 8 I/O expansion slots, parallel centronics and RS 232 interfaces, 640K RAM standard. Introduce yourself to the new generation through Laser's Tur-



\$599⁹⁵

FCC Class B Approved
Monitor Optional

VENDEX Headstart III

The Headstart III has a speedy 12 MHz microprocessor, 1MB TAM, both 3.5" and 5.25" disk drives and a hefty 32MB hard drive. Vindex also includes top selling software from Ashton-Tate, Software Toolworks, Timeworks and Microsoft all FREE. There are no hidden extras, no add-on's to add on. The Headstart III is a complete, high performance computer package for your advanced computer needs.



\$CALL

TOSHIBA T-1000 Laptop

Pick up on the T-1000 and you'll go far. Give yourself desktop PC power wherever you need it. Toshiba's T-1000 includes 512K RAM, one built-in 720KB 3.5" disk drive super-wt LCD display with CGA capability.



\$639⁹⁵

T-1200F & T-3200 models are available, please call.

COMMODORE COLT

The Commodore Colt is a computer with all the built-in features you need. The Colt includes 640K RAM, CGA video support, two 5.25 360K disk drives, serial and parallel ports with three clock speeds. Plus many more Commodore extras. Try the Commodore Colt in your home or office and experience what a difference it will make.



\$639⁹⁵

Save \$20 on any monitor of your choice!
FCC Class B Approved
Monitor Optional

LASER 128

- Apple Compatible
- Built-in 128K RAM
- Built-in 5 1/4" Drive
- Built-in Parallel Port
- Built-in Mouse/Joystick Port
- High Resolution Graphics



\$379⁹⁵

FCC Class B Approved
** Call for system specials **

LASER 640

- PC Compatible
- 640K RAM
- EGA/CGA/Monochrome video card
- Built-in disk drive



\$619⁹⁵

FCC Class B Approved
** Call for system specials **

Why shop at Lyco Computer? Lyco Computer offers quality name brand computer products at prices 30% to 50% below retail. If you do not see the product you want advertised, call Lyco Computer toll free. How do I know I will get the product I need? Our marketing staff receives continuous formal training by our manufacturers. As thousands of people every week capitalize on our savings and services, we hope you too, will make Lyco Computer your first choice. What about warranty or service? Our Customer Service Department is available at (717) 494-1670 to assist you. We back all of our manufacturer's stated warranty terms. Before returning any item that appears to be defective, we ask that you call our Customer Service Department. Will you rush an item to me? We offer next day air, two day air, standard UPS, and postal international shipping services. Temporary shortages are normally filled within 10 days. How do I order? We have always offered C.O.D. orders through UPS. Prepaid cash orders over \$50 are shipped freight-free. Simply send your order to Lyco Computer, P.O. Box 5088, Jersey Shore, PA, 17740. For orders under \$50, please add \$3 for freight. Personal and company checks require a 4 week waiting period. Visa and MasterCard orders are accepted. Please add 4% for credit cards. Purchase orders are accepted from Educational Institutions. We charge sales tax on deliveries in Pennsylvania. For APO, FPO, and international orders, add \$5 plus 3% for priority mail. Prices in this ad reflect cash prices. Advertised prices and availability are subject to change. Not responsible for typographical errors.

Sales: 1-800-233-8760 or 717-494-1030
Hours: Mon-Fri. 9a.m.-9p.m. Sat. 10a.m.-6p.m.
Customer Service: 717-494-1670
Hours: Mon-Fri. 9a.m.-5p.m.
Fax: 717-494-1441



ATTENTION EDUCATIONAL INSTITUTIONS:
If you are not currently using our educational service program, please call our representatives for details.

64/128

First up this month is *Fire King*, a fantasy from Australia's Micro Forte. Micro Forte is the first affiliated label acquired by Strategic Studies Group (1747 Orleans Court, Walnut Creek, California 94598).

Fire King is a highly unusual game. The plot certainly isn't out of the ordinary (the Fire King has died and you are sent to destroy the offending monster in the catacombs), but the gameplay is.

You begin by choosing a character to represent you. My favorite is Hubert the Just, but with names such as Broderic Broadaxe and Sally the Slaughtermaid kicking around, any interest should be well served.

You control your character with a combination of joystick and keyboard, and you pick up or access items by walking over them. These items include keys, food, books, chests, armor, weapons, magical scrolls, boots, and rings. You may also run into bells, which can freeze monsters, confuse them, or cause them to rush you in a murderous rage.

The game takes a while to get used to. You should pay close attention to the program's manual if you want to succeed. It includes a lengthy walk-through of the first town, with some extremely useful advice. There's also a two-player mode, in which you and a friend work together to solve the *Fire King* quest. Games can be saved, and the disks aren't copy-protected.

Two Spotlight Games

Spotlight Software, an affiliated company of Cinemaware (4165 Thousand Oaks Boulevard, Westlake Village, California 91362) has released two interesting games, *Total Eclipse* and *Dark Side*. Both feature the Freescape system first seen in Epyx's *Space Station Oblivion*, which was designed

by the same group. The strength of the Freescape system is the 3-D, first-person view it affords of the landscape.

In *Total Eclipse*, you find yourself inside a pyramid, fighting against an ancient Egyptian curse. The pyramid is large, and your task is to work your way through it to try to undo the curse before the upcoming eclipse of the sun. If you succeed, all is well; if not, the world ends. There are ankhs to collect, treasures to find, locked chambers to enter, and a whole host of mummies in various stages of decay.

Dark Side is a direct descendant of *Space Station Oblivion*. That game was set on Mitral, the moon of Evath, and your mission was to release the pressure caused by the Ketars when they engaged in decades of irresponsible drilling. This time, the Ketars have decided to wipe out your beloved Evath by covering the second moon, Tricuspid, with an artificial surface and drawing energy from Evath's sun into a huge weapon. You have been sent to Tricuspid to destroy all the energy-collection devices.

AD & D Again

Finally, we have *Curse of the Azure Bonds*, the newest release in the Advanced Dungeons and Dragons line from Strategic Simulations (675 Almar Avenue, Sunnyvale, California 94086-2901). This one takes place in the Tilverton region, part of the Dalelands area of the Forgotten Realms campaign. *Pool of Radiance*, the first installment, was set in Phlan, on the north shore of Moonsea; *Hillsfar*, the less ambitious second part, took place in Hillsfar, on the south shore of the same body of water. Now we're several miles to the southwest, smack-dab in the mountains.

In keeping with the continuing nature of the series, you can use characters created in either *Pool of Radiance* or *Hillsfar*. Alternatively, you can create characters from scratch, and these begin the adventure at level 5. Rangers and Paladins have been added to the character classes, welcome additions to *Pool of Radiance*'s limited number of classes.

Other changes from *Pool* include an improved means of moving the party overland, a number of new monster types, and a couple-dozen new spells. All of these changes are as welcome as the new char-

acter classes, because with each addition the system comes closer to approximating AD & D itself. The bad news, for users of the 64/128, is more disk access and longer playing times.

As with *Pool of Radiance*, *Curse of the Azure Bonds* is combat-intensive. Become embroiled in a large combat, and much of your evening disappears.

Neil Randall



Optimum Resource has made the name *Stickybear* synonymous with entertaining educational programs. *Stickybear* is a familiar face to thousands of preschoolers and school-age kids who use Apple II's. For those lucky enough to sit in front of an Apple IIgs, though, *Stickybear* had been available in only one IIgs flavor—Alpha-bet. Now that package is joined by two new IIgs-specific releases: *The New Talking Stickybear Shapes* and *The New Talking Stickybear Opposites*.

Both packages use the IIgs's speech, sound, and graphics muscle to enhance a proven program. *The New Talking Stickybear Shapes* has three activities that teach children elementary shape identification. Kids learn how to identify circles, triangles, squares, rectangles, and diamonds; match those shapes with their names; and spot shapes hidden in clever pictures.

The New Talking Stickybear Opposites puts control in the child's hands by letting him or her switch screens and sounds from, say, happy to sad or backward to forward. It's a fun discovery process for kids, and it's even enjoyable for Mom and Dad as they watch and listen.

Both new Talking *Stickybear* programs require a 512K-equipped Apple IIgs with a 3½-

inch disk drive. Each retails for \$49.95 (lab packs for the classroom are available for \$85.00). For more information, contact Optimum Resource, 10 Station Place, Norfolk, Connecticut 06058; (203) 542-5553.

Super Stuff

Another educational software publisher that's still going strong in the Apple II market is Scholastic, which is keeping that history alive with recent updates to two of its most popular products.

SuperPrint II is a new version of the feature-laden *SuperPrint* package. It includes new paint and draw tools, new clip art, improved text capabilities, and additional functions such as graphics-image inversion. The program has a suggested retail price of \$87.45 but costs only \$69.95 for educators under Scholastic's discount plan. You can upgrade from *SuperPrint* to *SuperPrint II* for \$34.95.

Story Tree has also been enhanced and updated with new advanced drawing tools, clip art, type styles, sound effects, music, special visual effects, and three branching options for plot twists. By saving your stories to self-booting disks, you can show them to people who don't have the program. *Super Story Tree* retails for \$79.95.

Both *SuperPrint II* and *Super Story Tree* require a 128K-equipped Apple IIe, IIc, IIc Plus, or IIgs. For more details, contact Scholastic at 2931 East McCarty Street, P.O. Box 7502, Jefferson City, Missouri 65102; (800) 541-5513.

New Life

When the battery in your IIgs runs down, as it inevitably will, you'll be faced with a less-than-lively computer.

Until now, the solution has been to take your IIgs to the dealer and have the battery replaced for you—an expensive and inconvenient operation. With a new battery replacement called the Slide-On, however, you can change the lithium battery in a matter of moments.

Even the technologically inept can manage to clip the wires between the old battery and the motherboard, then simply slide on the Slide-On. Because the Slide-On's terminals are designed to make contact with the old battery's wires, there's no soldering. ▶

\$2.50 ea.
10 or More

The World's BEST 101 Programs

The World's BEST User-Supported Software for IBM PC Compatibles
All Disks Are Easy to Use—No Computer Experience Needed!!
Same-Day Shipping • UPS 2nd Day Air Available for only \$2 Extra
Toll-Free Order Line • Visa/MasterCard Accepted • FREE Catalog
Unconditional Money-Back Guarantee!!

\$3.00 ea.
Less Than 10

Act Now!! **3 FREE DISKS*** Limited Time!!

BUSINESS/ACCOUNTING/FINANCE

- Finance Manager II (601)**—Complete double-entry bookkeeping.
- Tickler (602)**—Keeps track and reminds you of important dates, deadlines; and appointments. **HD**
- Blakbook (603)**—Great for keeping track of addresses and phone numbers. Prints an address book.
- Stock Charting (612)**—A complete portfolio system to track, analyze, and chart your stocks.
- Small Business Accounting (617)**—A must for all small business owners!
- Solve-It! (618)**—Does over 20 vital financial calculations including amortization, PV, FV, and IRR.
- PC-Books (621)**—A complete, easy to use bookkeeping system.
- PC-Loans (628)**—This package supports all common loan methods.
- Easy Project (629)**—A powerful project manager software package.
- FormGen (630)**—Design and print any office form, easily!

DATABASE/MAIL LIST

- File Express (700,701)**—A powerful, easy to use database (2 disks).
- Doctor Data Labels (703,704)**—Complete and powerful! A professional mail list manager. (2 disks) **HD**.
- PC-File:db (705-707)**—The most powerful dBASE compatible program available! (3 disks) **HD 512K**.
- Label Master (715)**—A great mail list manager and label printing utility.

SPREADSHEETS

- PC-Cal+ (800-802)**—The most powerful spreadsheet package. (3 disks) **512K**.
- QubeCalc (806)**—Take your spreadsheets 3-D! Highly recommended.
- Lotus Macros (807)**—A large collection of Lotus macros and templates.
- Lotus Learning System (810, 811)**—Master Lotus 1-2-3! (2 disks)

WORD PROCESSING

- PC-Write 3.02 (851-853)**—The BEST word processor for under \$200! Has spell checking and hundreds of other features (3 disks) **512K**.
- PC-Stylist (855)**—Analyzes and helps you to improve your writing skills.
- PC-Outline (860)**—An excellent idea organizer and free form database.
- WP 5.0 Learning Sys. (863,864)**—Helps you learn and master Word Perfect 5.0. (If you have WP 4.2, select disks #861 & #862.) (2 disks)
- WP 5.0 Macros (857)**—Several macros for Word Perfect 5.0. (If you have WP 4.2, select disk #856.)
- PC-Type+ (870-872)**—Complete word processor with 100,000 word dictionary and mail merge. (3 disks)

BIBLE/RELIGION

- Bible-Q (551)**—Test your Biblical IQ!
- BIBLE Men (570)**—A fun quiz on the people in the BIBLE.
- SeedMaster (555-567)**—The complete King James version of the BIBLE on disk! (13 disks) **HD**

HOME BUDGETS/FAMILY APPLICATIONS

- Fast Bucks (100,101)**—Keeps track of all your personal finances and prints great financial reports (2 disks).
- Home Budget Manager (103)**—Tracks all your household expenses and helps you to set budgets and goals.
- Express Check (104)**—Excellent checkbook program with reconciliation and great screen displays. **512K**
- Home Inventory (105)**—Keeps track of all your personal property.
- MealMate (115)**—Helps you to plan nutritionally balanced meals.
- Edna's Cookbook (118,119)**—An easy to use computerized cookbook. Comes with several great recipes—add your own favorites. (2 disks)
- Brother's Keeper (120,121)**—A great genealogy program that allows you to trace your family history (2 disks).

EDUCATION

- French I & II (200,201)**—Learn and practice French vocabulary (2 disks).
- Spanish I & II (205,206)**—Test and train with these excellent Spanish vocabulary drills (2 disks).
- Geography (215)**—Learning is fun with this great geography trivia game.
- PC-Gradebook (217)**—Record and monitor your students' grades.
- World (221)**—A computer encyclopedia of global information. **CGA**
- Typing Tutor (224)**—Helps you improve your speed and skill. **CGA**
- PC-Professor (229)**—This program teaches BASIC programming.
- Spelling Bee (230)**—Helps students improve their spelling. **CGA**
- Math Lessons (233)**—A great program that teaches algebra. **CGA**
- Facts 50 (234)**—A graphic geography lesson of the U.S. **CGA**
- Computer Tutor (235)**—Become a more effective computer user.
- Play 'n' Learn (236)**—A set of 6 learning games for preschoolers. **CGA**

UTILITIES

- MasterKeys (400)**—Like Norton Utilities (recover deleted files, disk editing, change file attributes, etc.).
- SimCGA (404)**—Allows monochrome PCs to run many CGA programs.
- PC-DeskTeam (406)**—Several useful desktop accessories (clock, calendar, calculator, notepad, etc.).
- Automenu (409)**—A very professional hard disk menu system. Run any of your programs from a custom menu.
- SideWriter (410)**—Prints your spreadsheet print files sideways.
- Baker's Dozen (411)**—A set of 13 utilities that everyone needs!
- Space Maker (412)**—This utility allows you to fit more data on any disk.
- ALT (413)**—It's like Norton Utilities, the Sidekick desktop accessories, and a menu program all in one!
- Still River Shell (414)**—A superb file and directory management utility.
- HD Backup (415)**—Allows you to backup/restore all the data on your hard drive with floppy disks. **HD**
- NewKey (416)**—Save time and increase efficiency by using this (the BEST) keyboard macro program

GRAPHICS/PRINTING

- Express Graph (106)**—Turns raw data into great business graphics.
- DiskOver (320)**—Prints informative disk sleeves for all your disks.
- Banner Maker (502)**—Prints banners in various sizes, styles, and fonts.
- PrintShop Graphics (503)**—A large collection of Printshop clip art.
- EDraw (508)**—Design tool for creating flow charts and schematics. **CGA**
- PC-Art (509)**—A color graphics painting/drawing package. **CGA**
- Epson Utilities (514,515)**—Enhance the print quality of your Epson-compatible printer. (2 disks)
- PC-Key Draw (520-523)**—Powerful CAD design system. Works with mouse or keyboard. (4 disks) **CGA**
- City Desk (525)**—Simple desktop publishing for newsletters.

MISC. APPLICATIONS

- Weight Control (302)**—Let this program help you get fit.
- Personal Biorhythm (310)**—Will display or print a personal chart
- KwikStat (314,315)**—A professional statistics package. (2 disks)
- Wisdom of the Ages (316-319)**—Great quotes from the greatest minds of history. Quick access to 6000 quotations in several categories. (4 disks).
- Make My Day (627)**—Puts you in control by organizing your time! Keeps track of appointments and deadlines.
- Piano Man (901)**—Compose and edit music or play the keyboard.

GAMES

- AdventureWare (934)**—Five excellent adventure games.
- Armchair Quarterback (905)**—A fun football strategy game.
- Baseball (916)**—Great arcade action and baseball strategy. **CGA**
- Brain Teasers (953)**—Test your knowledge in several categories.
- Checkers (954)**—See if you are good enough to beat the computer. **CGA**
- Crime Lab (955)**—Play this exciting graphic murder mystery game. **CGA**
- Flightmare (923)**—Futuristic fighter pilot arcade game. **CGA**
- Ford Simulator (956)**—A great driving simulation game from Ford. **CGA**
- Hopper (902)**—Frogger clone. **CGA**
- Kid Games (938)**—These games are both fun and educational. **CGA**
- Kingdom of Kroz (952)**—An excellent, award-winning adventure game.
- Las Vegas Style Craps (914)**—Play and improve your skill. **CGA**
- Monopoly (908)**—An excellent new version of the classic game. **CGA**
- PAC-Man & More! (930)**—PAC-Man and Ms. PAC-Man clones. **CGA**
- PC-Gammon (907)**—Play a tough computer opponent, anytime. **CGA**
- PC-Pro Golf (920,921)**—Choose your club and swing away! A great golf game which requires a hard drive or two floppy drives. (2 disks) **CGA**
- Pearl Harbor (959)**—Save your fleet from the invading planes. **CGA**
- Risk (946)**—Play the famous board game on your computer. **CGA**
- Scrabble (957)**—Test your word power with this always fun game. **CGA**

GAMES CONT.

- Sleuth (903)**—Play detective in this "Who done it?" adventure.
- Solitaire (940)**—The computer makes sure you don't cheat! **CGA**
- Space War (958)**—Battle it out in outer space—ship vs ship. **CGA**
- Sports Games (927)**—Bowling, archery, and pool. **CGA**
- Star Trek (948)**—Two versions for all you TREKies out there.
- Strategic Games (926)**—Fight on land and sea in this war simulation.
- Striker (904)**—Helicopter attack and rescue arcade game. **CGA**
- Pinball (941)**—Great sound and fast play on 5 different "machines." **CGA**
- Video Poker/Ultima 21 (945)**—The BEST poker and blackjack games!
- Wheel of Misfortune (935)**—Like TV's Wheel of Fortune game.

IMPORTANT

CGA=Requires Color Computer
HD=Requires Hard Drive
512K=Requires 512K RAM
For multi-disk sets,
count all disks in set.

* With your order of 5 or more disks, select an additional 3 disks FREE (limit 3 free disks per customer).

Name _____
Address _____
City _____
State _____ Zip _____
Phone (____) _____
Visa/MC # _____
Exp. Date _____
Signature _____
Disks Ordered _____
x\$3.00 or \$2.50 ea. \$ _____
 Need 3 1/2" disks?
Add \$1 per ea.
(include free disks) \$ _____
Shipping \$ 3.00
Foreign add \$2 \$ _____
 COD (U.S. only)
add \$4 if you require COD \$ _____
 UPS 2nd Day or
Priority (U.S. only)
add \$2 \$ _____
TOTAL \$ _____
 Check/MO Visa/MC C.O.D.



ORDER TODAY
1-800-234-6467

Your IIGs's cover will be back on in less than five minutes.

This elegant solution to a computer-numbering problem can be purchased from Nite Owl Productions for \$9.95. Contact Nite Owl at 5734 Lamar Avenue, Mission, Kansas 66202; (913) 362-9898. Gregg Keizer

AMIGA

One of the neat things about software is that, like fine wine, it often improves with age. One program that has gotten a lot better is NewTek's *DigiPaint 3*. This upgraded HAM paint program is a complete rewrite of the original, adding tons of new effects, drawing modes, and painting tools.

DigiPaint 3 includes most of the standard drawing tools you've come to expect in a paint program. Texture mapping tops the list of significant new features. You can wrap brushes onto any shape imaginable, creating spectacular 3-D effects. Take a map and wrap it on a globe, for instance. Adding visual effects to your paintings is a snap with adjustable dithering, smoothing, transparency, and lighting placement.

Unlike the original *DigiPaint*, which had no font support, *DigiPaint 3* lets you use any Amiga font in your artwork. Instead of typing your text directly onscreen, you select a font and type your text into a requester box. It's then converted into a brush that can be stamped anywhere onscreen. This lets you use any of the special brush effects to create warped, texture-mapped, anti-aliased, or even transparent fonts. On the downside, *DigiPaint 3* doesn't support the Amiga ColorFonts standard.

DigiPaint 3 features a new user interface designed by well-known Amiga artist Jim Sachs. It's not completely intuitive—you will need to read the manual—but once you're fa-

miliar with the program, formerly complex operations become easy. Would-be Ted Turners will find colorizing black-and-white pictures much easier with the updated version than with the original program.

While *DigiPaint 3* doesn't have every feature you'd ever want in a paint program—no flood fills, for example—it's a fast and powerful painting tool. If you want to add a HAM paint program to your digital palette, check this one out.

DigiPaint 3 retails for \$99.95 from NewTek, 115 West Crane Street, Topeka, Kansas 66603. *DigiPaint* owners can upgrade by sending NewTek page 56 of their manual and \$29.95 plus \$6.00 for shipping. Owners of *DeluxePaint I* and *II*, *Deluxe PhotoLab*, *Express Paint*, or *Photon Paint* can send \$49.95 plus \$6.00 shipping and page 6 of their manual to receive *DigiPaint 3*.

Falcon Soars

Falcon is one of the most realistic flight simulators available for the Amiga. But its first incarnation seemed harder to fly than the real plane.

Spectrum HoloByte has released an upgraded version that is much easier to control using the joystick or keyboard (I still found mouse control imprecise). It's also much more forgiving on landing—you can now touch down off the center of the runway without crashing. Best of all, enemy MiGs no longer try to shoot you down as you're landing. The upgraded *Falcon* can be installed on a hard drive, and it now works on Amigas with 68010, 68020, and 68030 microprocessors.

A mission disk, *Operation: CounterStrike*, is now available along with the upgrade. This is a definite must-have; it adds 12 new air-to-air and air-to-ground missions, all of which are tied into one nonstop scenario. For example, you have to destroy the Soviet T-80 tanks in the first mission quickly, or else you'll find the landing craft from the second mission are already beaching next to your airfield.

The *Falcon* upgrade costs \$7.50, or you can order the *Operation: CounterStrike* mission disk for \$24.95 and receive the upgrade as a free bonus. Send a check or VISA/MasterCard information to Falcon Amiga Upgrade, Spectrum HoloByte, 2061 Challenger Drive, Alameda, California 94501, or call (415) 522-3584 for more information.

Denny Atkin

MAG

Apple has lowered the prices on all 68000-based SEs by \$300. They'll retail for \$2,869.

"It's just a matter of providing more value to the customer and making the technology available to a broader range of people," said an Apple spokesperson.

Besides chopping prices, Apple has also including the FDHD SuperDrive in all Mac SE models. This is the high-density drive (1.4 megabytes of storage) that reads and writes to MS-DOS-, OS/2-, and Apple II-formatted disks.

In Your Palm

In the search for a portable Macintosh, you could try a palmtop instead of a laptop. Microlytics (One Tobey Village Office Park, Pittsford, New York 14534; 716-248-9150) has started marketing The DataStor 8000.

The DataStor 8000 is an electronic personal information package that includes a pocket-size computer, a data-exchange program, a database manager, and cables. You can use the package to transfer information between your Mac and your pocket. The system works with most Macintosh models, including the 512KE, the Plus, the SE, and the II.

The unit stores as many as 395 entries, the equivalent of 7951 characters, and retails for \$149.95.

This isn't the only handheld personal information manager that links up with the Macintosh. Traveling Software (18702 North Creek Parkway, Bothell, Washington 98011; 206-483-8088) has built a bridge between Sharp's Wizard and the little gray Apple.

Plain Words

To fill the no-frills word processor gap, New Horizons has released *WordMaker*. It's reminis-

cent of early *Microsoft Word*—full-featured, yet manageable and unburdened by rarely used features.

You still get a spelling checker (something you didn't find in early Macintosh word processors). You get nice details like curly quotation marks and text-wrapping. To track how much you write, summon the word-count feature. *WordMaker* is economical, not primitive.

For information, contact New Horizons at P.O. Box 43167, Austin, Texas 78745; (512) 328-6650.

Another Publisher

If you're ready to turn your word processing business into a desktop publishing service, look beyond the obvious programs, like *PageMaker* and *Ready-Set-Go*. Timeworks has just released *Publish It!* for the Macintosh.

Priced competitively at \$395 (retail), it offers many features that you'd find in the old standbys, including a spelling checker and a thesaurus for word processing. Use *Publish It!*'s rotation tool to turn text by one-degree increments. And, now that you've learned how to wrap text around an object, use this package to wrap text inside an object. You can also edit graphics imported from other packages.

To find out more about *Publish It!*, contact Timeworks at 444 Lake Cook Road, Deerfield, Illinois 60015; (312) 948-9200.

Short Takes

To get that extra mileage from your Mac, look for *Math Magic* educational software from MindPlay, 3130 North Dodge Boulevard, Tucson, Arizona 85716 (800-221-7911); a file and disk security program called *DiskLock* from Fifth Generation Systems, 11200 Industrious Boulevard, Baton Rouge, Louisiana 70809 (800-873-4384); *Desktop Help for Excel*, an online manual for *Excel 2.2* users, from Help Software, 10659-A Maplewood Road, Cupertino, California 95014 (408-257-3815); and *Power of Wingz* (Scott Foresman and Company, 1900 East Lake Avenue, Glenview, Illinois 60025; 800-782-2665), Dr. Neil J. Salkind's book about the new Informix's recently released spreadsheet package. Heidi E. H. Aycocock

Next to
your computer,
nothing beats
a Tandy®
printer.



The new high-speed, triple-mode DMP 300 has advanced features for a low price.

Think you have to compromise on quality with a low-cost dot-matrix printer for your business or home office? Think again. The Tandy DMP 300 has the power and flexibility you should demand.

You get superior print quality from the 24-pin print head. Speed—up to 270 characters per second. Crisp, letter quality for “electronic-typewriter” correspondence. And there’s razor-sharp 360 × 180 resolution for producing precision graphics.

Best of all, you don’t have to be an electronics wizard to get maximum results. The DMP 300 features easy-to-use, front-panel controls.

Push tractors let you detach printed sheets without wasting blank sheets or forms. One-button paper park lets you print single sheets without having to remove your fanfold paper. And the DMP 300 is even cooperative enough to load and position your letterheads.

Plus, our CSF 300 sheet feeder is available for high-volume work.

Don’t settle for less—the DMP 300 is the perfect complement to your PC.

**Send me a new 1990
RSC-21 computer catalog.**

Mail to: Radio Shack, Dept. 90-A-25-2
300 One Tandy Center, Fort Worth, TX 76102

Name

Company

Address

City State

ZIP Phone

Tandy Printers: Because there is no better value.SM

Circle Reader Service Number 108

Radio Shack®
The Technology StoreSM
A DIVISION OF TANDY CORPORATION

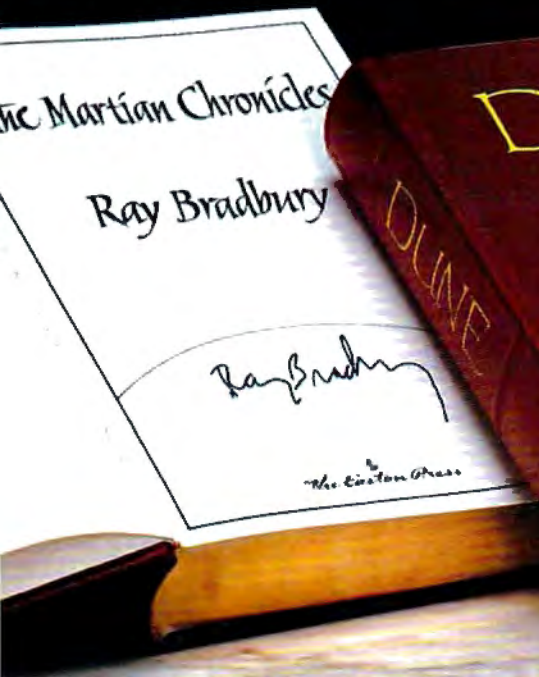
MASTERPIECES OF

Personally Signed by Famous Authors

Six of today's greatest science fiction writers — Isaac Asimov, Ray Bradbury, Harlan Ellison, Frederik Pohl, Kurt Vonnegut, Jr., and George Zebrowski — have agreed to hand-sign their classics for you!

Others — including James Gunn, Poul Anderson, Philip José Farmer, Larry Niven, Robert Silverberg, Brian Aldiss, David Brin, C.J. Cherryh, and Roger Zelazny — have written exclusive, new introductions to works by their fellow authors.

And your favorite artists — Vincent DiFate, Richard Powers, Joe Mugnaini, and others — have been commissioned to create unique full-color illustrations especially for your *Masterpieces of Science Fiction!*



The ultimate library of science fiction classics — bound in leather with accents of gold.

Behold ... the ultimate library of science fiction classics! The greatest masterpieces by the greatest science fiction writers are now being issued in luxurious leather-bound collector's editions. Timeless works bound in genuine leather to be read again and again ... and to be treasured for generations.

A complete collection — from early classics to recent award winners!

The *Masterpieces of Science Fiction* comprises the entire history of the genre, from works by Jules Verne, H.G. Wells, and Sir Arthur Conan Doyle to newer classics by Isaac Asimov, Gregory Benford, Robert Heinlein, Ursula K. Le Guin, James Blish, Fritz Leiber, Joe Haldeman, Philip K. Dick, and Alfred Bester, to name a few.

There are splendid editions of Arthur C. Clarke's *2001: A Space Odyssey* ... Frank Herbert's *Dune* ... Larry Niven's *Ringworld* ... Fred Hoyle's *The Black Cloud* ... Roger Zelazny's *This Immortal* ... Vonda N. McIntyre's *Dreamsnake* ... and Philip José Farmer's *Your Scattered Bodies Go*. Many of the works included have received the prestigious Hugo Award, Nebula Award ... or both!

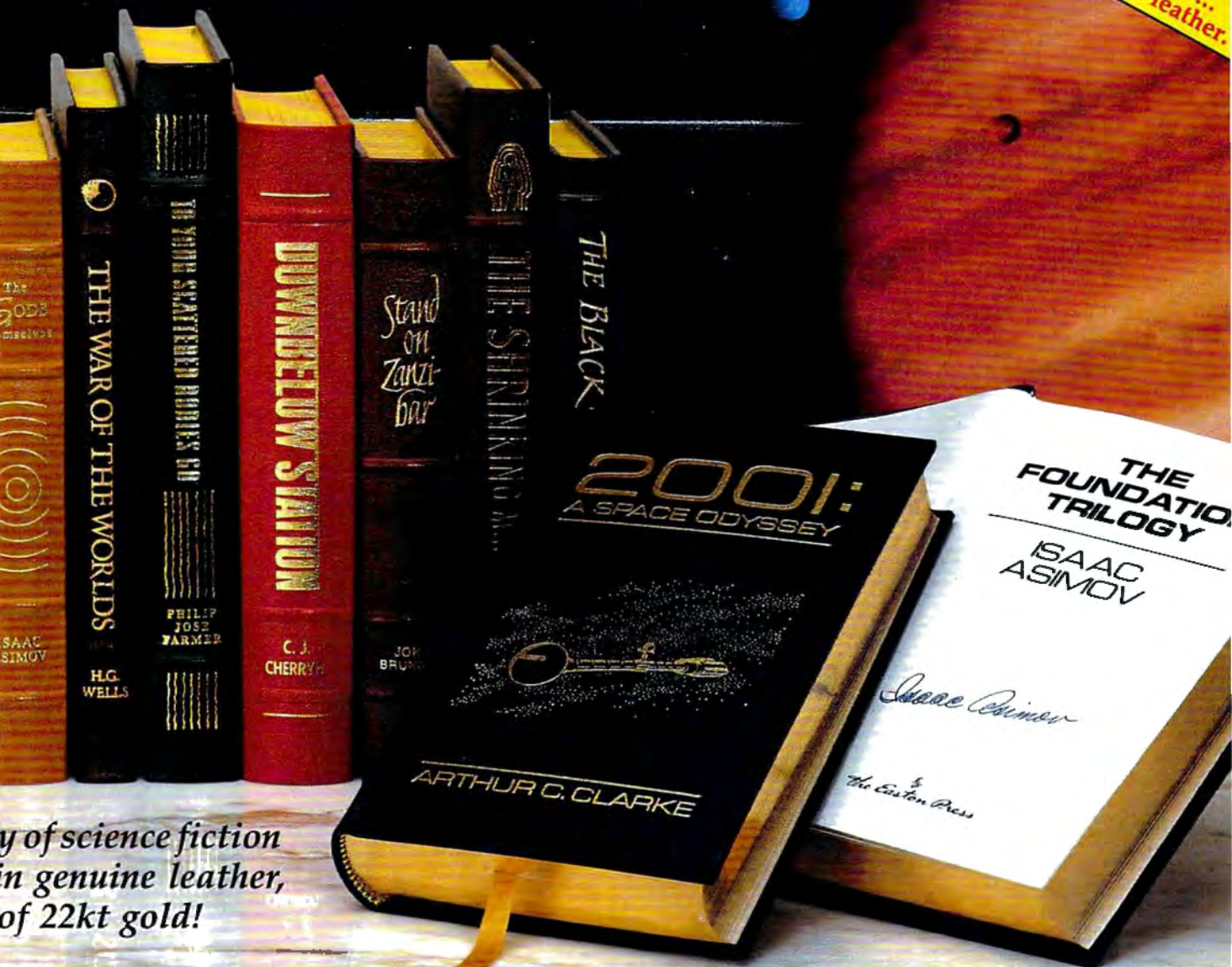
Personally-signed editions of six important works. Recognizing the importance of this collection, six of the greatest science fiction writers have agreed to sign their masterpieces. Isaac Asimov is signing *The Foundation Trilogy*. Ray Bradbury, *The Martian Chronicles*. Frederik Pohl, *Gateway*. Harlan Ellison,



Deathbird Stories. Kurt Vonnegut, Jr., *The Sirens of Titan*. George Zebrowski, *Macrolife*. These extraordinary volumes will surely be among your most prized possessions. (And due to their limited supply, you should act promptly to avoid disappointment.)

SCIENCE FICTION

The finest editions...
bound in genuine leather.



...of science fiction
in genuine leather,
of 22kt gold!

Each edition is truly a masterpiece!

Every volume is fully bound in genuine leather, embellished with a deeply inlaid cover design, and decorated with precious 22kt gold on the spine. The books are printed on acid-neutral paper to last for generations, and each has its own permanently affixed ribbon page marker. Pages are gilded on three sides for beauty and durability. These are editions you will be proud to own and display in your home library.

Convenient acquisition

The Masterpieces of Science Fiction is available only by advance reservation directly from The Easton Press. Your books will be sent at the rate of one per month for just \$33.00 per volume, plus shipping and handling. This favorable price is guaranteed for the next two full years, and subject thereafter only to minor adjustments reflecting the cost of materials. Your satisfaction is guaranteed: you may return any volume within 30 days for a full refund; and you may cancel your subscription at any time. To reserve your collection, simply complete the Reservation Application and mail today!

Circle Reader Service Number 148

Advance Reservation Application

067-511

MASTERPIECES OF SCIENCE FICTION

The Easton Press
47 Richards Avenue
Norwalk, Conn. 06857

No payment required now.
We will bill you.

Please enroll my subscription to *The Masterpieces of Science Fiction*. Send me the first volume and reserve a collection in my name. Volumes will be sent at the rate of one per month at \$33.00*. This price will be guaranteed to me for the next two full years.

I understand that I may return any book within 30 days for a complete refund and that either party may cancel this subscription at any time.

* Plus \$2.95 shipping and handling.

As a convenience, I wish to pay for my first volume now. Enclosed is \$35.95** (payable to The Easton Press).

Please charge each volume as shipped to my

MasterCard Visa American Express Diners Club

Credit Card No. _____

Expiration Date _____

Name _____

Address _____

City _____

State _____

Zip _____

Signature _____

(All applications subject to acceptance)

** Connecticut residents pay \$38.83, Tennessee residents pay \$38.74, to include sales tax. Please allow 4 - 8 weeks for delivery.

**Spock! — aren't
you supposed to
be dead?**

I rebooted!

These are the continuing voyages of the starship Enterprise™, brilliantly rendered with ultra-realistic graphics, digitized film footage, and spectacular sound. This is your chance to take command of the ship—and embark on an adventure of strategy, action, and excitement unlike any you've experienced.

**Boldly go where no man
has gone before...**



Actual IBM® Screen



Actual IBM® Screen

STAR TREK®

THE FINAL FRONTIER

M · I · N · D · S · C · A · P · E

Visit your retailer. To purchase by mail, send your credit card number and expiration date, or send a check or money order to: Mindscape Inc., PO Box 1167, Northbrook, IL 60065. IBM®, Tandy®, Macintosh™, Amiga™, and Atari® ST \$54.95. Please add \$3.00 handling and allow 3-5 weeks for delivery. Lawyers like this part. Copyright © 1999 Paramount Pictures Corporation. All Rights Reserved. STAR TREK is a Registered Trademark of Paramount Pictures Corporation. Mindscape Authorized User. IBM is a registered trademark of International Business Machines Corp. Tandy is a registered trademark of Tandy Corp. Macintosh is a trademark of Apple Computer, Inc. Amiga is a trademark of Commodore Amiga, Inc. Atari is a registered trademark of Atari Corp. Produced for Mindscape by Level Systems. All Rights Reserved.

Circle Reader Service Number 120



IN FOCUS

MORE THAN 26 MILLION AMERICANS ARE WORKING AT HOME. THAT MEANS MANY OF YOU HAVE YOUR GRINDSTONES IN THE HOUSE RATHER THAN IN SOME FARAWAY MILL. SOME OF YOU ARE PUTTING IN OVERTIME, AND OTHERS ARE RUNNING BUSINESSES FULL-TIME. IF YOU'RE STARTING A HOME OFFICE OR UPDATING THE ONE YOU HAVE, WE CAN TELL YOU WHAT TO LOOK FOR IN "YOUR HOME OFFICE: DRESSED FOR SUCCESS" ON PAGE 24. ■ JUST BECAUSE YOU HAVE THE RIGHT EQUIPMENT DOESN'T MEAN YOU HAVE THE BEST WORK HABITS. TAKE A TIP OR TWO FROM OUR RESIDENT HOMEWORKING EXPERT. READ "TAKE FIVE" ON PAGE 42. ■ WORKING AT HOME ISN'T AN ORIGINAL IDEA. THE ROMANS HAD OFFICES IN THEIR HOMES, TOO. BUT THEY DIDN'T HAVE COMPUTERS. TWO HOME OFFICE PIONEERS EXPLAIN HOW MICROCHIPS ARE CHANGING THE HOME OFFICE IN "MY VIEW" ON PAGE 38. ■ THUMB THROUGH OUR BUYER'S GUIDE, A SAMPLER OF HOME OFFICE SOFTWARE, ON PAGE 50. ■ ON OUR DISK, YOU'LL FIND TWO APPLICATIONS THAT MAKE RUNNING A HOME OFFICE A LITTLE EASIER. YOU CAN READ ABOUT THEM ON PAGE 62. ■ CHECK OUT "RESOURCES" ON PAGE 64. ■ IT WILL HELP YOU PLAN YOUR NEXT STEP FOR YOUR HOME-BASED BUSINESS. WE'VE LISTED ONLINE SERVICES, BOOKS, MAGAZINES, AND EQUIPMENT SOURCES. NEXT THING YOU KNOW, YOU'LL BE ROLLING IN THE DOUGH WHILE YOU'RE STILL WEARING YOUR SLIPPERS. THERE AREN'T ANY DRESS CODES AT HOME.

YOUR HOME OFFICE

Your Home Office

Dressed for Success

NEIL RANDALL

Millions of people have discovered the advantages of working at home. The guest bedroom, the recreation room, the basement, the garage—all can be corporate headquarters for your home business. Start with some basic office furniture, a telephone, and an answering machine. Add to that an XT-class computer with two floppy disk drives, 256K of RAM, a decent word processor, and a 9-pin dot-matrix printer.

The first step to equipping your office is learning what you need. Spend nothing without your business plan clenched firmly in hand, and use this article to examine purchase possibilities in three price ranges for three categories of home businesses.

Babysitters and building contractors certainly qualify as freelancers, but we've concentrated on freelance writers/illustrators in our first group because they can do so much of their work with a computer. Our second group, consultants and researchers, present themselves as experts in a specific field and use the home office as a research-and-presentation station. Our last group, service providers, can include everything from real estate agents to training services. We've concentrated on just two areas—catering and desktop publishing—to illustrate the makings of a service-oriented home office. >



Matching your



Photo © 1989 Mark Wagoner

wallet to your home-business needs.



\$1500

Writer/Illustrator

Increasingly, freelance writers are sending their copy to publishers via modem. Most publishers work on computers themselves, and it's much more cost efficient for them to feed text directly into their systems than for them to rekey printed submissions. Even disk-based submissions aren't always good enough, because file transfers aren't always perfect.

For freelance illustrators, a modem serves two functions. First, it provides a means of keeping in touch, via electronic mail, with clients. Second, modems are critical to designers whose illustrations are meant for desktop publishing or for online graphics.

Supra Modem 2400	\$149
Corel Draw	285
Microsoft Works	110
Panasonic 1124 printer	319
40-Megabyte hard disk	399
SideKick Plus	128
Total:	\$1,390

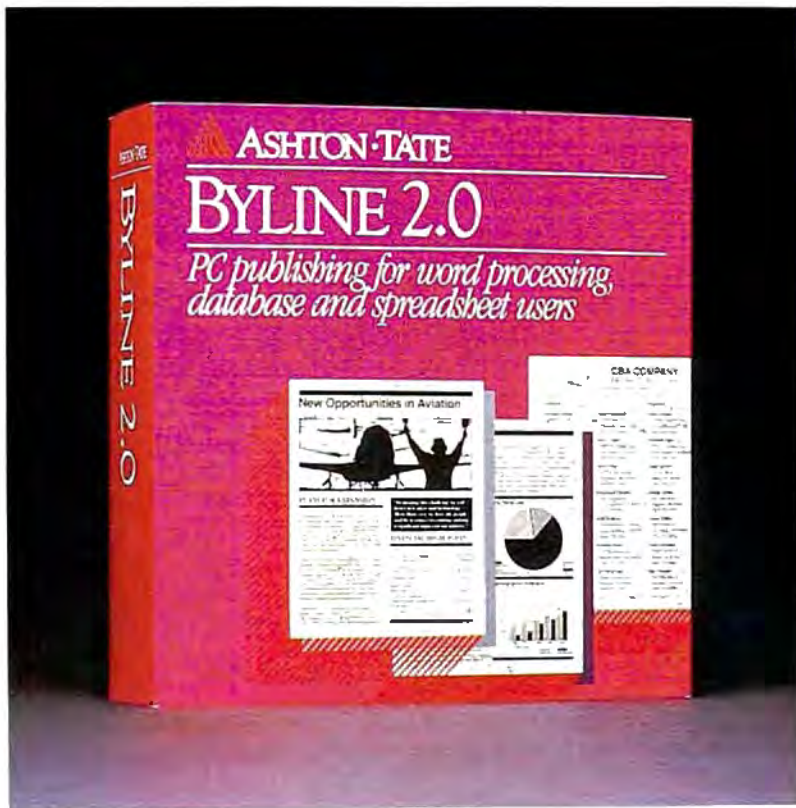
Modems are also useful in developing contacts. Telecommunications services such as CompuServe and GENie offer public forums from which you can uncover freelance possibilities. A 2400-baud modem (about \$150), makes access to these services more efficient.

But no matter how useful your new modem is, you may sometimes be required to submit article and book proposals (and in some cases the articles and books themselves) and thumbnail graphic designs to publishers on paper. Unfortunately, 9-pin printers, even those with NLQ and graphics modes, aren't good enough to satisfy submission standards.

Fifteen hundred bucks won't get you a laser printer (unless you forego the rest of your equipment purchases). But you can pick up a high-quality 24-pin dot-matrix printer for between \$400 and \$600. Another choice might be an ink-jet printer (\$900), but that will pretty well clean you out. If the quality of your printed output is vital to your business, don't scrimp.

Printing is the tail end of the writing/illustrating process. To get there, you'll need to invest \$200-\$450 for a top-quality word processor or \$300-\$550 for a top-quality illustration package.

If you're a writer, you may not need all the features packed into the latest versions of *WordPerfect* or *Word*, for example. But you do need a word processor you can trust, and one with advanced goodies such as a thesaurus and an excellent spelling checker. If the program boasts an outliner, so much the better. For that inevitable run-in with a publisher who demands submissions in, say, *WordPerfect* files, look for a program that emulates the file structures of the big guys—or buy the real thing. For illustrators, your software choice must reflect the degree to which you expect to use it. If you don't use your computer as a drawing tool, then you don't need a drawing program. If you use the computer only as a way of conceptualizing an illustration, then a less-expensive drawing package will do. Keep in mind your clients' future plans. If they're considering computerized illustration, now is a good time for you to learn what it's all about. ▸



Ashton-Tate's *Byline 2.0* is a low-priced alternative to the more expensive desktop publishing programs on the market.



THE BATTLE OF BRITAIN. UP CLOSE AND PERSONAL.

One pilot described a World War II dogfight "like being on the inside of a beehive." And that's just what it feels like to

play *Their Finest Hour: The Battle of Britain*.™ The new air combat simulator from Lucasfilm Games that's keeping simulation buffs and action gamers alike on the edge of their seats.

Their Finest Hour includes all the acclaimed features of our *Battlehawks, 1942*. Plus a few new twists.

The Realism Is Unreal.

From the moment you pull back on the throttle, *Their Finest Hour* grips you with near-photographic realism of aircraft, smoke, terrain, and flying debris.

To really get your adrenalin pumping, we've added a cacophony of roaring engines, chattering machine guns, and thundering explosions.



How's That Again?

Want to show your friends how you erased that

Flying Pencil with fancy deflection shooting? *Their Finest Hour* lets you save your proudest combat performances to disk. And relive them in real time, fast forward, or frame by frame.



A Luftwaffe gunner position is the quickest way to get acquainted with the RAF.



Replay combat action sequences from any angle, even from the nose of a bomb!

schmitt 109. Pulverize ground installations from your Messerschmitt 110 fighter/bomber or your screaming Stuka. Or fly as pilot, bombardier or gunner in a Junkers 88, Dornier Flying Pencil, or Heinkel Spade.

Your success in each mission impacts the next one: knock out a radar installation today, and you'll



breathe easier tomorrow. Who knows—you might even change history. And if you don't like the odds, *Their Finest Hour* lets you change sides.

**LUCASFILM™
GAMES**

Look At Life From Both Sides Now.

Take on the Luftwaffe in a tough little RAF Hurricane or fabled Spitfire. Or test your skills at the controls of the Spitfire's nemesis, the formidable Messer-



...non-smoker. Pvt BR & Bn.
School age child. Refs. 914-762

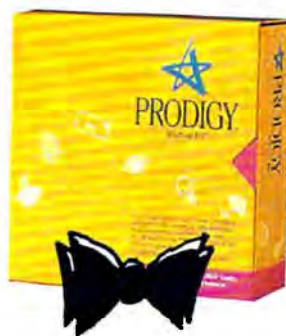
HOUSEKEEPER/Child Care live-
...Manhattan, NY
...non-smoker willing to spon-
sor. Call Kathy McMahon 123-210-7963

GOOD HELP LOW RATES.

Willing to do the shop-
ping, banking, get the
news, play with the
kids, check the weath-
er, order airline tickets
and more for just **\$9.95**
a month.

NANNY Do you like children? This
position may be for you. We offer
salary + benefits to include pyram,
meals, ven, college reim, insur-
ment, & extras per person.
Willing, pleasant & reliable, other
help emp'd. 759-3512

Star
need
CHI.
for 8
May
CHIL
199-4
for e
area.
from
DOMI
\$15 v
12m.
Handy
S ad
PHY
Northe
rule
weeks
physic
moder
al pop
tive inv
back in
cation.
develo
live sa
inform
PHYS
mar



The little yellow box brings you hundreds of features for just \$9.95 a month.

Who says good help is hard to find?

The PRODIGY® Service Start-up Kit is your key to a world of helpful services at a price that won't eat you out of house and home.

After you purchase your Start-up Kit, all it takes is a flat \$9.95 a month, with no on-line charges, to bring you and your family hundreds of features.* Now, shopping is easy, banking is a breeze, plus you can get the latest news, send messages, book your own flight, play games that are fun and educational, and that's just the beginning.

Up to six family members can choose their own personal password and then customize the PRODIGY service to fit the way they want to use it. Weather forecasts, member clubs, stock quotes, plus the features you like are all waiting for you.

The PRODIGY Service Start-up Kit comes complete with everything you need to get on-line easily. There is also a Start-up Kit with a Hayes® Personal Modem 2400 at a great price.

To find out where to get your Start-up Kit, just call 1-800-822-6922, ext. 591. Once you're on-line, you'll find that good help is not only easy to find, it's affordable.



FINALLY, WHAT THE PC WAS INVENTED FOR.™

Call 1-800-822-6922, ext. 591, for a dealer near you.

Available for IBM® compatible and Macintosh® computers.

*The PRODIGY service is available in selected cities through a local phone call. Additional fee applies for banking. PRODIGY is a registered service mark and trademark of Prodigy Services Company. Hayes is a registered trademark of Hayes Microcomputer Products, Inc. IBM is a registered trademark of IBM Corporation. Macintosh is a registered trademark of Apple Computer, Inc.

Just the Fax

In the home office, money is always an object. A stand-alone fax machine can eat up roughly \$1,500—a real bite out of your business. But a fax board for your PC may be just what you need. The cost (\$300–\$1,100) is lower than that of a stand-alone, and the benefits are nearly identical.

Fax boards and fax machines have one big difference: Fax boards can't fax hardcopy. With a fax machine, you feed in a piece of paper, and it takes care of the rest. With fax boards, you must work with digital (computer-generated) material. You might, for instance, create a page using *WordPerfect* or a spreadsheet using *Lotus 1-2-3*, print it to disk, and then send the file over the fax board.

To work with hardcopy, you'll have to buy a scanner for your PC, and that will raise your cost. The combination is still worth thinking about, though, because fax boards let you send output to several destinations at once, and you can program them to send during the night when phone costs are lower.

There are problems. Installation is tricky, and some of the software is still buggy. Also, you'll need at least a 40-megabyte hard drive to use a fax board.

Once you have landed a few clients and are balancing several projects, you may want to trade up to a hard disk. Hard drives not only keep floppy disks from overwhelming your desk, they also force you to organize (if you don't, you won't be able to find anything on the drive). They also increase your productivity because you can get information faster from a hard disk than you can from a floppy disk. Illustrators especially will find hard disks almost essential.

Organization is key to managing a hard disk, and desk accessory software can make organizing easier. For about \$150, you can probably find one package that will handle your phone and address lists, calendar, and appointment diary. If you want to keep your software purchases to a minimum, an integrated package (\$100–\$300) might work just as well. Such programs typically include a word processor, a spreadsheet, a database, and telecommunications software. Some include desk accessories as well.

Consultant/Researcher

For the consultant/researcher group, some of the purchases in this price range are the same as those in the writer/illustrator group. The differences lie in the priority of the purchase.

Supra Modem 2400	\$149
dBase IV	473
Grandview	185
Microsoft Works	110
40-megabyte hard disk	399
Total:	\$1,316

If you work with computers a great deal, for example, or with graphics software designed to produce top-notch presentations, you'll never regret upgrading to a hard disk drive.

An integrated software program will take care of the two or three specific areas for which you don't need top-quality packages. Financial consultants, for example, will need something far beyond the spreadsheet capabilities of an integrated package, opting instead for *Lotus 1-2-3*, *Excel*, or another highly regarded package. Similarly, researchers needing large-database capabilities may go for *dBase IV* above the more limited features offered on integrated packages.

Two other purchases also serve this group well: information-management software and a 2400-baud modem. Consultants and researchers juggle a lot of projects, and both frequently need access to other computers. An information manager like *Agenda* or *IZE* makes tracking multiple projects, clients, and deadlines much easier. For consultants, the modem provides a means of receiving information, feedback, and orders from clients; researchers will use a modem to connect their computers to the networks used by universities and large industries and to mainframe computers at research institutions.

Service Provider

Again, our shopping list overlaps somewhat with the other two categories. A catering service, for instance, can generate attractive invoices, advertisements, and price lists with a 24-pin dot-matrix printer—especially when combined with a sturdy, if not flashy, word processor or a low-end desktop publishing package.

For caterers or desktop publishers, an integrated package provides a platform for designing brochures and price lists, for keeping customer lists, and for budgeting and accounting. A good desktop accessories program is another, cheaper way of keeping customer lists, and you can use it for scheduling as well.

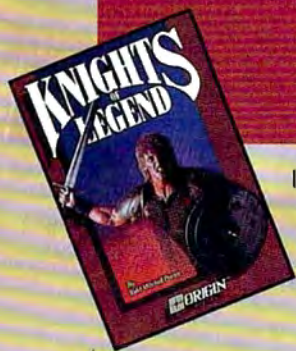
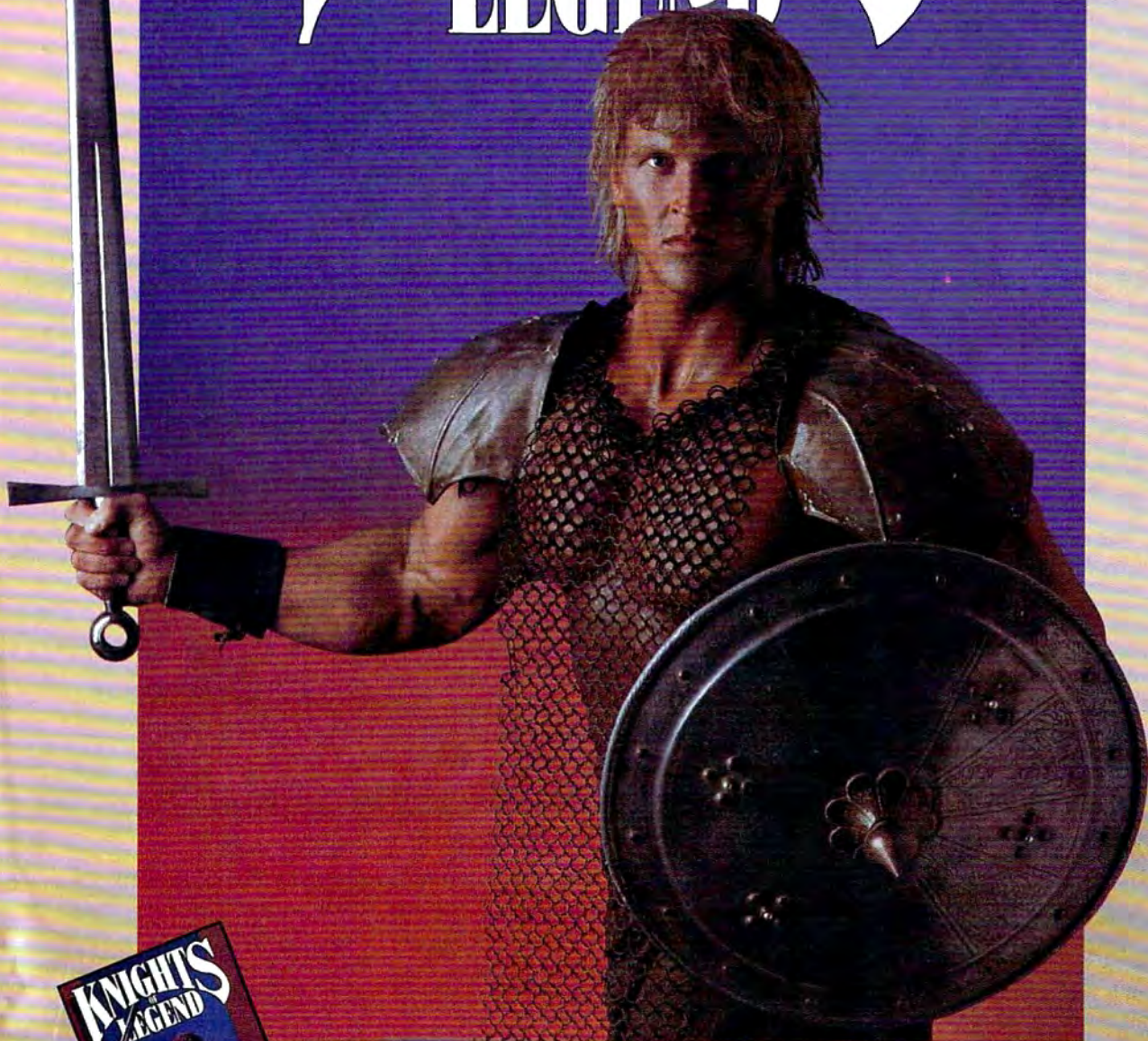
BPI General Accounting 2.1	\$245
GrandView	185
Microsoft Works	110
Panasonic 1124 printer	319
40-megabyte hard disk	399
SideKick Plus	128
Byline	189
Total:	\$1,575

An information-management package will help a desktop publishing service track its clients' projects from beginning to end. You'll need the help if you're handling several projects at one time, all at various stages of completion.

Accountants cost money, so buying accounting software makes a lot of sense. Combined with a good printer, an accounting package can provide an attractive printed invoice for your customers. The package will also track your cash flow and your payables, and will even print out your checks. Sooner or later, however, you'll need to hire an accountant to handle your books.

The central element in a desktop publishing service, of course, is the desktop publishing software. The rule here is to get the best you can afford. *PageMaker* and *Ventura Publisher* are the standards, but other available programs might suit your needs at a lower cost. Because of the space these applications require, desktop publishers need at least a 40-megabyte hard drive. ▽

KNIGHTSTM OF LEGEND



It has taken more than eight calendar years to create **KNIGHTS OF LEGEND**, the crowning achievement in medieval fantasy and role-playing. We've developed the most comprehensive combat system ever, surrounded by a meticulously crafted world of strategy, action and emotion. The lands are filled with hundreds of unique personalities and dozens of towns and hamlets — and the people are filled with spirit, conflict and honor.

ORIGINTM
We create worlds.SM



IBM/COMPATIBLE VERSION



IBM/COMPATIBLE VERSION



APPLE VERSION

Available for: IBM/Tandy/compatibles, C-64/128, Apple II series; *coming soon for*: Amiga. Actual screens may vary.

Can't find **KNIGHTS OF LEGEND** at your local retailer? Call 1-800-999-4939 (8am to 5pm EST) for Visa/MC orders; or mail check or money order (U.S.\$) to ORIGIN. All versions \$49.95; shipping is FREE via UPS. Allow 1-2 weeks for delivery. ORIGIN, P.O. Box 161750, Austin, Texas 78716.



\$2500

Writer/Illustrator

Twenty-five hundred dollars isn't enough for you to chuck everything and buy a laser printer, but your other choices are getting much more interesting.

CompuAdd VGA Combo	\$615
HP ScanJet Plus	1,395
FAX-MAIL 96	499
Total:	\$2509

For example, you may want to pick up a fax board for your computer. A fax machine may offer more features (like a second telephone), but your only real alternative in this price range is the board. To make a fax board completely effective, you'll also need a scanner. If you have no need for printed copy, you can do without the scanner, but for the freelance illustrator, I highly recommend one. It gives you the ability to instantly add artwork to your designs.

A writer/illustrator, especially one who works at the computer a lot, looks into the screen for hours on end. That makes an investment in a VGA card and monitor worth considering. A VGA-specific monitor is a good choice, but if you can afford it, you should pick up a multisync monitor that's also compatible with Super VGA—just in case you upgrade.

Consultant/Researcher

Consultants need a way of transmitting proposals, reports, and data to clients as quickly and easily as possible. They also need a way to accept counterproposals, letters, and needs-assessment research. These factors make a fax board essential.

A researcher in the sciences or social sciences should consider purchasing statistical-analysis software. Many university researchers have comprehensive statistics packages available from their university mainframes, but for consultants who perform research

Complete Statistical System	\$495
NEC MultiSync 3D monitor	679
Panasonic FX-89 fax board	669
VEGA VGA board	275
Total:	\$2,118

and for private researchers, a statistics package is practically mandatory.

A VGA graphics board and accompanying monitor also make sense for this group.



New desktop publishing businesses should investigate ink-jet printers, like the HP DeskJet, before leaping into laser printing.

Service Provider

From this price range on, I'll concentrate only on the desktop publishing service. A catering business that wants to use an attractive monthly customer mailing as a marketing ploy may want to enlist the help of a desktop publishing service.

That said, the first business need a desktop publishing service must satisfy is its need for a high-quality printer. At this price range, your best bet might be an ink-jet printer. You can upgrade to a laser in the future. If you need color in newsletters and brochures, a color ink-jet is a very economical choice. Eventually, you'll want to go to four-color separation and use a professional typesetting service.

A scanner lets you incorporate graphics into documents and is much less expensive than hiring professional computer artists. A fax board makes a great companion to the scanner and lets your clients see what you've produced as soon as possible. ▶

HP DeskJet Plus	\$ 685
HP ScanJet Plus	1,395
FAX-Mail 96	499
Total:	\$2,579



SPACE ROGUE™

Rocket into the striking realism and spectacular visuals of **SPACE ROGUE**, the phenomenal 3D space flight simulation. You'll discover authentic flight dynamics, precision navigational aids and sophisticated weapons technology as you maneuver through turbulent ion storms and confront alien foes. You'll visit space stations and mining outposts — swapping tales with pirates, drinks with friends and goods with merchants. It's the seamless integration of space flight and role playing that makes **SPACE ROGUE** the first ORIGIN Cinematic Experience™.



IBM/COMPATIBLE VERSION



IBM/COMPATIBLE VERSION



APPLE VERSION

ORIGIN™
We create worlds™

Available for: IBM/Tandy/compatibles, C-64/128, Apple II series, *coming soon for*, Amiga and Macintosh; actual screens may vary.

Can't find **SPACE ROGUE** at your local retailer? Call 1-800-999-4939 (8am to 5pm EST) for Visa/MC orders; or mail check or money order (U.S.\$) to ORIGIN. All versions \$49.95; shipping is FREE via UPS. Allow 1-2 weeks for delivery. ORIGIN, P.O. Box 161750, Austin, Texas 78716.

Circle Reader Service Number 138



\$5000

Writer/Illustrator

With another \$2,500, several options become available. Laser printers enter the picture, as do full-page monitors, video cameras, and even a second (or upgraded) computer. At this level of spending, you should consider carefully how much benefit your business will derive from each piece of equipment or how the equipment might define your business.

A respected tax package will help you keep your money anxieties under control. (You can hire an expert at tax time.) Alternatively, you could simply opt for a good spreadsheet to perform budgeting and other financial functions.

Amiga 2000 and monitor	\$1,800
BPI General Accounting 2.1	245
NEC LC890 Laser Printer	3,197
<hr/> Total:	<hr/> \$5,242

If you need high-quality output, you'll definitely want a laser printer. The operative word here is *need*. Don't spend your hard-earned money unless you have to, because there are plenty of print shops and laser services around, in your city and via modem. The cost of a laser printer isn't just the cash up front. You need good quality paper, and toner must be replaced at roughly \$20 a pop. Eventually, you'll also have to replace the drum, and this will set you back over \$100. If you buy a laser printer, put it to work immediately. If you don't, you'll have an extremely cost-ineffective machine sitting in the corner, and that's not good for any business. ▶

The Vital Computer?

In Barbara Andrew's business, computers occupy center stage. Her firm, Ponsonby Communications, operates in both the desktop publishing and desktop video fields, producing newsletters, magazines, brochures, and multimedia presentations for medium to large businesses.

Like most businesses of this kind, Andrew has found it necessary to maintain an MS-DOS platform. Her clients often send in disks containing IBM ASCII files. But the heart of Ponsonby are two Amigas: an Amiga 1000 and an A2000 equipped with a PC-compatible Bridgeboard.

Michael Hale conducts his graphic design business out of his home in the country near Elora, Ontario, about an hour's drive from Toronto. He designs books, corporation brochures, recruitment brochures, annual reports, business cards, letterhead, and newspaper ads.

Hale describes his home office as a desk in a corner of the living room. "My files are up in my studio on the second floor," he says. "My bank accounts are stuck in a cubbyhole cupboard beside the kitchen table." When you add in the darkroom, it's plain that Hale has spread his office around.

But while Andrew sees her computers as an integral part of her business, Hale regards his as secondary. "A number of people I know use their computers for graphic design, but I don't," Hale says. "I won't rule out the possibility, but I just haven't had the need yet." He uses an Apple II Plus with 48K of memory and two drives, plus a dot-matrix printer. "It does the job," he says.

Andrew is just the opposite. She feels her equipment brings in new business and keeps her steady clients happy. "We have a 2400-baud modem, which is a real necessity," she says. "Clients often send us text by modem, and we take it and massage it from there." Aiding the final massage are a QMS PS-800 Plus laser printer and a low-end Sharp fax machine. "The fax machine is indispensable," she explains. "Many of our clients are 60-100 miles away, and it's much more efficient to fax them copies of the output than it is to send it by courier."

Hale doesn't feel his work suffers from the system he has chosen. "When you find that the tool limits what you can do, then you look around for something else. But I still haven't used all that *AppleWriter* [his word processing software] has to offer, so why should I change?"

The common ground that Hale and Andrew share is the studied perspective of the role computers play in their businesses. "It's a tool, but like any good tool it becomes an extension of your brain," says Hale. "The Apple broke down last week, and I feel as if a part of me has been cut off."



A second computer, such as the Amiga 2000, opens up new business prospects for graphics and publishing services.

IN FOCUS



His mummy don't dance and his daddy don't rock and roll.



Horus isn't a happy guy. 🐍 You see, his father, Osiris, was murdered. His mother, Isis, just lays around the pyramid, grieving. And evil Uncle Set — who's caused all the problems — has challenged him to a fight to the death. 🐍 It's the original family feud — Egyptian style. 🐍 And it's all in *The Eye of Horus™*. A brand new game from Fanfare™ — based on Gods and legends as described in ancient Egyptian mythology.



🐍 Set has ripped Osiris's corpse into seven pieces and hid them in a dark forbidden tomb deep below the scorching Sahara sands. Your task is to help Horus find the remains, and avenge his father's death. 🐍 But first Horus must search the dark catacombs for weapons and sacred amulets to aid him in battle. And he'll need all the help he can get. Because in the final confrontation, Set will turn into a dragon to destroy him. 🐍 Self mapping arcade adventure. 🐍 State-of-the-art animation. 🐍 High resolution graphics. 🐍 *The Eye of Horus*. An exciting new game for the MS-DOS, Amiga, and Atari ST systems. Look for it at your local software store. Or, call us at 800/572-2272 (in CA: 415/546-1866).

LOGOTRON
RECREATION

🐍 *It's no cruise down the Nile. In fact, it's downright ungodly.*

Circle Reader Service Number 112

FANFARE™

An Encyclopaedia
Britannica Company

Depending on your need, you may find a photocopying machine a good investment. But it will eat up the bulk of your additional \$2,500. Buy only if you find yourself spending, say, \$80-\$100 per month on photocopying costs. A word of advice: Try before you buy. A copier of only moderate quality is of no use.

Although it may sound strange, you might want to buy a second computer. A spare computer can serve as a backup to your main machine in case of breakdown. Or, if you put it in another room, it can provide a break from working in your office. It can also keep the kids occupied. (They might even start a business of their own!) If you buy a different system from your mainstay machine, a second computer can open up business possibilities. For example, illustrators who use an MS-DOS machine might consider enhancing their client potential by picking up a Macintosh or an Amiga.

Consultant/Researcher

With an extra \$2,500, the consultant/researcher might think about buying an 80386-based computer system. If you're a researcher performing numerous mathematical calculations, a financial consultant working with large spreadsheets, or anyone working with huge databases or elaborate presenta-

tion software, a 386 computer can be a boon to your business. Alternatively, you can upgrade a 286 system by adding a math coprocessor. But if you buy a new machine and you can afford it, keep your old machine and use it as a backup or for dedicated tasks like terminal emulation or word processing.

CompuAdd 386/20	\$3,225
HP LaserJet Series II	1,749
<u>Total:</u>	<u>\$4,974</u>

A laser printer might also be in order if there's strong economic justification. Other possibilities include such specialized items as software and hardware for video production. Though video-production equipment is expensive (there goes your five thousand bucks), consultants engaged in training or presentations might find it the most important equipment they've ever bought.

Service Provider

For the desktop publishing service operating at this price range, a laser printer becomes mandatory. You need the best output possible, even for your drafts. It might be necessary to go outside your business for the final prod-

uct (to a professional typesetter), but you simply must invest in a good laser printer.

Because desktop publishing packages work by having you design pages (not just screens), a full-page monitor makes a lot of sense as well. You'll reduce aggravation and increase productivity when you can see the full page on the screen. The result is a superior product. Some advice: Make sure that the software supports your monitor.

NEC LC890 Laser Printer	\$3,197
Multiview Monitor and	
GrafixPro adapter	1,050
117-megabyte hard disk	869
<u>Total:</u>	<u>\$5,116</u>

Upgrading to a large (120-megabyte) hard drive would also be wise. At this level, a desktop publishing service needs lots of hard disk storage. Page layouts hog enormous amounts of disk space, and you'll want to call up graphics files and style sheets quickly and effortlessly. Be sure to back up your hard disk: Lose that much work and you may lose your business. □

Shopping Spree

Byline
dBase IV
Ashton-Tate
20101 Hamilton Ave.
Torrance, CA 90502
(213) 329-9989

SideKick Plus
Borland International
4585 Scotts Valley Dr.
Scotts Valley, CA 95066
(408) 438-5300

FAX-MAIL 96
Brooktrout Technology
110 Cedar St.
Wellesley Hills, MA 02181
(617) 235-3026

Amiga 2000
Amiga 1084SD Monitor
Commodore Business Machines
1200 Wilson Dr.
West Chester, PA 19380
(215) 431-9100

CompuAdd 386/20, VGA Combo
board and monitor
CompuAdd
12303 Technology Blvd.
Austin, TX 78727
(800) 627-1967

BPI General Accounting 2.1
Computer Associates
1240 McKay Dr.
San Jose, CA 95131
(800) 531-5236

Corel Draw
Corel Systems
1600 Carling Ave.
Ottawa, Ont.
Canada K1Z 8R7
(613) 728-8200

VEGA VGA
Headland Technology
46335 Landing Pkwy.
Fremont, CA 94538
(415) 656-7800

DeskJet Plus
LaserJet Series II
ScanJet Plus
Hewlett-Packard
19310 Pruneridge Ave.
Cupertino, CA 95014
(800) 752-0900

Microsoft Works
Microsoft
16011 NE 36th Way
Redmond, WA 98052
(800) 426-9400
(206) 882-8080

LC-890 Printer
MultiSync 3D monitor
NEC Home Electronics
1255 Michael Dr.
Wood Dale, IL 60191
(312) 860-9500

FX-89 fax board
KXP-1124 printer
Panasonic
Two Panasonic Way
Secaucus, NJ 07094
(800) 742-8086
(201) 348-7000

GrafixPro VGA Adapter
Multiview Monitor
Princeton Publishing Labs
Advanced Electronic Publishing
Hardware
19 Wall St.
Princeton, NJ 08540
(609) 924-1153

Complete Statistical System
StatSoft
2325 E. 13th St.
Tulsa, OK 74104
(918) 583-4149

SupraModem 2400
Supra
1133 Commercial Way
Albany, OR 97321
(800) 727-8772

GrandView
Symantec
10201 Torre Ave.
Cupertino, CA 95014
(408) 253-9600

Ventura Publisher 2.0
Xerox
Desktop Software Division
9475 Business Park Ave.
San Diego, CA 92131
(800) 822-8221

Jim's about to disappear.

And he's going to love it. Because tonight he'll pilot the top-secret Air Force jet that radar can't detect — the F-19 Stealth Fighter.

With the awesome F-19, you'll plunge into explosive conflicts around the globe.

To start, you can choose a training mission where enemy weapons have no effect, or a

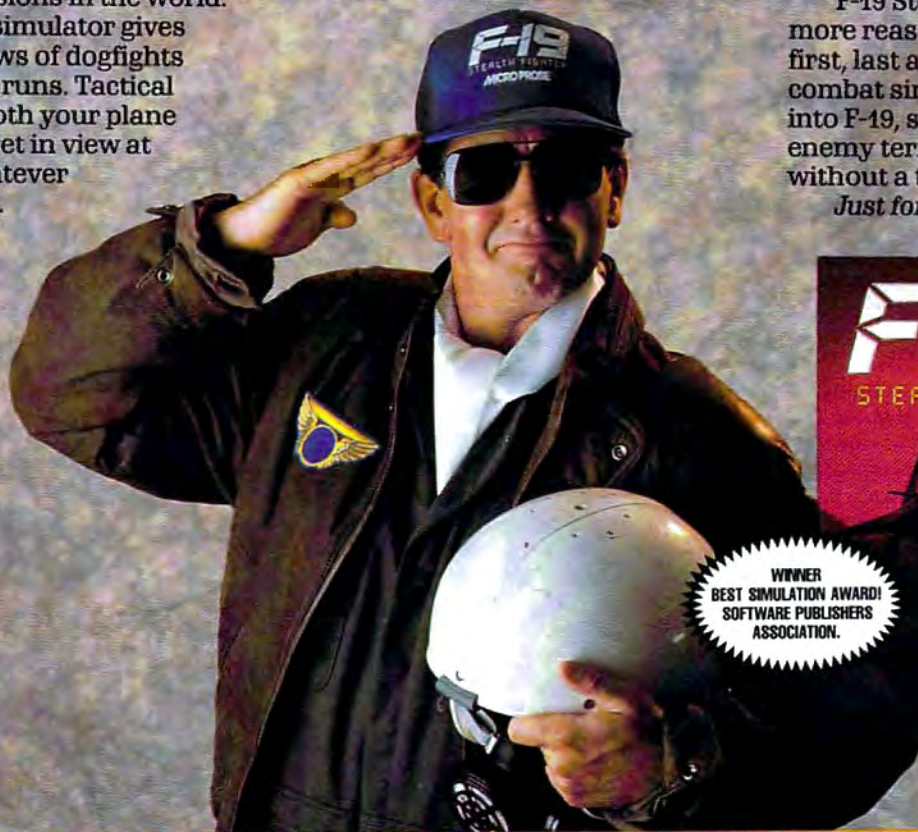


"no-crash" mode that protects you from fatal errors. You can even select easy landings or weak enemies. As you sharpen your skills, you can take on the toughest missions in the world.

No flight simulator gives you more views of dogfights and bombing runs. Tactical View keeps both your plane and your target in view at all times, whatever your position.

Tonight Jim Quigley will fly over the Persian Gulf, become invisible, blow away two enemy MiGs and win the Medal of Honor.

Just for fun.



Inverse Tactical View shows your target up close with your F-19 approaching in the distance. And TrakCam locks onto and magnifies targets. All with the hottest Super 3-D Graphics you've ever seen!

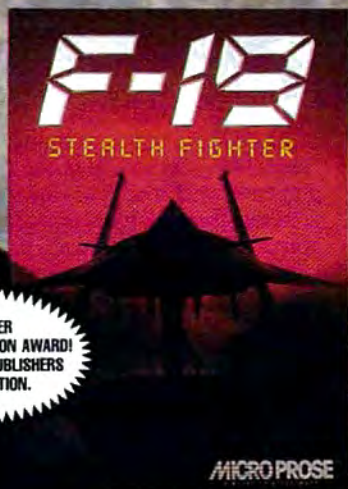
You'll have detailed maps and a keyboard overlay, so you'll spend less time finding



features and more time playing the game. And the F-19 manual psyches you for combat with incredible detail on training and equipment, stealth tactics, strategy, and real world situations.

F-19 Stealth Fighter is one more reason why we're the first, last and best name in combat simulations. So climb into F-19, strike deep into enemy territory, and disappear without a trace.

Just for fun.



WINNER
BEST SIMULATION AWARD!
SOFTWARE PUBLISHERS
ASSOCIATION.

MICRO PROSE

Watch for "The Major's Mission" Contest coming to your favorite retailer November!!

Can't find F-19 STEALTH FIGHTER? Call (301) 771-1151 x208, weekdays 8:30 am to 5:30 pm Eastern Time and order by MC/Visa/AmEx, or mail check/money order for \$69.95 (specify disk size). U.S. funds only. MD residents add 5% sales tax. MicroProse Software, Inc., 180 Lakelront Drive, Hunt Valley, MD 21030. For IBM-PC/XT/AT/PS2/Tandy/Compatibles. Requires 384k RAM. Supports MCGA/VGA, EGA, CGA and Hercules graphics.

MICRO PROSETM
Just For Fun.



MY VIEW

PAUL AND SARAH EDWARDS

OPEN THOSE COLLARS YOU'RE WORKING AT HOME

Sarah and I have been described as pioneers because we began working from home in the 1970s. Working at home was unusual for white-collar workers. In fact, at least one neighbor believed I was unemployed.

But, as much as we'd like to accept the title of pioneers, we discovered while writing *Working from Home* that many homeworkers had preceded us. In fact, the original home offices belonged to the ancient Romans.

But they didn't have the personal computer.

I do. I sold my Hasselblad camera and bought an Osborne I. Our work lives have never been the same. For millions of people, home and office have become one. City governments that are, on one hand, enforcing zoning ordinances restricting home businesses are, on the other hand, installing or urging telecommuting programs to ease traffic congestion and air pollution problems.

This has created a new category: open-collar workers. They do their

jobs and run their businesses from home, and their ranks number in the millions. The 1989 National Work-at-Home Survey by Link Resources found more than 26 million homeworkers. Between 1988 and 1989, over 4 million people began working at home for the first time—almost double the number of new homeworkers the previous year and nearly four times the number from two years ago. Link Resources' Tom Miller projects that by the time we elect our next president, 31 million people will be working at home.

What are people doing at home? Everything from alarm operation and aerobics instruction to zipper repair. We've developed a list of approximately 400 types of home-based businesses, and well over 100 of these are based on the personal computer.

Personal computers have made traditional home-based business more productive. Plumbers, electricians, contractors, writers, and craftspeople have worked at home longer than microcomputers have, but now these people can perform many office tasks more effectively and efficiently than in the past. They can write letters, send invoices, track projects, and produce marketing materials. People who ran their businesses from their back pockets benefited from the low overhead of a computerized home office.

Before personal computers, no one made a living at desktop publishing, no one used computer brokering, no one converted data or formatted disks. These are but a few ways people are carving out livelihoods using PCs.

Some major companies, such as American Express, Best Western, and J.C. Penney allow their employees to work at home by telecommuting. Actually, telecommuting, according to consultant Gil Gordon, simply means being linked by telephone with your office, but, for most of us, it means using a computer and a modem.

Your best opportunities for a job at home are with a smaller company. According to Link Resources, nearly two out of three homeworkers are em-

ployed by firms with fewer than 100 employees. One further tip: Your most likely source of home-based work is your current employer. Companies rarely hire people they don't know for work away from the office.

Instead of staying late at the office or coming back to work on weekends, a rapidly growing number of people are taking their work home on floppy disks. These are the after-hours workers. Approximately 14 million of the 26 million homeworkers fall into this category. That's about one out of every eight people in the work force.

There's a good chance you may be an after-hours worker. If so, you could use your computer to start a part- or full-time business. Surveys show that more than half of all Americans want their own business. Some want to earn extra income. Others seek independence. Those who succeed will be in good company. Major companies, including Apple Computer, Domino's Pizza, and Walt Disney, have started in spare bedrooms, garages, and basements.

Many of these well-known companies, of course, predate computers. Today personal computers make starting and operating a business easier and more certain. In fact, statistics from the Small Business Administration tell us that the survival rate has doubled and 40 percent of these businesses are still around after five years.

So if you're thinking about starting your own business or talking your management into letting you bring your job home, now is a good time. After all, someone's going to do it; it might as well be you.



Paul and Sarah Edwards write extensively about home offices. They co-host "The Home Office Show" on the Business Radio Network.

Data East
presents

WIN
A TRIP FOR 4 TO SUPERBOWL XXIV

SWEETSTAKES
TIME

& Hundreds of Other Prizes

New Orleans. The Superdome. The biggest game of the year! All as close as your local software dealer! That's where you'll find ABC's Monday Night Football™—first in a hot new series of fast-action games from Data East MVP Sports™.

Win the Grand Prize! A trip for four to football's premier event—Super Bowl XXIV. Plus hundreds of other major prizes! You can win \$5,000 in cash, Sony® entertainment systems or Data East's ABC's Monday Night Football pinball machines!

It's simple. Just take this ad to your participating dealer and compare the symbol on the game piece below to those on the back of ABC's Monday Night Football package. If they match, you're an instant winner!

ABC's Monday Night Football from Data East MVP Sports. Experience it! Up close and personal. More action, more color and more fun. The sights and sounds of ABC's Monday Night Football.

Available for the IBM® PC/compatibles, and the Commodore 64.*



DATA EAST MVP Sports Sweepstakes Official Rules—NO PURCHASE NECESSARY

How to enter: Simply take the prize symbol "game piece" in this ad to your participating retailer. Exactly match the prize symbol on your game piece with one of the prize symbols found on specially marked packages of Data East MVP Sports' ABC's Monday Night Football games and you win the prize indicated. You may also obtain a match and win prize symbol game piece (while supplies last) and a copy of the winning prize symbols by sending a stamped, self-addressed envelope by December 31, 1989 to Data East MVP Sports Sweepstakes Requests, P.O. Box 8455, Beaverton, OR 97076. WA and VT residents need not affix postage to return envelope. If you

are a prize winner, claim your prize by sending your winning prize symbol game piece with your signature and your name, complete address and phone number in the spaces provided via certified or registered mail to Data East MVP Sports Sweepstakes Winner, P.O. Box 8456, Beaverton, OR 97076. All winning claims must be received by January 10, 1990. Any official game piece or package symbol which is forged, tampered with, mutilated, contains printing errors or is obtained through other than approved distribution, is void. Decision of judges is final on all matters. All unclaimed prizes will be awarded in a Second Chance random drawing. If you are not an instant winner, print your name, complete address and phone number in the spaces provided on your prize symbol game piece and mail to Data East MVP Sports Second Chance Sweepstakes, P.O. Box 8458, Beaverton, OR 97076. Second Chance Sweepstakes entries must be mailed separately and received by January 10, 1990. If there are any unclaimed prizes, Second Chance winners will be randomly drawn on January 15, 1990, by ACS Marketing Services, Inc., an independent judging organization whose decisions are final. Odds of winning Second Chance Drawing depend on the number of unclaimed prizes and valid entries received. Not responsible for lost, late, misdirected, incomplete or illegible entries. Winners will be notified by mail. One Grand Prize winner will receive a trip for four to Super Bowl XXIV in New Orleans. Trip includes round trip coach airfare (or reasonable ground transportation if applicable), three nights lodging, tickets for four to the Super Bowl XXIV game, transfers to and from the game, pre-game brunch and \$500 cash for expenses, approximate retail value (based on furthest point of departure) \$6,500. One First Prize winner will receive \$5,000 in cash. Two Second Prize winners will each receive a Sony Entertainment Center, approximate retail value \$3,500 each. Three Third Prize winners will receive a Data East ABC's Monday Night Football Pinball game, approximate retail value \$3,000 each. 1,000 Fourth Prize winners will each receive an ABC Sports Monday Night Football 20th Anniversary Commemorative video, approximate retail value \$20 each. Total approximate retail value of all prizes \$45,500. Odds of winning instantly are: Grand Prize—12,000,000, First Prize—12,000,000, Second Prize—1,000,000, Third Prize—1,666,667, Fourth Prize—12,000,000. Sweepstakes open to residents of the U.S. except employees and families of Data East USA, Inc., its affiliates, subsidiaries, advertising and promotion agencies and printers. All prizes will be awarded. Limit one prize per family/household. No substitutions or cash equivalents. Taxes are responsibility of winners. Sweepstakes void where prohibited, taxed or restricted. Winners may be required to sign affidavit of eligibility and publicity and travel releases. To obtain an official winners list, send a stamped, self-addressed envelope by March 1, 1990 to Data East MVP Sports Sweepstakes Winners List, P.O. Box 8460, Beaverton, OR 97076.



1st Prize: \$5,000. 2nd Prize: A complete entertainment center featuring big screen TV, stereo and CD (VCR not shown). (2 Winners!) 3rd Prize: ABC's Monday Night Football pinball game from Data East Pinball. (3 Winners!) 4th Prize: ABC's Monday Night Football 20th anniversary videocassette featuring the greatest plays from the past two decades. (1,000 Winners!)

NO PURCHASE NECESSARY

If the prize symbol shown here exactly matches one of the prize symbols found on specially marked packages of Data East MVP Sports ABC's Monday Night Football Games, you win the prize indicated.

If you are a prize winner, claim your prize by filling in the information below and sending via certified or registered mail by January 10, 1990, to Data East MVP Sports Sweepstakes Winner, P.O. Box 8456, Beaverton, OR 97076.

Name _____

Address _____

City _____ State _____ Zip _____

Telephone _____

Signature _____ prize symbol

See Official Rules for details.



© Copyright 1989, Data East USA, Inc.

* ABC Sports and ABC's Monday Night Football are registered trademarks of ABC Sports, Inc.
* Data East MVP Sports is a trademark of Data East USA, Inc.
* Sony is a registered trademark of Sony Corporation.
* IBM is a registered trademark of International Business Machines.
* Commodore 64 is a registered trademark of Commodore Business Machines, Ltd.
* Super Bowl is a registered trademark of the National Football League.

OutRun™

GO FOR THE
DRIVE OF YOUR LIFE!



Sit down and grab on! You're driving the fastest and most beautiful machine on 4 wheels! So kick up the engine revs, downshift the gears, hear the tires squeal and grab the pavement — your computer!



Hot car. Hot music. Hot scene. beaches, cities, snowy mountains, deserts and the blonde next door will tempt you to take your eyes off the road. At close to 300 KPH, our advice to you is a 4-letter word. DON'T.

3 SMASH
ARCADE HITS NEW
FOR YOUR COMPUTER!

SEGA™

UNLEASHES ARCADE
ACTION ON YOUR
HOME COMPUTER!



Out Run. One of the biggest arcade hits ever, and the ultimate motor-sports simulation. Now you can bring the action home! With 4.4 liters under the hood, you're driving a beast of a machine only top drivers attempt to drive. Can you handle it? Maybe. Maybe not.

Space Harrier. You are Harrier, the extra-terrestrial warrior. Space is your battlefield. Your mission is to save the Land of Dragons from the vicious followers of the vile one-eyed mammoth. Grab your laser blaster because this game is 100% action, non-stop clashes, powerful combat scenes.

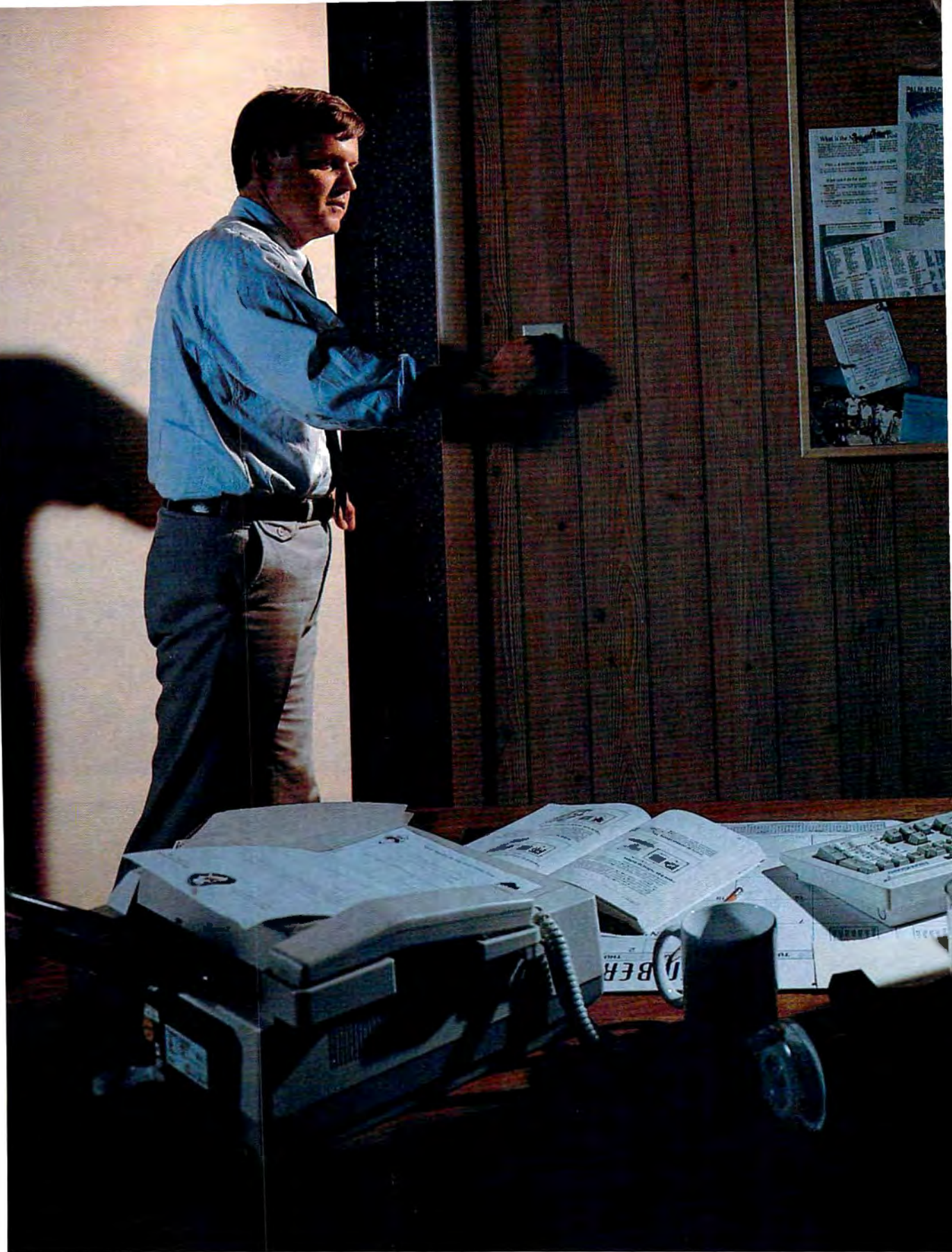
Alien Syndrome. Genetic lab overrun by hideous organic mutations! Scientists captured! Activate the lab's self-destruct mechanism! Break in and blast away the slimy hordes and the biggest, most grotesque mutants guarding the doors. Can you do it before the bomb explodes?



DISTRIBUTED BY

M I N D S C A P E

Visit your retailer or call 1-800-221-9884 for VISA and MasterCard orders. To purchase by mail, send your card number and expiration date, check or money order for \$34.95 (Out Run), \$29.95 (Space Harrier and Alien Syndrome), (C64 & C128), and \$49.95 (Out Run and Space Harrier), \$39.95 (Alien Syndrome), (Amiga and Atari ST), plus \$3.00 handling to Mindscape, Inc. P.O. Box 1167, Northbrook, IL 60065. Allow 3-5 weeks for delivery. Lawyers like this part. © 1988 Mindscape, Inc. Mindscape is a trademark of Mindscape, Inc. Copyright © 1986, 1987 Sega Enterprises, Ltd. These games have been manufactured under license from Sega Enterprises, Ltd., Japan. Out Run is a trademark of Sega Enterprises, Ltd. Commodore 64 and Commodore 128 are registered trademarks of Commodore Electronics, Ltd. Atari is a registered trademark and ST, 520ST, 1040ST, and Mega are trademarks of Atari Corporation. Amiga is a registered trademark and Kickstart is a trademark of Commodore-Amiga, Inc. IBM is a trademark of IBM Corporation. Made in U.S.A. Screen shots represent Atari ST version; others may vary.



Turn off your computer and



Photo © 1989 Mark Wagener

Take Five

KEITH FERRELL

The most important trend in computers and computer-related work is the home office, right?

Wrong.

Home office, if you examine it, turns out to be one of those high-concept marketing terms. Everyone targets that home office: It's the place you put the office equipment and supplies you buy.

Your home office is where you work.

But your home *business* is what you work on.

Think of it that way, and the place and the importance of the computer may change a bit. Your home office, for example, may well revolve around your computer. Your home business, except in a few special cases, probably shouldn't. Rather, your home business, like any business, should be focused upon your products, services, and customers. The computer must serve these needs first.

This philosophy applies almost equally to self-contained home businesses or to employees who carry materials from the outside office to the home office. Too often, though, home workers serve their computers, spending as much if not more time managing hardware and software than attending to business.

This isn't the way the computer revolution, much less the home-office counterrevolution, was supposed to work. ▸

take a walk

Take Five

Adventures in Home Business

I ran a successful home business full-time for six years, and it has continued to thrive part-time over the two years I've been at COMPUTE!. My business was writing. My products included books (*not* computer books), magazine and newspaper articles, as well as business and corporate communications ranging from newsletters to annual reports to industrial training films.



For the first three years of its operation, I ran that business on a typewriter. Admittedly, it was a very good typewriter—a Facit—but it was, nonetheless, a typewriter. Old-wave technology.

When I made the leap to computing—an XT, 640K RAM, 20-megabyte hard disk, *yeah*—I assumed that every aspect of my work and work habits would be changed as if by magic.

We all know what happens when we *assume*.

Every bit of it happened to me.

First there was the Learning Curve, on whose steepest early slopes I could be found gazing at my typewriter with unalloyed nostalgia.

Then came the Land of Lost Data, in whose marshes I cursed myself for ever *thinking* that computers could be valuable tools. My stay there wasn't lengthy and was followed eventually by the Province of Power Use, where terminate-and-stay-resident programs, WYSIWYG word processing, ramdisks, and so forth occupied an inordinate amount of my time and interest.

Finally, there was the Environment of Endless Editing. It's so *easy* to change things on a computer. Rewriting and retooling paragraphs was so simple, in fact, that it was easier to spend a morning on stuff already written than it was to get on with new work. Less copy was flowing from the computer out of my house than had flowed from my typewriter.

At some point, though, I experienced a breakthrough that changed the way I thought about computers, got my production back to normal levels, and provided me with a perspective that I think is valuable to anyone who works at home.

I turned the machines off.

Turn It OFF!

Sometimes the most important business aspect of your computer is the power switch. Sometimes the most important thing you can do for your business is to get up from your desk, leave your office, and take a walk—especially if you're one of those home office workers who becomes more enamored of the computer and its software than the work you're supposed be doing with them.

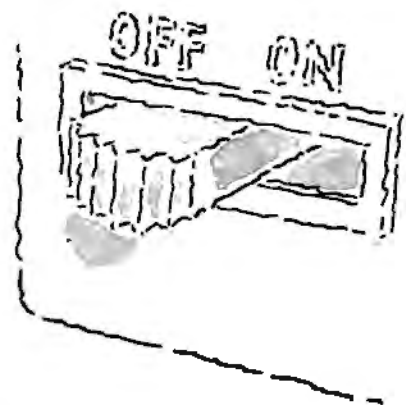
More and more often I meet people who operate businesses out of their homes. Less and less do I look forward to talking to them. Not because they're dull—give most people a chance to discuss their profession and, chances are, you'll learn something interesting.

But most of the home businesspeople I've met lately don't want to talk about their professions. They want to talk about their possessions. Specifically, they want to talk about office electronics.

Which is fine. I do it myself. I *love* computers and their peripherals and consider them to be the most important office tools ever developed. Obviously, I owe a large part of my income to computers.

But the focus of home office workers is too often placed upon the *tools* rather than the work. The best shovel in the world isn't going to make you a better ditch digger, and the most elaborate office

electronics setup in the world isn't going to make your business successful. *You* can make your business succeed. If you use computers to do it, so much the better. But the burden is on your flesh-and-blood shoulders, not on the machines' silicon and circuitry.



The idea that tools make the business is just as fallacious (and dangerous) as the old chestnut that clothes make the person.

Who's in Charge Here?

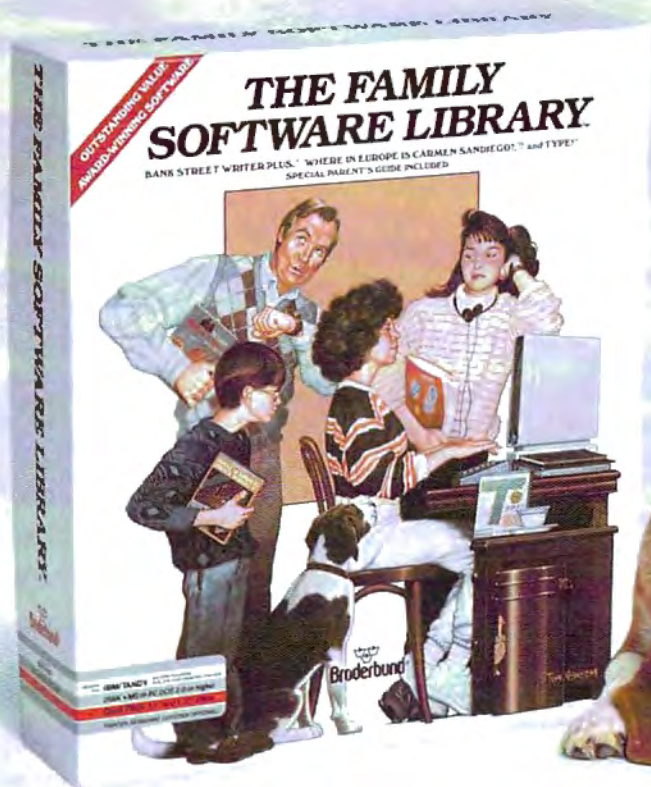
I know, for example, people who run million-dollar businesses with Commodore 64s, and people who have run businesses into the ground with 386 machines. I've read good novels written on Apple IIs and seen collections of rejection slips gathered by writers using loaded Macintoshes.

It's not a question of degree. It's a question of common sense.

Putting the machines first puts you and your business in a dangerous position. You may find yourself making computer excuses. We've all heard them. *My computer can't do that. And I'd love to do business with you, but my computer isn't set up for it.*

In some cases, those answers are appropriate. Too often, though, a business problem is blamed on the computer. The computer, in other words, dictates what the business can and can't do. That's a lot more freight than your computer should have to carry. It violates common sense and good business sense. Computer excuses

SORRY, SPOT.



Everyone but the family dog will find something to love in The Family Software Library. Each of the three programs is designed for use by adults as well as children.

Individually, the programs have won 11 awards of merit, including Outstanding Software Award and Best Learning Product.

We've also included a special Parent's Guide packed with ideas on how to get the most out of each program.

With a new family computer, the Library is an ideal starter kit. But it's definitely not just for beginners.

Each program is a proven favorite you can use for years. And you'll save \$50 off the combined prices of the three individual programs.

So give our "family" to your family. And give Spot an extra scratch behind the ears.

Bank Street Writer Plus[™]* is an easy-to-use word processor that's simple enough for kids, yet powerful enough for adult needs. It includes a 60,000-word spelling corrector and an on-line thesaurus!

Where in Europe is Carmen Sandiego?[™] Playing this thrilling

detective game, children of all ages have a great time learning geography, history and culture. (Includes Rand McNally[®] Concise Atlas of Europe.)

Type![®] helps you develop basic keyboard and typing skills. There's even a special set of exercises for younger children.

See your Broderbund dealer or call (800) 521-6263

Broderbund[®]

IBM PC[®]/Tandy[®] and Apple[®] II versions \$99.95.
*Commodore version \$69.95; comes with original Bank Street Writer, which does not include spelling corrector and thesaurus.

Take Five

can become a rut that's easy to get into and hard to get out of—until your business fails.

Common sense should also remind you not to get more electronics than your business can afford. It's easy to spend a lot of money on computers, peripherals, and software. Few home businesses, especially those just getting started, have a lot of money. Shop carefully. Think through your purchases before you make them.



You may find, for example, that a high-quality keyboard can do more for your productivity than a hundred extra megabytes on your hard disk. For small businesses, a good integrated software package may be more useful—not to mention more affordable—than a trio of the industry's top sellers.

Talk to other home businesspeople, preferably those who've overinvested in equipment. Listen to their stories.

If your neighborhood is like mine, you'll find at least a couple of prime examples of computer excuse-makers, of technology-addicts who've traded business goals for computer buzzwords. The outgrowth of this is that computers dictate how their businesses operate.

It shows. Believe me, it shows.

Gray-Flannel Output

Where it shows first is, of course, in printed materials.

I see a lot of material produced on computers. And a lot of it could use a lot of work. In the course of a week at COMPUTE!

my desk might be blessed with half a dozen clearly written and sensibly designed query letters and proposals.

During that same week I may see three times as many submissions that are a jumble of typefaces and badly positioned graphics. Just as annoying are the packages that eschew fancy fonts and graphics but present their plain-vanilla text in nowhere-near-letter-quality print, usually produced on a ribbon whose best days passed years ago.

Let's get the common-sense point out of the way first. Not everyone needs or can afford a laser printer. But no one doing business can afford to use worn-out ribbons. Whatever your printer, replace its ribbon regularly. The impression even your occasional correspondence makes is worth far more than the number of extra impressions you get from your ribbon. Don't overspend on the big items, but don't cheap out on the small ones.

For correspondence, the best rule is to remember to keep it *simple!* Letterhead is necessary; font changes within the body of the letter are not only unnecessary, they distract from the business at hand. Correspondence puts *your* business in *their* hands—make sure you give them something they'll hold onto.

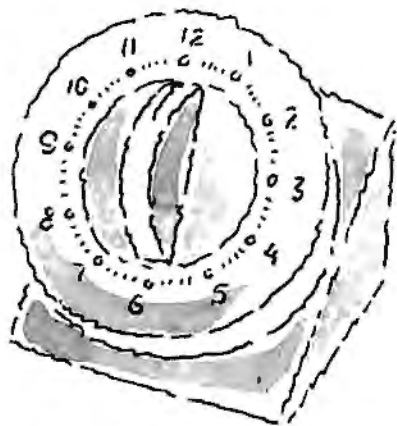
Graphics and fonts are more complex, but common sense again has a lot to offer. The best-looking desktop publishing materials in the world aren't going to help a proposal that has nothing to offer. Nor will a conservative and careful presentation harm a dynamite idea. In business—even in American business today—content counts more than appearance. Keep your content foremost in your mind.

More elaborate presentations will naturally call for more elaborate treatment. Just bear in mind that desktop design and desktop publishing are tools, not ends in themselves. Otherwise you might find yourself in the position of the chef who places all of his emphasis on the sauce, neglecting the entree it's intended to enhance.

Matters of Time

Not as immediately evident as flawed printed materials, but ultimately more devastating for your business, is the amount of time your computer requires—or, to be more accurate, the amount of time you spend at your computer.

For devices intended to make us all more efficient and productive, computers can be among the biggest time-consumers in your business. This is, in part, a result of the malleability of the materials you're working with.



The ease with which you can change things on a computer makes it easier to become dissatisfied with what you've produced. Writing is rewriting, as they say, but the computer can transform rewriting from a craft into a career. The same is true for numbers: Is your third hour of adjusting figures on that spreadsheet *really* more valuable than the first?

Go into each project with an idea of where the appropriate stopping places should be found. Then start looking for them. Don't be afraid to turn the machines off and take that walk. You'll come back refreshed and better able to see how much you've accomplished, not how much you think needs to be changed.

Another good tip is to turn, from time to time, to old-wave technology—specifically, to pencil and paper. When you finish a first draft of a business proposal, print it. Go over it with pencil in hand, making corrections and notations on paper.

Witness A Perfect Game

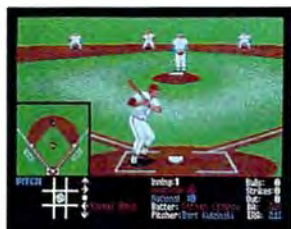
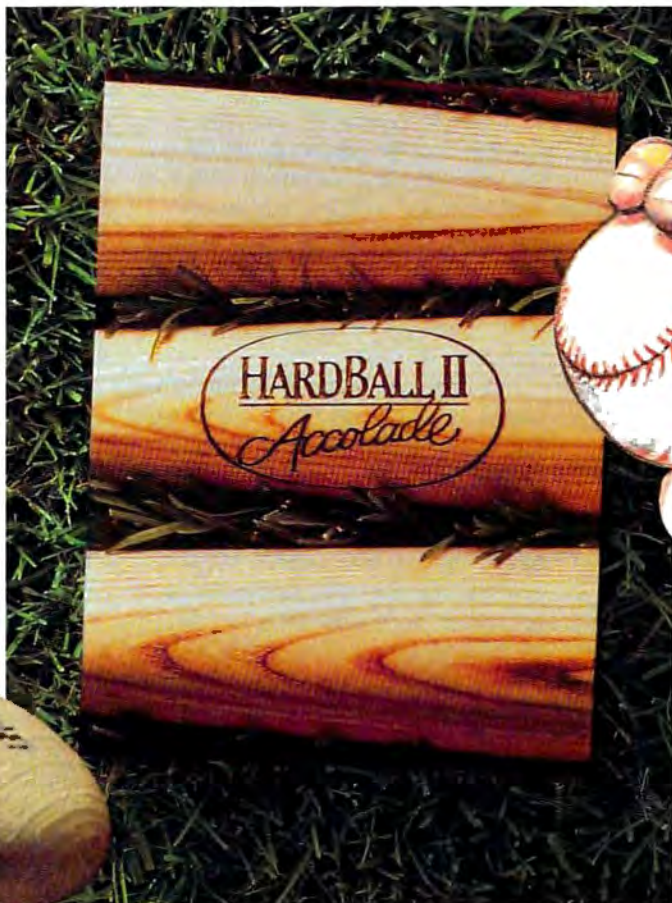
Fifty years from now, we'll be sitting on porches with our grandchildren, recounting the wondrous story...



"Yep. I saw it. I was there to play *HardBall II*."

Like Don Larson's perfect game, new *HardBall II*™ will be remembered as a milestone. A great accomplishment in baseball history.

The original *HardBall!* stands as the best-selling computer baseball game of all-time. And true to its heritage, new *HardBall II* captures the essence of the national pastime. You can almost smell the fresh cut grass



pick the runner off at second? Get caught in a rundown? Shift the defense for a dead pull hitter? Real managers have options. So do you.

And more choices. Step on the turf of seven familiar big league ballparks. Gaze out onto the field from five network TV field perspectives. Create your very own dynasty with the team editor.

HardBall II is in a league by itself. And fortunately for our grandchildren, we get to play it in its prime.

How to order: Visit your favorite retailer or call 800-245-7744.

ACCOLADE™
The best in entertainment software.™

and oiled leather as the computerized boys of summer sprint across the diamond.

But *HardBall II* goes beyond the effortless gameplay and realism that made its namesake famous. *HardBall II* offers more. Much more.

More frames of animation. So each diving catch and double play looks major league smooth.

More features. Like real baseball stats that are updated

and stored from at-bat to at-bat and game-to-game. TV-like instant replays to help relive your greatest moments. League play,



where every win brings you closer to the pennant.

More options. Should you steal with two out? Attempt to

Actual game screens from IBM PC/EGA version of the game. Other versions may vary.

Circle Reader Service Number 178

Take Five

If you bill your clients and customers by the hour or receive overtime for work brought home, you're already tracking the time you spend at your keyboard. If not, give it a try. Take a hard, honest look at how much time you spend at the keyboard, breaking the hours down into creative, productive, and nonproductive time. The results of the experiment may guide you to change your computer habits.

Set Yourself Free!

If the computer can breed bad business habits, it can also help you break them.

Having said so many conservative, if not negative, things about computers, I feel obliged to point out that the computer is without question the most valuable tool a business can have.



Even better, it's the most flexible of tools. Word processing is by far the most popular computer application. Spreadsheets and databases each make their own valuable contributions to the operation of a well-ordered business.

But the most sophisticated word processors and the most feature-laden databases and spreadsheets still deal with the more prosaic side of business—words, names, numbers. Your business—any business—rises and falls on the creative energy you bring to it. Too often overlooked in our rush to think of the home office as a place of tools, is the computer's ability to serve your creativity and, in turn, your business.

Brainstorming is a good example.

The late John D. MacDonald, among the best suspense novelists of his generation, once offered a hint for plotting a novel. Take a scratch pad and write one idea per sheet of paper. Didn't matter if the notation was a character's name, or a setting for a scene, or a plot twist. By the time you're through with the scratch pad, you should have a good sense of where your story is going and what its main elements will be.

The same free-association strategy can be just what the doctor ordered for a stubborn business problem, for laying a strategic groundwork, or for gaining control of seemingly unrelated material. And the computer makes a perfect scratch pad for cycling through mounds of ideas.

I find outliners to be the most useful tool for this type of session, although your word processor or a free-form database can serve the purpose just as well. The more fluid and flexible the software, the better. Set up a few categories—existing clients, for example, hot prospects, new services or products—and take a deep breath.

Then, for an hour or so, free-associate, typing in every relevant or even irrelevant idea that passes through your head. Scramble the categories, shuffle the notes in different directions. You'll be surprised how quickly you begin to generate new insights and how easily those insights spark others.

You can take the same approach with existing databases. Cycle through your records from different perspectives, attempting to discover what your clients have in common.

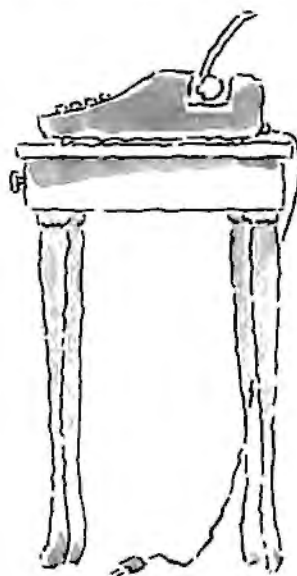
(And when you've finished your brainstorming session, save your materials, turn off the computer, and go for a walk. Your juices will still be flowing, and, freed from the keyboard, you may find even larger insights than you produced at your desk.)

In short, don't be afraid to use the computer creatively. It's capable of more than just routine work, and so are you.

In Place

My home office is perhaps my favorite place on earth. There are plenty of electronic devices that I *want*—386, fax, laser printer—but at the moment I have everything I *need*.

One thing I need, and that helps me maintain what I think is a healthy perspective, is that typewriter. I turn to it at least once a day, to type an envelope or fill in a form. It's appropriate technology, and it has its place in my office. So do pencils and paper.



So does the computer. If the computer's place is more prominent (it's on my main desk; the typewriter, on another, smaller desk off to the side), that's because the computer is now my primary business tool.

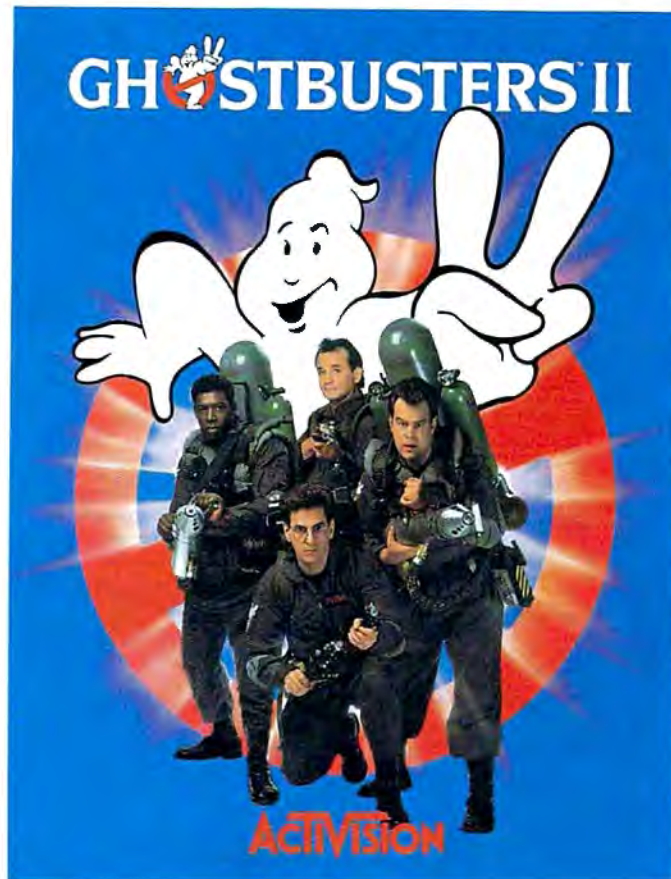
But it is a tool, a means by which I accomplish my goals. That perspective has made me a more productive computer user, I think, and has made my use of the computer more enjoyable, not to mention profitable.

More important, it has helped my business succeed and grow.

Your home office is a special place—but the success of your home business is the goal toward which that office, and all of its equipment, should be dedicated. ☐

Keith Ferrell is features editor of COMPUTE!. His home office is his castle, but he does go fishing in the moat occasionally.

Bustin' Makes You Feel Good!



Who ya gonna call? The Ghostbusters — again. Clear the courtroom of ghouls and get back in business. Bust your pals out of the insane asylum. Trap ghosts around New York City, then turn the slime to your side and march the Statue of Liberty across town to the Museum. If you've got the slimeblower, wasting the evil Vigo should be easy.



Get Ready to Believe Them.



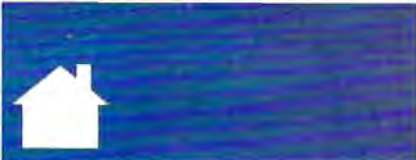
Launch Miss Liberty on a rescue mission.

ACTIVISION

See your local retailer, or call 1-800-227-6900 to order.

©1989 Activision Software. Software ©1989 Dynamix Inc. Ghostbusters™ II logo © Columbia Pictures Industries, Inc. All rights reserved.

Circle Reader Service Number 118



BUYER'S GUIDE

C A R O L I N E D . H A N L O N A N D J E F F S L O A N

YOU HAVE YOUR PC, YOUR WORD PROCESSOR, YOUR SPREADSHEET, AND YOUR DATABASE. BUT YOU NEED MORE. YOU NEED THAT PERFECT PROGRAM FOR THOSE LITTLE DETAILS AND THOSE BIG PLANS. UNLOCK YOUR ENTREPRENEURIAL SPIRIT AND GET A JUMP ON THE COMPETITION WITH THIS

HOME OFFICE SOFTWARE SAMPLER

FINANCIAL MANAGEMENT

Andrew Tobias Checkwrite Plus

MECA
IBM PC and compatibles
\$49.95

For homes and small businesses, *Checkwrite Plus* handles budgets and checking accounts. An aid to home financial management, the program lets you set up budgets, reconcile bank accounts, manage credit cards, analyze loans, forecast expenditures, plan taxes, and print loan amortization schedules. For business use, you can customize checks, prepare budgets, calculate profits and losses, track accounts, analyze loans, check business reports, and create graphs. You can export data to *Managing Your Money* and spreadsheet programs, including *Lotus 1-2-3*. The program is available on 3½- and 5¼-inch disks.

CheckFree

CheckFree Technologies
IBM PC and compatibles
Requires Hayes-compatible modem and two floppy disk drives or one hard drive
\$29.95

Using *CheckFree* and a Hayes-compatible modem, you can perform your checking transactions electronically. You complete onscreen check forms and transfer them, by modem, to the CheckFree processing center. Automatically, the payee's account is credited while your checking account is debited. The review/balance register tracks payments and

deposits and maintains your balance. The budget and reports menu helps you keep track of your income and expenses, and publishes an annual report with a month-by-month listing of payments.

Clan Practical Accountant

Sir-Tech
IBM PC and compatibles
\$79.95

Using *Clan*, people with little or no accounting experience can see a complete picture of their financial status. The program develops a financial statement for each month and traces tax deductions and income. Those who decide not to use any of the nine included charts of accounts can customize their own. The program handles up to 128 accounts with more than 4000 transactions, and all account balances are carried forward to the next year. You can format reports for your individual needs and display them on 40- or 80-column screens or print them out. You can store as many as 20 liquid-asset records on one data disk. A password option is provided. Four included guidebooks and an available hot line offer product support. The program is available on 3½- and 5¼-inch disks.

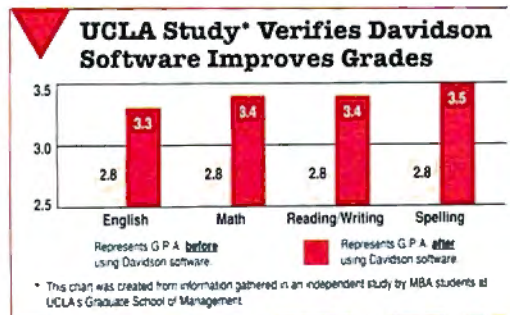
I never thought I'd have so much fun getting good grades.



Davidson Software Age Level Guide

PROGRAM	AGE LEVEL														
	3	4	5	6	7	8	9	10	11	12	13	14	15	Adult	
Math Blaster Plus!															
Math Blaster Mystery NEW!															
Large-Blaster Plus! NEW!															
Word Attack Plus! NEW!															
Word Attack Plus Spanish															
Word Attack Plus French															
Math and Me															
Reading and Me															
Grammar Gremlins															
Spell It Plus! NEW!															
Speed Reader NEW!															
Head 'N Roll															
Homeworker															

Additional data disks extend the level of the program



Call us toll free TODAY to find out how your kids can have fun and improve their grades.
800/556-6141 213/534-2250 (CA)





Enter PINPOINT information, ESC to cancel

Pay your bills electronically with **CheckFree**.

Dollars and Sense

Monogram
IBM PC and compatibles
Requires 80-column display
\$179.95

Using *Dollars and Sense*, you can create budgets, print checks, pay bills, perform automatic transactions, and view your overall financial condition. Five what-if scenarios let you experiment with different liability options, and the outcome is displayed (on a color graph if the monitor allows). A portfolio manager keeps track of stocks, and, using Monogram's *Moneylink/Moneyline* software, you can access on-line services. With Forecast, you can estimate federal income taxes and plan strategies up to five years ahead. The program contains two sets of predefined starting accounts and has unlimited account capability. Double-entry accounting functions are computed automatically. Reports can be displayed on the screen or be printed. Data can be exported to *Lotus 1-2-3* and other spreadsheet programs. On-screen help is provided.

HFS-III

Jay Gold
IBM PC and compatibles
\$49.95

A single-entry accounting program, *HFS-III* manages up to 100 asset and 100 credit accounts. Checking and credit accounts automatically update when checks are written, and checks can be printed on any standard business-sized form. You can transfer funds among accounts and enter frequently used records through model

transactions. Single CD or IRA account changes send automatic adjustments to the parent IRA account balance. You can print reports (including account activity), financial summaries, and tax-deductible expense lists. The program also features help windows, macro keys, and pop-up menus. This package is not copy-protected, and it contains three disks and a manual.

MoneyCounts 6.0

Parsons Technology
IBM PC and compatibles
Requires 384K and two floppy disk drives or one hard disk
\$35.00

This money-management package handles as many as 999 accounts and 100,000 transactions per year. Besides printing checks on pin-feed forms, it monitors cash, credit cards, and checking and savings accounts. The financial calculator determines interest rates, loan payments, and amortization schedules, while the pop-up calculator can be used for onscreen computations. You can generate and print four financial statements, three inquiry reports, and an amortization schedule. The data displays and prints in three-dimensional graph form. The program also estimates income taxes and analyzes financing options, manages mail lists, and prints labels and index cards. *MoneyCounts 6.0* is menu-driven and provides on-screen help. It offers password protection and is not copy-protected.

On Balance

Broderbund
Apple II
IBM PC and compatibles
\$59.95

On Balance tracks your financial transactions, accounts, net income, and net worth. You can view text or bar-chart displays of transactions and accounts and specify the criteria for searches. All transactions are entered through a screen that looks like a checkbook register.

Personal Portfolio Manager

Abacus
IBM PC and compatibles
Requires 384K and two disk drives; modem recommended
\$150.00

Personal Portfolio Manager is a securities and portfolio manager for home and business use. Portfolios can be updated manually by entering stock quotations or automatically while connected with Dow Jones News/Retrieval or Warner. Separate portfolios can be set up for each broker to include cash exchanges, T-bills, mutual funds, options, securities, and other transactions. Predesigned reports can be printed, or you can create custom reports for almost any need. The program automatically performs most calculations, and there is a four-function pop-up calculator. Onscreen help is available at all times. *Personal Portfolio Manager* includes a manual and is available on both 5¼- and 3½-inch disks.

Quick Check

Intracorp
IBM PC and compatibles
\$14.95

Quick Check is a basic check-writing program for tracking up to five bank accounts and an unlimited number of expense accounts. You can print on form-feed checks without exiting other programs. The program works in the resident background memory and generates files for *Lotus 1-2-3* and *dBase III*.

Quicken 2.0

Intuit
IBM PC and compatibles
\$49.95

Version 2.0 of this program contains the same check-writing and financial-management features as the original version plus some new capabilities. A bill-minder feature reminds you when it's time to pay a bill, and the program can automatically write recurring checks. Financial records are updated whenever a transaction occurs. Reports such as income and payroll tax records, budgets, and income and expense can be generated and printed out. Version 2.0 also allows an unlimited number of bank accounts and transactions. The package includes a quick-start-and-tips card, a manual, sample checks and envelopes, and a check and envelope order form. Disks are available in 3½- and 5¼-inch formats. Free telephone support is provided.

Small Business Accounting—General Ledger

Publishing International
IBM PC and compatibles
Requires 512K
\$27.95

This basic accounting program tracks your income and expenditures without the expertise of an accountant. *General Ledger* has a double-journal entry system so accounts and records may be easily viewed or edited. Balance sheets and income statements are prepared automatically.

Smart Money

Sierra
IBM PCs and compatibles
\$79.95

Smart Money controls day-to-day expenditures and plans for the financial future. The program sets up a budget, tracks bills, reminds you of payment dates, and reconciles credit-card and checking-account statements. Transactions are automatically updated to the proper accounts. This program also shows you how to save for major purchases, decide when to borrow money, and plan investments in stocks and IRAs. Reports such as profit-and-loss and investment analyses can be printed.

The Bear Essentials.



To play award-winning computer golf, you need a great set of clubs.

Country clubs.



Jack Nicklaus' *Greatest 18 Holes Of Major Championship Golf™* and its add-on course disks offer you a lifetime membership to nine of the world's most exclusive country clubs. Courses selected by the "Golden Bear," himself as the ultimate tests of golf.

The main course? Unlimited use of the most challenging 18 holes in the majors, each hand-picked



Boot-up Jack Nicklaus Presents *The Major Championship Courses Of 1989™* and take on the toughest tournaments of the year. Hit it big at Oak Hill Country Club, New York. Take



on hills, heather and gorse at Royal Troon Golf Club, Scotland. Bring your water wings and sand pail to Kemper Lakes Golf Club, Illinois.

Then it's time to pack your putter.



The add-on *International Course Disk™* jets you off to three world-class layouts designed by Jack. Battle par on such faraway fairways as the Australian Golf Club, Japan's St. Creek Golf Club and Saint Mellion Golf & Country Club in England.

All told, you get nine exceptional bastions of golf — without the outlandish membership dues and outrageous blazers.

Now... isn't it time for a new set of clubs?

How to order: Visit your favorite retailer or call 800-245-7744.



by the master himself. Then avoid greens fees on two more Nicklaus designed courses: Castle Pines, Colorado and Desert Mountain, Arizona.

And that's just the Bear minimum.

ACCOLADE™
The best in entertainment software.™



Plan your financial strategies and goals with *WealthBuilder*.

WealthBuilder

Reality Technologies
IBM PC and compatibles
\$249.95

This money manager is built around three modules. First, you test yourself with the Money Quiz. Second, you study the money tutorial to learn the techniques of productive money investment. Third, *Wealth-*

Builder by Money Magazine determines your best strategies. After establishing your monetary goals, the program decides where to deposit your money and the best way to make investments in such things as mutual funds, stocks, gold, and limited partnerships. *WealthBuilder* uses profile sheets to track statistics and keep your budget and finances in order.

FORM MAKERS

EZ-Forms Lite

EZX
IBM PC and compatibles
Requires 320K
\$49.00

EZ-Forms Lite lets you create, fill in, print, and revise business forms. Available graphics include borders, lines, shades, and combs. Other features include autotime, autodate, sequence numbering, and block cut, paste, and copy.

FormSet

SoftView
Apple IIGs
IBM PC and compatibles
Macintosh
Requires 768K and two drives (Apple): 640K, hard disk, and graphics adapter compatible with Microsoft Windows (IBM)
\$95.00

FormSet's stock of 65 pre-designed business forms allow you to automatically insert information in individual or linked forms. The forms are divided among five menus: general, accounting, payables,

personnel, and sales. Individual forms cover everything from inventory summary to payroll records. The program also creates company letterheads and accepts logos transferred from any standard paint program. The mouse- or keyboard-driven program accommodates most printers.

PerForm 2.0

Delrina
IBM PCs and compatibles
Requires 640K, hard disk, and CGA, EGA, VGA, MCGA, or Hercules
\$294.95

PerForm 2.0's WYSIWYG interface lets you create, edit, and print forms—from questionnaires to flowcharts. Customize them with boxes, lines, varying fonts, and scaled graphics. Fill in your form using the WYSIWYG text-based format or import data from ASCII or dBase files. The program automatically fills in dates and times, serial numbers, page numbers, and checkmarked boxes.

You can play Hidden Agenda™ for fun. But Ortega and Noriega are playing it for keeps.

...after you play for awhile, all those headlines you read might start to make a little more sense!

Steve Williams
Home Office Computing

It's a superb game!

John Dvorak
San Francisco
Examiner*

For IBM PC, Tandy and compatibles,
Macintosh 512 KE, Plus, SE, II



...go as far to the right or left as you want—
as long as you keep a close eye on your allies and
enemies!

Owen Linderholm
Computer Currents

It's for the little world
leader in all of us!

Andrew Tobias
Author, *Managing
Your Money*

...you know you've had fun, but you also get the sneaking
suspicion that you've been tricked into taking a college-level
political science seminar on developing a stable government in
a shaky region!

David Bunnell
MacWorld

Can you survive the challenge of leadership in Central America?
Get *Hidden Agenda* at your Springboard Software dealer or call
1-800-445-4780, Ext. 8106.

Springboard is a registered trademark and Hidden Agenda is a trademark of Springboard Software. © 1989 Springboard Software. © 1989 TRANS Fiction Systems Corp. Macintosh and IBM are registered trademarks of Apple Computer Inc. and International Business Machines Corporation, respectively. *Reprinted with permission from the San Francisco Examiner © 1989.

SPRINGBOARD

7808 Creekridge Circle, Minneapolis, MN 55435

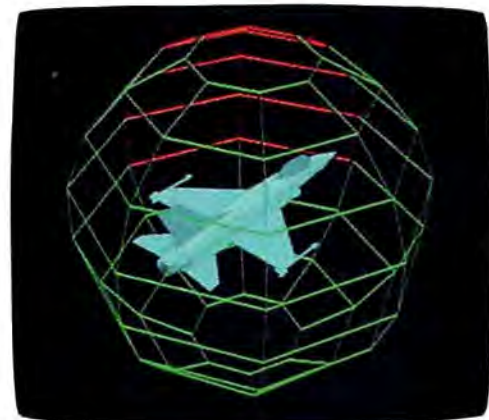
Circle Reader Service Number 123

PERHAPS YOUR FUTURE'S UP IN THE AIR. AND YOU JUST DON'T KNOW IT.



If you're undecided but looking for a future that's exciting, rewarding

and full of possibilities, allow us to point you in the right direction: Up. In the Air Force. We've got openings in to-day's fastest-rising careers. From computers and communications to electronics and avionics. Over 200 in all. But don't let the number of choices intimidate you. If you're not already sure about which field you want, our unique screening and orientation process can help. It evaluates your strengths and interests, and helps you find a career that makes the most of them. You may discover talents (and valuable job opportunities) you never knew you had. Of course, you'll get top-quality training and guaranteed hands-on experience in your area of choice or aptitude.



Plus the chance to continue your education as you build a career. You can pick up college credits or even a degree in the fully-accredited Community College of the Air Force.

So whatever your dreams are, if you want to get them off the ground, call 1-800-423-USA.F.

It could be one of the more uplifting things you ever do.

AIM HIGH.



ADDRESS BOOKS

Address Book Plus

Power Up
IBM PC and compatibles
\$49.95

Address Book Plus can handle most small-business mail needs ranging from bulk mail to personal greetings. You store names, addresses, phone numbers, birthdays, and other information. The program lets you browse, edit, delete, print, and import or export records with a few keystrokes. The program will search and sort your addresses by character combination, name, company, zip code, profession, date, and more. You can print your list on a variety of paper sizes for address books, rotary files and index cards, mailing labels, and envelopes. Using the program's subdirectory capability, you can sort and list even more specific information. The program manages up to 75,000 addresses.

Addresselope

Barry A. Watzman
IBM PC and compatibles
\$46.95

You can use *Addresselope* to print addresses on as many as four different envelope sizes using eight type fonts. You can capture addresses from within documents, print from a choice of predefined return addresses, and print advertising or promotional messages on the envelope. *Addresselope* can store up to 16 addresses before printing. The program isn't copy-protected, and it supports any printer which can feed and print envelopes.

Fastpak Mail

BLOC Publishing
IBM PC and compatibles
\$79.95

Fastpak Mail tracks and sorts addresses, names, and phone numbers for mailings ranging from overnight packages to bulk mail. You can store up to 64,000 names, print labels,

merge mail, and sort ZIP codes according to bulk-mail regulations. You can print return-address labels, envelopes, rotary index cards, file-folder labels, invoices, checks, newsletters, and subscriber lists. *Fastpak* lets you merge names and addresses into the body of a letter or convert lists from other programs. Additional features include an automatic proper-name capitalizer, network support, overnight-mail addressing, and compatibility with most word processors. The program comes on 3 1/2- and 5 1/4-inch disks.

Influence

Vartec
IBM PC and compatibles
Requires 385K and a hard disk
\$98.00

Influence can store more than 10,000 names, addresses, phone numbers, and descriptions. You can access the information by category, keyword, or name. The program will also automatically dial any phone number in your file. Using keywords, you can categorize and specify each entry and then sort or search those names later. You may also search your list using personal

information notes or dates. *Influence* lets you store up to four phone numbers per person and make notes at each entry pertaining to your most recent conversation.

Mailing and Phone List

Publishing International
IBM PCs and compatibles
\$24.95

Mailing and Phone List is a standard mailing program that lists addresses and phone numbers, dials automatically, and prints envelopes and labels. You can print, search, and sort alphabetically by name, category, ZIP code, or text string. The program is mouse-compatible.

MyBASE

Useful Software
IBM PC and compatibles
Requires 384K
\$89.95

MyBASE can store and print names and addresses, catalog and search data, access various utilities, and generate quick-reference material. You can print the addresses and names in many formats, including Rolodex cards and Day-Timer pages.



CHEF'S ACCOUNTANT

STRETCH YOUR FOOD DOLLAR\$ WITH

The most powerful home food management software available!

Chef's Accountant turns your PC into a complete home food manager. You can plan more nutritious meals and save money by gaining control of your food dollars.

VERSION 1.3 FEATURES:

Recipe Manager

- Use our recipes or add your own
- Locate recipes by name, ingredient, even nutritional content
- Print recipes on standard sheets or 4x7 index cards
- Import/Export recipes (Converts recipes from other formats)
- Resize recipes

Grocery Manager

- Maintain complete grocery inventories
- Monitor shopping history and costs
- Organize your discount coupons
- Print inventory and shopping lists
- Historical cost reporting

Communications

- Send/Receive recipes over telephone
- Automatic dial and log on features

Chef's Handbook

- Helpful tips on tracking nutrition, exercise, and meal planning
- Personal Text Editor

Additional Features

- Full Color Menus with Light Bar Selection
- Online Context Sensitive help
- Pop-Up Calculator
- Full Featured Text Editor
- DOS Window
- User Definable Drive/Directory Setup

SYSTEM REQUIREMENTS: IBM PS/2, PC, XT, AT, or 100% compatible. 512K RAM 2-Floppy Drive or Hard Drive and 1 Floppy Drive. MS-DOS 2.0 or higher

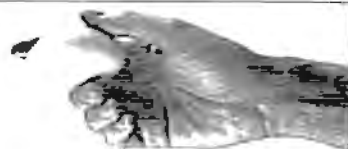
Add \$5 S/H 30-day money back guarantee. MC, VISA, CH, M.O.
Texas residents add 7% sales tax to order. call or write to:

\$59.95
only

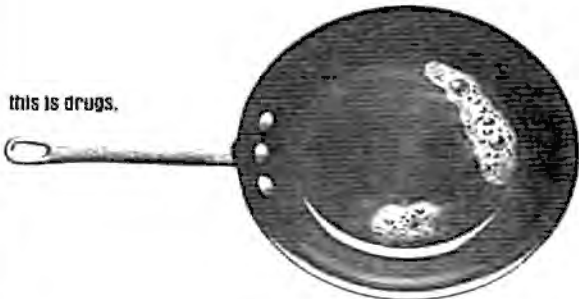
ONLINE  SEARCH

P.O. Box 300247 • Arlington, Texas 76010 • (817) 468-8465

This is your brain.



this is drugs.



this is your brain on drugs.



Partnership For A Drug-Free America



N.Y., NY 10017



BOMB BLAST SUIT
Shields you from explosions.



FLASHLIGHT
Illuminates underground passages.



MINES
Set them in key locations. Up to three per screen.



INGRAM MAC-II
Semi-automatic submachine gun. Silencer optional.

GEAR UP



BERETTA M92F
Single action hand gun. Silencer optional.



BODY ARMOR
Will reduce damage by 50%.



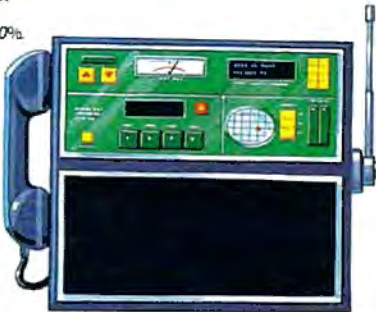
ROCKET LAUNCHER
Destroy enemy equipment from a safe distance.



ANTIDOTE
Neutralizes poisons.



GAS MASK
Only means of survival in gassed out areas.



TRANSCIVER
This is your most valuable piece of equipment. With it, you'll receive vital information from headquarters telling you where to find essential weapons and supplies.



REMOTE CONTROL MISSILE
Guide it with your control pad.



OXYGEN TANK
Keeps you breathing underwater.



INFRARED GOGGLES
Used to detect infrared alarm sensors.



COMPASS
Helps you navigate through uncharted deserts.



ANTENNA
Allows you to use transceiver despite enemy jamming devices.



PLASTIC EXPLOSIVES
For perfectly timed explosions.



BINOCULARS
Allow you to see one screen ahead without risking your life.



GRENADE LAUNCHER
Launch deadly grenades into strategic locations.



MINE DETECTOR
Discovers location of enemy mines.



IRON GLOVE
Allows you to locate hidden doors with a single punch.

METAL GEAR™

In this intense maze game, your mission is to destroy the ultimate weapon: METAL GEAR. You'll accomplish it by winding your way through five enemy strongholds, seeking vital information from hostages and searching for essential weapons and equipment while occasionally tripping hidden alarms.

If you hope to survive, rely heavily on your transceiver, your map and your wits. And a word to the wise: don't believe everything you hear.



Screen shown: IBM®



Screen shown: Amiga®



Screen shown: Commodore®



Screen shown: IBM

Metal Gear is now available for IBM and Commodore. Available for Amiga in 1990. ULTRAGAMES® is a registered trademark of Ultra Software Corporation. METAL GEAR™ is a trademark of Ultra Software Corporation. IBM® is a registered trademark of International Business Machines, Inc. Commodore® is a registered trademark of Commodore Electronics Ltd. Amiga® is a registered trademark of Commodore-Amiga, Inc. ULTRAGAMES, 900 Deerfield Parkway, Buffalo Grove, IL 60089-4510. Game Counselors can be reached at (312) 215-5111. © 1989 Ultra Software Corporation.

LABELS

LabelPro

Avery
IBM PC and compatibles
Requires 512K and CGA, EGA,
VGA, MCGA, or Hercules card
\$99.95

LabelPro lets you preview and print almost any label with a choice of fonts ranging from 6 to 96 points. The program also lets you add clip art and import company logos and other images. *LabelPro* can produce transparencies and generic labels such as *Please Rush* and *Parcel Post*.

Labels!

POP Computer Products
IBM PC and compatibles
\$29.95

Labels! can store up to 4000 names and addresses in as many as ten formats to let you create and print the labels you want. The program's Lookup Engine searches for partial character combinations if you can remember only part of a listing. The grabber feature lets you enter an address once and save the data to later print on an envelope. The program imports and exports ASCII text files.

Labelworks

Zephyr Services
Apple II
IBM PC and compatibles
\$29.95

Labelworks provides several formats for producing labels ranging from name tags to labels for boxes and containers. You use the fill-in forms on the screen to generate standard-size labels one, two, three, or four columns across. Lists can be organized for mailings or general reference. Expanded-size characters to increase readability can be printed on a dot-matrix printer.

PC Names and Labels

Data Easy
IBM PC and compatibles
\$100.00

Using *Names and Labels*, you can enter and search data in fields such as name, address, city, state, ZIP code, phone, purchase, date, selected codes, and more. You can pick any combination of attributes to list and print on labels. For a little more money, other versions of *Names and Labels* give you more data fields and increased versatility.

Data Manager

Timeworks
IBM PC and compatibles
\$39.95

Data Manager acts as the background support for your business computing by filing, storing, sorting, retrieving, evaluating, and updating information. You can use the program as a stand-alone, or you can interface it with other compatible programs to produce reports, documents, and form letters. Other features include a numerical calculator, built-in graphics, database capability, and a name-and-address file. The program uses pull-down menus and password protection.

Magellen

Lotus
IBM PC and compatibles
Requires 512K
\$195.00

This search-and-sort hard disk utility can streamline your disk management. *Magellen* locates any stored information on your hard disk with specified concepts, phrases, or words and then lets you edit. The program also gathers portions of files from different applications into a single file. *Magellen* reads ASCII files stored on a hard disk as well as most of the major software applications including *Lotus 1-2-3* and *WordPerfect*.

MemoryMate

Broderbund
IBM PC and compatibles
\$69.95

MemoryMate neatly files away everything for you. Whether it's a phone number, name, idea, strategy, or reminder, this program will hold it for you until you want it again. To call up the desired information, you enter a word or string. *MemoryMate* then lists any files with text that matches your entry. The Reminder option can schedule any file to appear on a specified date. *MemoryMate* runs as a stand-alone program or can be interfaced with *DeskMate*.

Norton Utilities Advanced Edition

Peter Norton Computing
IBM PC and compatibles
\$150.00

Peter Norton Computing added the *Disk Doctor* to its *Norton Utilities* for management and organization of disk files. The *Disk Doctor* can help you diagnose and correct a variety of floppy and hard drive ailments, even if you have no technical expertise. The package also includes a directory sorter and the Norton Control Center to change the parameters of your computer. Other features let you format disks, create interactive batch files, simplify utility loading, and test and protect disks.

Partner

Timeworks
IBM PC and compatibles
\$39.95

Partner takes all the clutter that crowds your desk and puts it in your computer. You get an appointment calendar and scheduler, memo pad, phone book, autodialer, address book, alarm clock, financial calculator, typewriter, and *SwiftDOS*. You can operate *Partner* simultaneously from other programs without switching windows or files. The memo pad acts as a small word processor and can be used to write letters or create documents. The financial calculator can calculate interest, annuities, loan amortizations, standard deviation, and correlation. With *SwiftDOS*, you can access DOS commands while still in another program.

PC Logbook

Kerner Software
IBM PC and compatibles
\$69.95

You can track the time you spend on projects, support billing claims, and document your home office computer work for tax deductions with *PC Logbook*. This time-management program tracks the time spent on phone calls and other business tasks and runs while you work. The program begins when you assign a project name to a task. Free technical support is available with the program.

LABOR SAVERS

Backup Pro

Software Toolworks
IBM PC and compatibles
\$99.95

Backup Pro offers security for unexpected hard drive crashes and burns. Using a mouse, Lotus-style keystrokes, or DOS commands, *Backup Pro* can back up ten megabytes of information in four minutes. The full-directory display lets you point and shoot your backup selections either individually or as a group.

Business Card Maker

Intracorp
Amiga—\$59.95
Apple II—\$14.95
Atari ST—\$59.95
Commodore 64—\$14.95
IBM PC and compatibles—\$14.95
Macintosh—\$59.95

Business Card Maker offers a WYSIWYG interface, graphics and text editing, 12 typefaces, and three type sizes to help you create the business card of your choice. You can create a logo of your own or use one of the prestored logos. You can choose from hundreds of card designs and print in color with a color printer.

ALERT! EMBASSY OFFICIALS HELD

HOSTAGE



- Command a six person strike force
- Run, rappel from the roof, search...destroy
- Find the hostages; get them out safely



This rescue must be executed with surgical precision. It requires nerves of steel, strategy, deadly aim.

Three difficulty levels — each with five mission time limits — add excitement and playability. TV quality graphics insure ultra realism.

Ripped straight from today's headlines — it's the world's deadliest game!

MINDSCAPE

Visit your retailer. To purchase by mail, send your credit card number and expiration date, or send a check or money order to Mindscape Inc., P.O. Box 1167, Northbrook, IL 60065. C64™/128™: \$29.95; IBM*, Tandy*, & Apple* II/GS: \$39.95; Amiga™, Atari™ ST, & Macintosh™: \$44.95. Please add \$3.00 handling and allow 3-5 weeks for delivery. Lawyers like this part. Copyright © 1989 Infogrames. C64 and 128 are trademarks of Commodore Electronics Ltd. IBM is a registered trademark of International Business Machines Corp. Tandy is a registered trademark of Tandy Corp. Apple is a registered trademark of Apple Computer, Inc. Amiga is a trademark of Commodore-Amiga, Inc. Atari is a registered trademark of Atari Corp. Macintosh is a trademark of Apple Computer, Inc. All rights reserved.

Small Business Inventory

Publishing International
IBM PC and compatibles
\$24.95

You can keep track of your furniture, equipment, supplies, and merchandise with the *Small Business Inventory*. The program records serial numbers, equipment value, warranty information, and more. You can search and sort the records through a variety of fields and print single or multiple records. Records may also be written to disk as a file and added to letters or reports. The program is mouse-compatible.

Twist and Shout

Software Toolworks
IBM PC and compatibles
Lotus and *Quattro* add-in versions—\$59.95
Add-in version for *VP Planner Plus*, *Framework*, *Symphony*, *Lotus*, and *Quattro*—\$79.95

This program combines three computing utilities into one. Twist prints spreadsheets or text files horizontally across your computer paper. It provides type variables such as bold, underline, italics, and color. Shout uses a set of 52 graphics and varying typefaces to print oversized alphanumeric characters and graphics for banners. Disk Spooler II lets you send a file to a printer or to disk while you work on your computer. You can set margins, paper size, character and line spacing, and whether you want bidirectional printing. Other commands let you suspend, restart, and clear the print spool file on Disk Spool II.

ViewLink

Traveling Software
IBM PC and compatibles
Requires 384K; hard disk recommended
\$149.95

This file organizer and program management system helps you organize your hard disk system. Once *ViewLink* is installed, it creates a series of views—a collection of related items. You can build views based on filenames, applications, dates, or file types; or you can combine your criteria for even more detailed views. Views can also be built manually by linking or unlinking any number of items with any individual view or set of views. □

PUBLISHERS' NAMES AND ADDRESSES

For more information about any product in the buyer's guide, contact the publisher at the address and phone number listed below.

Abacus

5370 52nd St. SE
Grand Rapids, MI 49508
(616) 698-0330

Avery

818 Oak Park Rd.
Covina, CA 91724-3624
(818) 915-3851

Barry A. Watzman

1206 Canteberry Ln.
Mansfield, OH 44906
(419) 756-5295

BLOCPublishing

800 SW 37th Ave.
Suite 765
Coral Gables, FL 33134
(800) 888-2562

Broderbund

17 Paul Dr.
San Rafael, CA 94903
(800) 527-6263
(415) 492-3500

CheckFree Technologies

720 Greencrest Dr.
Columbus, OH 43081
(614) 898-6000

Data Easy

18 Hector Ln.
Novato, CA 94949
(415) 883-2300

Delrina

10 Brentcliffe Rd.
Suite 210
Toronto, Ont.
Canada M4G 3Y2
(416) 423-0456
(716) 835-0405

EZX

P.O. Box 58177
Webster, TX 77598
(713) 280-9900

Intracorp

14160 SW 139th Ct.
Miami, FL 33186
(800) 468-7226
(305) 252-9040

Intuit

540 University Ave.
Palo Alto, CA 94301
(415) 322-0573

Jay Gold

P.O. Box 2024
Des Moines, IA 50310
(515) 279-9821

Kerner Software

3 Katonah Trail
Andover, NJ 07821
(201) 539-8804

Lotus

55 Cambridge Pkwy.
Cambridge, MA 02142
(617) 577-8500

MECA Ventures

355 Riverside Ave.
Westport, CT 06880
(203) 226-2400

Monogram

531 Van Ness Ave.
Torrance, CA 90501-1420
(213) 533-5120

Parsons Technology

375 Collins Rd. NE
Cedar Rapids, IA 52402
(319) 395-7300

Peter Norton Computing

100 Wilshire Blvd.
9th Floor
Santa Monica, CA 90401-1104
(213) 319-2000

POP Computer Products

P.O. Box 1833
Evergreen, CO 80439
(303) 674-0200

Power Up

P.O. Box 7600
San Mateo, CA 94403
(800) 851-2917

Publishing International

333 W. El Camino Real
Suite 222
Sunnyvale, CA 94087
(408) 738-4311

Reality Technologies

3624 Market St.
Philadelphia, PA 19104
(800) 346-2024
(215) 387-6055

Sierra

P.O. Box 495
Coarsegold, CA 93614
(209) 683-6858

Sir-Tech Software

P.O. Box 245
Charlestown Ogdensburg Mall
Ogdensburg, NY 13699
(315) 393-6633

SoftView

4820 Adohr Ln.
Suite F
Camarillo, CA 93010
(800) 622-6829

Software Toolworks

13557 Ventura Blvd.
Sherman Oaks, CA 91423
(818) 885-9000

Timeworks

444 Lake Cook Rd.
Deerfield, IL 60015
(312) 948-9200

Traveling Software

18702 N. Creek Pkwy.
Bothell, WA 98011
(206) 483-8088

Useful Software

22704 Ventura Blvd. #145
Woodland Hills, CA 91364
(800) 521-7225, ext. 5
(800) 321-7645, ext. 5
(in California)

Vartek

3 Regent St.
Livingston, NJ 07039
(201) 740-1750

Zephyr Services

1900 Murray Ave.
Pittsburgh, PA 15217
(800) 533-6666
(412) 422-6600

MOST GAMES WEAR OUT AFTER A FEW WEEKS. OURS LASTS 1,500 YEARS.

Finally there's a game that's still an adventure years after you buy it: *Where in Time is Carmen Sandiego?*[®]

Unlike your typical fly-it, drive-it, stomp-it game, this brand new release in Brøderbund's award-winning series relies on your most important reflex: Your nimble mind.

As a detective you must solve ingenious crimes that have been committed by the devious and cunning Carmen Sandiego gang. They can be anywhere in the last 1,500 years. And you don't have much time.

With a Chronoskimmer 325i, you hurtle back through the ages. Pursuing Carmen through Medieval Europe. The Incan Empire. Imperial Japan. And on and on. The more cases you crack, the tougher they get.



VGA graphics give you the most arresting scenes ever put on a computer screen.

Running on IBM[®] PC/Tandy[®] or Apple[®], *Where in Time is Carmen Sandiego?* also comes with the *New American Desk Encyclopedia* and a poster of the whole gang to keep you hot on the trail.

So see your dealer or call Brøderbund at 800-521-6263. For \$44.95 (suggested retail), get the adventure game that beats them all. Time after time.



Brøderbund[®]

**SPECIAL
10th ANNIVERSARY
OFFER**

FREE*

COMPUTE!'s SHAREPAK for IBM PC and Compatibles

Compiled by Don Watkins

Each month, *COMPUTE!* brings you top-quality shareware, hand-picked for your home-computing needs. All required documentation is on the disk. You pay just one low price for the complete package—and this month, to celebrate *COMPUTE!*'s ten-year anniversary, it's **FREE!**

COMPUTE!'s November disk offers two handy home-office applications: a full-featured accounts manager and an easy-to-use database for tracking clients.



CheckMate Version 1.70



Contact Manager

Need help managing your cash flow or balancing the company check-book? *CheckMate* can do this and more. Maintain multiple checking and savings accounts for your small business or personal finances. Reconcile your bank statements quickly and easily. Compile and print transaction registers and account reports, or print your own checks without computer-form checks. Pull-down menus, pop-up windows, and context-sensitive help screens guide you each step of the way. Supports mouse control and all video adapters. Requires 256K and DOS 2.0 or higher.

Keep track of all your contacts in four easy lists. Enter data on each client, add your own codes for tracking and follow-up, and note each time a contact is made. Jot down comments in the free-form note field attached to each entry. You can store a client record in one list or all four, if you like. Search and print by data field, or use *Contact Manager* to print mailing labels. Supports all graphics displays. Requires 256K and DOS 2.0 or higher.

Take advantage of this special introductory offer—both of the above programs on one 5¼- or 3½-inch disk **FREE!**
*You just pay shipping and handling charges.

Mail the coupon today to receive your **FREE*** *COMPUTE!* disk.
Disks available only for IBM PC and compatible computers. Offer good while supplies last.

YES! Send me the *November 1989 COMPUTE! SHAREPAK* for my IBM PC or compatible. I pay only shipping and handling charges to receive this **FREE*** offer.

Please indicate how many disks of each format you'd like:
_____ 5¼-inch disk _____ 3½-inch disk

Name _____

Address _____

City _____ State/Province _____ ZIP/Postal Code _____

Shipping and handling \$1.95 per 5¼-inch disk
\$2.95 per 3½-inch disk

Total amount enclosed \$ _____

Mail coupon with payment to
COMPUTE!'s SHAREPAK
P.O. Box 5188
Greensboro, NC 27403

Payments must be in U.S. dollars by a check drawn on a U.S. bank.
Please allow 4-6 weeks for delivery. For delivery outside the U.S. or Canada, add \$1.00 for surface mail or \$3.00 for airmail.

Shareware Agreements

COMPUTE!'s SHAREPAK is a collection of shareware and public domain programs. Public domain programs are free; you can use them and pass them around as much as you like. On the other hand, shareware isn't free; you pay the shareware author if you decide to use the program. Here's how shareware works.

If you like a program on the disk, you should register yourself directly with the shareware publisher (not with *COMPUTE!*). Each program includes a license agreement that explains who to contact and how much the program costs. Shareware prices are very low compared with similar commercial programs.

Registering means you pay the software author for a program he or she developed, plus it entitles you to technical support and information about upgrades. You'll find shareware publishers are easy to work with and eager to help.

Don Watkins is the sysop of CompuServe's IBM NET. He can be reached at CompuServe 76703,750 or P.O. Box 919, Forestville, California 95436.

M1 Tank Platoon.

Armored warfare the way it really happens.



You've never known tank combat like this before.

Because no other game captures the thrills and strategy of real armored warfare like M1 TANK PLATOON. Only M1 TANK PLATOON lets you control a full platoon of four tanks, not just one. And only M1 TANK PLATOON lets you conceal your tanks behind hills, like a real commander would, using authentic rolling terrain!

Feel the excitement and the pressure as you lead 16 men into battle with the Warsaw Pact. Jump into any tank and take over any position! Master detailed instrumentation and high-tech weapons. Zoom in on the 16,000 acre battle map, and call for air and artillery support. All with the spectacular Super 3-D Graphics that made us famous.

MicroProse is the first, last and best name in combat simulations. We've advanced our reputation once again with M1 TANK PLATOON.

After you've jumped into real tank combat with M1 TANK PLATOON, anything else will seem like child's play.



Features:

Control four awesome M1 tanks!

Command 16 men! Jump into any tank and take over as commander, gunner or driver!

Authentic rolling terrain for real-life maneuvers!

Call for infantry, air or artillery support.

See everything on battle map with 5 levels of zoom!



Spectacular Super 3-D Graphics!

High-tech weapons!

Authentic instrumentation!

Unlimited variety of terrain, weather, battle situations.

Constant stream of landmarks and targets for real life battle action!

You choose when to promote and decorate your men!



Watch for "The Major's Mission" Contest coming to your favorite retailer November 1!

Can't find M1 TANK PLATOON? Call (301) 771-1151 x208, weekdays 8:30 am to 5:30 pm Eastern Time and order by MC/Visa/AmEx, or mail check/money order for \$69.95 (specify disk size). U.S. funds only. MD residents add 5% sales tax. MicroProse Software, Inc., 180 Laketown Drive, Hunt Valley, MD 21030. For IBM-PC/XT/AT/PS2/Tandy/Compaq/Amiga. Requires 384K RAM. Supports MCGA/VGA, EGA, CGA and Hercules graphics.

MICRO PROSE
Just For Fun.



RESOURCES

TAP THE WEALTH OF HOME OFFICE INFORMATION

ONLINE SERVICES

If you have a modem, you can find valuable information through many telecommunications services and bulletin board systems. Start with these companies.

Try logging on to Prodigy's Money Talk bulletin board and find the Your Own Business section. People share all kinds of tips and advice, as well as services and support. For information, contact Prodigy Services at (800) 822-6922, extension 205.

The business section of Delphi (3 Blackstone Street, Cambridge, Massachusetts 02139) is well rounded. Commodity quotes, Donoghue Money Fund reports, and Security Objective Services (Stock Advisory) are only a small portion of what is offered. Call (800) 544-4005.

The Working from Home Forum on CompuServe is a place for small-business people to gather electronically. Contact CompuServe at P.O. Box 20212, Columbus, Ohio 43220; (800) 848-8199, or (614) 457-0802 in Ohio.

For a comprehensive news service, try NEWSNET (945 Haverford Road, Bryn Mawr, Pennsylvania 19010). AP DataStream Business News Wire, American Banker, and Bechtel SEC Filings Index are just a few of the specialized categories. Call (800) 345-1301.

Orbit Search Service (8000 Westpark Drive, McLean, Virginia 22102) offers access to large databases. Of particular interest to the homemaker are the U.S. Patent, U.S. Trademark, and accounting sections. Call (800) 456-7248.

PUBLICATIONS

Good reference books are priceless. You can find many useful selections in catalogs and bookstores. Several suggestions are listed below.

Business Applications with Microcomputers, by Jeanne M. Follman; Prentice Hall Computer Books, Simon & Schuster, One Gulf + Western Plaza, New York, NY 10023; (212) 373-8140

MacOffice, edited by Gregg Keizer; COMPUTE! Books, Chilton Book Company, Chilton Way, Radnor, PA 19089; (800) 345-1214

InfoWorld Consumer Product Guide, edited by Jeff Angus; Brady Books, distributed by Prentice Hall Trade, Simon & Schuster, One Gulf + Western Plaza, New York, NY 10023; (212) 373-8140

Working from Home, by Paul and Sarah Edwards; Jeremy P. Tarcher, distributed by St. Martin's Press, 175 Fifth Ave., New York, NY 10010; (800) 221-7945

The Start-up Entrepreneur, by James R. Cook; Harper and Row, Perennial Library, 10 E. 53rd St., New York, NY 10022; (800) 242-7737

How to Run a Business out of Your Home, by Steve Kahn; Longmeadow Press, 201 High Ridge Rd., Stamford, CT 06904; (203) 352-2110

The Self-Employment Test, by Steve Kahn; Longmeadow Press, 201 High Ridge Rd., Stamford, CT 06904; (203) 352-2110

How to Write a Winning Business Plan, by Joseph Mancuso; Prentice Hall Press, Simon & Schuster, 15 Columbus Cir., New York, NY 10023; (212) 373-8140

Fortune Magazine; The Time Inc. Magazine Company, Time & Life building, Rockefeller Center, New York, NY 10020-1393; (800) 541-1000

Entrepreneur Magazine; 2392 Morse Ave., Irvine, CA 92714; (714) 261-2325

Equipment

If you're looking for mail-order equipment, get a copy of *The Computer Shopper* (Coastal Associates Publishing, 5211 South Washington Avenue, P.O. Box, Titusville, Florida 32781). Most newsstands and bookstores sell it. You will find a comprehensive list of equipment sources and services. For information, call (407) 269-3211. Check classified ads in your favorite computer magazine, too.

Several companies specially design computer furniture with your comfort and productivity in mind. Try O'Sullivan Industries at 100 Gulf Street, Lamar, Missouri 64759; (417) 682-3322. For Macintosh entrepreneurs, ScanCo (P.O. Box 3217, Redmond, Washington 98073-3217; 800-722-6263) offers desks that suit the special size of the Mac and its peripherals.

Organizations

Networking can be your most valuable asset—not local area networking, but people networking. Consider these and other small business groups for support and camaraderie:

American Home Business Association, 397 Post Road, Darien, Connecticut 06820; (800) 433-6361

National Association for the Cottage Industry, P.O. Box 14850, Chicago, Illinois 60614; (312) 472-8116

Check with the chamber of commerce or small business administration in your community for other helpful groups. □

The Complete Football Game For Real Football Fans

Co-designed by John Madden, including over 160 plays from the actual playbooks of John Madden. If that's not enough, you can design your own plays for both offense and defense.

Take to the field, launching the long bomb or bursting across the line of scrimmage as full field graphics bring the excitement of live football onto your screen.

The Quick Set-up Game will have you playing in minutes. The Standard Game gives you everything from audibles and injuries to on-side kicks and astroturf.

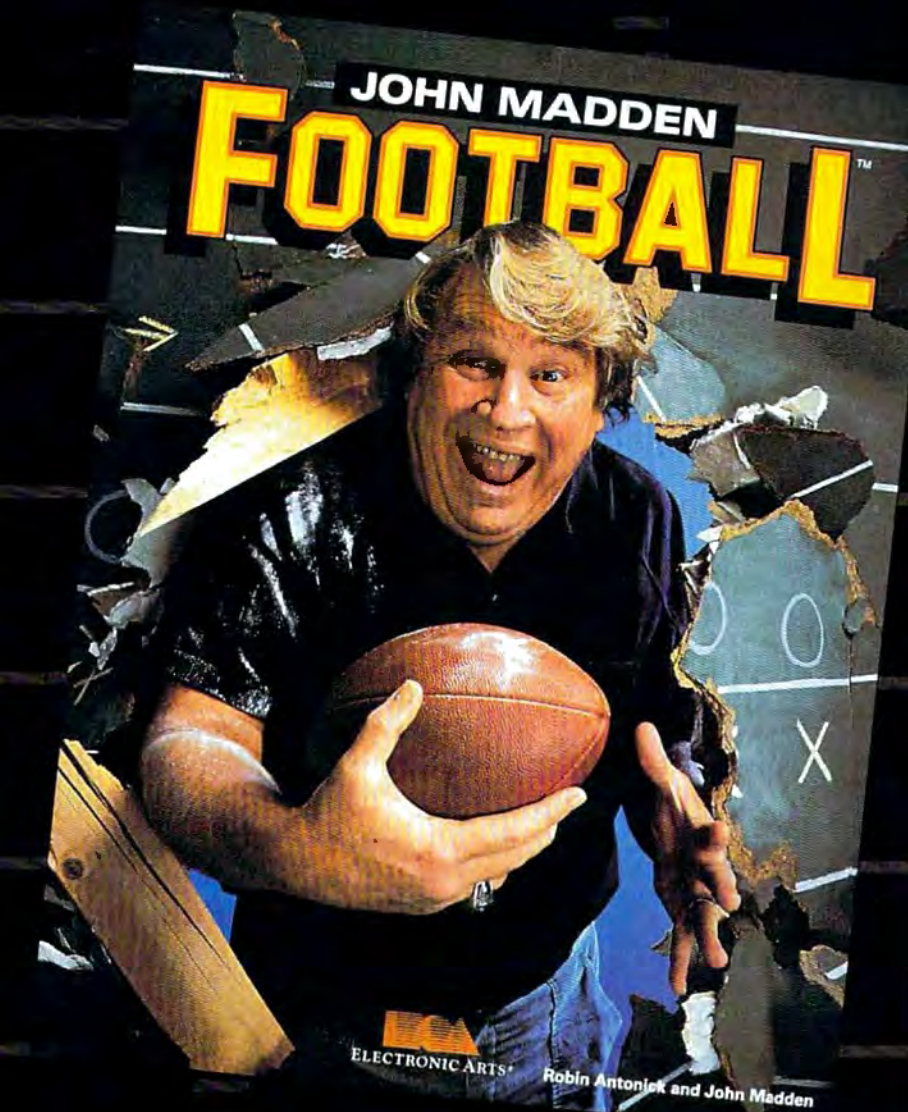
Look for the NFL Players Association Players Disk™ for John Madden Football. Crash through the line of scrimmage as your favorite superstar. Challenge a friend...your favorite football team against his.



Cut back against the grain. The yardage you gain is affected by everything from ball carrier skills and defensive formations to turf and weather conditions.



Choose your line-up with the Madden Report, a head to head comparison of important match-ups; everything from speed and fatigue to passing accuracy.



Design your own plays, then put on the pads to see how they work against different defenses.



How to Order
Visit your retailer or phone with VISA/MC: USA or Canada, 800 245-4525, Mon-Fri, 8am-5pm Pacific Time. IBM and Apple versions - \$49.95. C64 version - \$39.95. IBM, Apple, and C64 are registered trademarks of International Business Machines, Corp., Apple Computer Corp., and Commodore Electronics Limited respectively. NFLPA is a registered trademark of the National Football League Players Association.

MONEYCOUNTS 6.0

FROM PRICE TO PERFORMANCE . . . THERE'S SIMPLY NO COMPARISON!



MONEYCOUNTS' smart account balancer makes fast work of even the toughest bank statements.



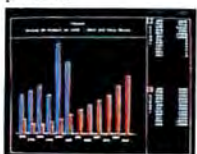
MONEYCOUNTS Tax Estimator helps you quickly size up your federal tax situation.



All reports can be displayed to screen and easily viewed using vertical and horizontal title locking.



3-D pie charts let you quickly visualize your complete financial picture.



3-D bar charts let you easily compare your actual and budgeted results.

	<i>MONEYCOUNTS*</i>	<i>QUICKEN*</i>	<i>MANAGING YOUR MONEY*</i>	<i>DOLLARS & SENSE*</i>
Version	6.0	3.0	5.0	3.1
Manufacturer	Parsons Technology	Intuit, Inc.	MECA Ventures, Inc.	Monogram Software, Inc.
Suggested Retail Price	\$35.00	\$59.95	\$219.98	\$179.95
Account Balancer	YES	YES	YES	YES
Automatic Error Finder	YES	NO	NO	NO
Accounts Can Be Added				
When Entering Transactions (Data)	YES	YES	YES	NO
Financial Reports				
Actual Financial Results	YES	YES	YES	YES
Month and Year to Date	YES	YES	YES	YES
All Months On One Report	YES	YES	YES	YES
Budgeted Financial Results	YES	YES	YES	YES
Actual Compared to Budget	YES	YES	YES	YES
Actual Compared to Prior Month	YES	NO	NO	NO
General Ledger Report	YES	YES	NO	NO
Accountant's Trial Balance	YES	NO	NO	NO
Net Worth Computation	YES	YES	YES	YES
Inquiry Reports				
Check and/or Deposit Register	YES	YES	YES	YES
Account Analysis	YES	YES	YES	YES
All Transactions with Party	YES	YES	YES	YES
Cash Requirements Forecast	YES	YES	YES	YES
Aged Invoices Payable	YES	NO	YES	YES
Reports Export to Lotus or Quattro	YES	YES	YES	YES
Graphics	YES	NO	YES	YES
Bar Charts	YES	NO	YES	YES
Pie Charts	YES	NO	YES	NO
Optional Password Protection	YES	YES	NO	YES
Financial Calculator	YES	NO	YES	YES
Prints Amortization Schedules	YES	NO	YES	YES
Prints Accumulation Schedules	YES	NO	YES	YES
Mail List Manager	YES	NO	YES	YES
Prints Address Labels and Index Cards	YES	NO	YES	YES
Prints Telephone Directory	YES	NO	YES	NO
Mail Merge with Word Processor	YES	NO	YES	YES
Check Writer	YES	YES	YES	YES
Prints Laser Checks	YES	YES	YES	NO
Prints Any Pin-Feed Check	YES	NO	YES	YES
Personal Income Tax Estimator	YES	NO	YES	YES
Pop-up Note Pad	YES	NO	YES	YES
Pop-up Math Calculator	YES	YES	YES	YES
Optional Canadian Features				
International Dating	YES	YES	NO	NO
International Terminology	YES	NO	NO	NO
Capacity				
Total Number of Accounts Per File	999	255	**	120
Total Number of Open Transactions	100,000	65,535	**	4,000



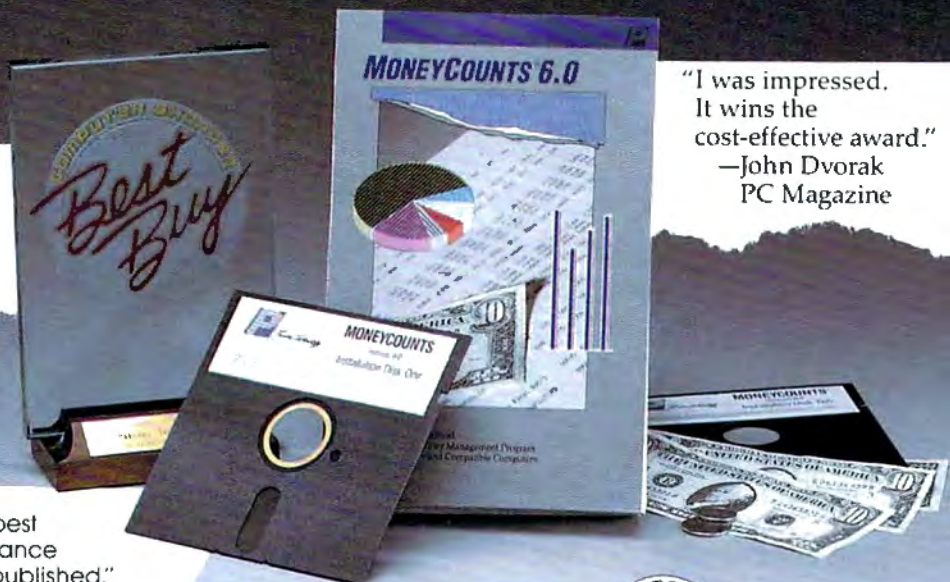
*Trademarks of their respective manufacturers. **Varies based on RAM memory and disk space available.

ANNOUNCING THE NEW \$35 MONEY MANAGEMENT SOLUTION...

"Comes with perhaps the friendliest user interface of any financial program . . . an excellent value."
—Compute! Magazine

"One of the best personal finance managers published."
—PC Computing Magazine

"I was impressed. It wins the cost-effective award."
—John Dvorak
PC Magazine



GUARANTEED.

"MONEYCOUNTS is one of the finest examples of just how good inexpensive software can be."

—Leonard Hyre, PCM Magazine



We invite you to examine MONEYCOUNTS. *It's the clear choice for home and business.* MONEYCOUNTS is CPA designed, easy-to-use, menu-driven with on-line help, and requires no accounting experience. You'll appreciate the ease with which MONEYCOUNTS...

- Manages your cash, checking, savings & credit cards.
- Prepares your budget and compares it against your actual results.
- Quickly balances your checkbook.
- Prints eight types of financial statements (including net worth) and six types of inquiry reports.
- Prints general ledger and accountant's trial balance.
- Lets you optionally save any report to disk or display it on screen. *You can even export directly to Lotus 1-2-3*, or Quattro.**
- Prints any type of pin feed (or laser) check.
- Handles up to 999 accounts and 100,000 transactions a year.
- Estimates your personal income tax.
- Links directly with the *PERSONAL TAX PREPARER* software.
- Analyzes financing options & savings programs — computes interest rates & loan payments — prints amortization and accumulation schedules.
- Manages mail lists — prints labels and index cards.
- Displays and prints three dimensional graphics (both pie charts and bar charts).
- Provides password protection, fiscal year support, pop-up notepad, pop-up calculator, DOS shell, automatically backs up your data files and much more.

Hard to believe the low price? Don't worry! There's no catch. **If you're not 100% satisfied, return MONEYCOUNTS within 30 days for a full refund (excluding shipping).**

Over 120,000 users have decided in favor of MONEYCOUNTS! Order today and see for yourself!

For Same Day Shipping

VISA, MASTERCARD & C.O.D. ORDERS CALL

1-800-223-6925

(In Canada call 319-395-7300.)
Mon. - Fri. 8:30 a.m. to 9:00 p.m.,
Sat. 9:00 a.m. to 5:00 p.m. CST
Or send check or money order payable to Parsons Technology



MONEYCOUNTS® 6.0

\$35 + \$5 shipping
NOT COPY PROTECTED

INCLUDES PRINTED MANUAL AND
FREE TECHNICAL SUPPORT

Dept. COM
375 Collins Road NE
Cedar Rapids, Iowa 52402

NAME _____

ADDRESS _____

CITY _____

STATE/ZIP _____ PHONE _____

CHECK MONEY ORDER VISA MASTERCARD

CARD # _____ EXP. DATE _____

MONEYCOUNTS 6.0 requires an IBM*/Tandy*/Compaq* or compatible computer, 384K or more RAM, DOS 2.0 or higher, 2 disk drives (or a hard disk). Works with all printers and monitors. Add \$10 shipping/handling outside North America. Iowa residents, please add 4% sales tax.

*Lotus 1-2-3, Quattro, IBM, Tandy and Compaq are all registered trademarks of Lotus Development Corp., Borland International, Inc., International Business Machines Corp., Tandy Corp and Compaq Computer Corp. respectively.



375 Collins Road NE
Cedar Rapids, Iowa 52402



Circle Reader Service Number 157



PRODUCT

*Publishing Peripherals
At A Practical Price . . .*

VGA-TV™

Willow
Peripherals Inc.

CONVERT VGA
GRAPHICS TO
TELEVISION
SIGNALS AND
ENTER THE DESKTOP
VIDEO WORLD

COMPUTE! CHOICE

DAVID STANTON

Customers in a New York sports bar cheer enthusiastically while a patron tries to land his F-14 jet on the rolling deck of an aircraft carrier. He's playing a computer game, one that he's played on his home computer many times. Tonight his mistakes cause the jet to roll over the edge of the carrier and crash into the sea. The tavern crowd groans as the animated computer graphics of his plane crash are displayed on the bar's giant-screen TV—the same screen they'll watch later to see a televised sporting event.

A manager for a growing company is teaching two new employees to use the firm's computer accounting program—while she meets some friends for dinner. She can be in two places at once because she previously videotaped an entire accounting ses-

sion as run by an experienced employee. As she dines tonight, her new employees will view this custom-made training tape on their own home videotape players.

Both of these situations were accomplished using Willow Peripherals' VGA-TV, a full-length, 8-bit VGA board that comes with 256K onboard memory. The name stands for *VGA To Video*; by using a simple software switch, you can change your computer's signal from VGA to NTSC (National Television Standards Committee—the North American video standard). The board is easy to install, requires but one slot, and comes with plenty of software, including a dazzling demo disk. The VGA-TV board's \$699 price tag, while not cheap, makes it possible for home users and small businesses to enter the potentially lucrative world of desktop video without decimating their operating capital.

TVITY

The VGA-TV board not only converts the VGA signal to an NTSC signal, it's also a full-fledged 8-bit VGA card. If you're thinking of upgrading to VGA, this board will do that and also will give you the option to convert to a video signal.

Willow's card installs in a full-length slot. To ensure proper operation, you'll have to remove any other graphics cards from your PC (otherwise, your CPU will go crazy trying to determine what kind of display output you're shooting for—EGA? VGA?). Using the board's DIP switches, you can select the default graphics mode that best suits your needs; for example, you could set your computer to boot to an NTSC display signal rather than to VGA. The software included with the board also lets you toggle back and forth between NTSC and VGA modes from the DOS prompt, a nice touch.

The VGA-TV board sports an RCA plug that allows connection to most VCRs, to some recently produced televisions (older sets may require an RF converter that connects to the TV's antenna terminals), and to those few VGA monitors set up to accept composite video signals. The card's analog jack serves as a connection to most VGA computer monitors.

With the ability to change your computer's output to NTSC, you have the option of feeding a video camera, recorder, or television monitor straight out of your microprocessor. Put your computer presentations on videotape, and even people who don't own computers can see them. Send your computer's output directly to a projection TV and deliver dynamic presentations to your sales force—without asking everybody to crowd around the computer screen.

With so many possibilities, you may wonder why more computer owners haven't yet taken advantage of the computer/video marriage. For PC users, the reason is that, until recently,

there were few ways to accomplish this conversion that weren't expensive, complicated, or both.

VGA and NTSC color displays require five separate signals: red, green, and blue color signals and horizontal and vertical timing pulses. The NTSC signal combines all these signals into one for ease of broadcast and is therefore called a *composite* signal; it requires the receiving unit to break the signal back down to separate, manageable signals. To be compatible, VGA's separate signals must be combined into a composite signal that video technology can use.

It's important to note that the VGA-TV board doesn't allow you to superimpose computer images directly onto video images (for use on a videotape demonstration, for example) because it lacks genlock capability. To understand what genlock does, you have to know a little about how the playback of video signals works: Videotape is played back at the proper speed by making use of sync pulses—sync pulses that are not part of the standard VGA signal. In order to superimpose a signal onto a sync-pulsed signal, like NTSC, you must lock into

the sync pulses. This is genlock. You could superimpose signals using the VGA-TV board by first translating the VGA signal into NTSC and then doing the superimposition with video equipment—but it's expensive.

Overcoming all the difficulties of VGA-to-video conversion may make the folks at Willow Peripherals seem more like alchemists than computer-enhancement designers, but people have been converting computer signals to NTSC for some time now. In most cases it's expensive, and in some it's complicated, but there are ways to put computer signals on videotape.

For around \$15,000 you can purchase a Yamashita Scan Converter to turn your VGA signal into NTSC. The results from the Yamashita are arguably some of the best available, but with its correspondingly high price, it's way out of reach for the home computer user.

Targa add-in boards from Truevision in Indianapolis have recently become popular; they come in 8-, 16-, 24-, and 32-bit versions. Targa boards accomplish the NTSC-to-VGA signal conversion and offer a genlock capability as well. But at \$1,595 (for



VGA-TV™

the 8-bit version), they're at least twice as expensive as the VGA-TV board. Besides, because the Targa board is a dedicated signal converter, you must already have a VGA board in your computer for it to work.

Amiga owners have had the ability to go to video since that computer was introduced in 1985. An external genlock device is available, and there's a lot of software to take advantage of the video capabilities of the board—but this is a separate, and decidedly different, computer system from PC compatibles. At a cost of less than \$1,000 (an Amiga 500 with a monitor and special video cable), it's certainly worth considering, but if you're comfortable with your PC and you want to stick with that format, the Amiga might not be your best choice.

Because of the limitations imposed by NTSC (as opposed to VGA), the resolution of your final video image will suffer a bit. But that's not a problem to keep you from exploring your video options. After all, you watch pleasing video images all the time on your home television. Besides, even though the NTSC signal can't match the high-end computer-graphics displays now available, it's the only game in town (HDTV is still 7-10 years down the road).

This means you should design your computer images with video signal limitations in mind. Before you start on your presentation, it will pay to look closely at how text is displayed on television. In most cases, TV productions use highlighting and drop shadows to improve the readability of text characters.

If text is on a colored background, more pleasing, easier-to-read characters can be obtained by making the text bigger than you might normally use (about 40 characters per line works well). Likewise, if you know your final product is to be video, with its inherent color limitations, you may want to opt for a simpler color scheme in your computer designs.

If you rent videos to watch on your VCR, you may have had to adjust the television's image controls to

get an acceptable image. Different inputs may require adjustments to the monitor's hue, intensity, brightness, contrast, and tint controls. When using the VGA-TV card to send signals into a video monitor for presentations, a few minutes spent tweaking these controls will help your image look its best.

Naturally, VGA-TV must be judged for its monitor output as well as its NTSC capabilities. Simply put, VGA output is sharp and colorful, but this isn't the fastest board on the market. It's an 8-bit card, so if the speed of the VGA display is your primary concern, you should look into 16-bit graphics boards. Also, if you want to take advantage of extended VGA capabilities, such as 800 × 600 resolution in 256 colors (instead of just 16), you will need to add memory to the Willow board. For \$100, you can boost the card to its maximum memory load, 512K. (Willow is thinking about building a 16-bit VGA-TV card.)

Still, the VGA-TV board compares well with other VGA boards on the market and is considerably cheaper than most. The card's price, its range of display modes, and its video capability make it quite a bargain.

To give you an idea of the card's versatile operation, let me illustrate with a story from a recent computer graphics conference held in New York. A friend attending the show brought some computer graphics on disk (fractal images) to my house, and I invited several people over to have a look. My PC was in its customary setup—short CGA card and mono monitor—and for a moment it looked as though the show was off.

Then I remembered I had the VGA-TV card. I installed it without any trouble, only to realize I lacked the proper cable for my larger TV. Not to be outdone, I ran the signal from the computer through my VCR and from there to the television. That did it. We gathered around and en-

joyed the show: outstanding computer graphics displayed clearly on a color television for a room full of people.

I tested the card in a variety of configurations. Recording the computer signal on VHS-format videotape was easy enough and delivered images of pleasantly high quality. I also recorded computer graphics on a Beta-format VCR, as well as on an 8 mm camcorder; both tests gave very satisfactory results.

I also used the board to deliver signals to different televisions and video monitors. On a Sharp color TV equipped with a video/TV switch, I was able to produce an acceptable picture, with crisp graphics and colors. Unfortunately, text definition suffered somewhat. When I used my regulation color set (the "under-\$250" kind), image quality was severely affected. Graphic details were blurred, and reading text caused eyestrain.

Bear this in mind if you plan to use VGA-TV for presentations. Although the board functions well, the quality of its NTSC output depends on the quality of your television or monitor. If it's an important presentation, make sure you have a very good television.

To fully enter the world of desktop video, of course, you'll need to be able to go from VGA to NTSC as well as the other way around. This allows you to incorporate camera-captured video images into your computer presentations. Although VGA-TV lacks this capability, Willow's first product, Publisher's VGA, allows just such transfers. A board that combined both conversion capabilities would be welcome.

As desktop video gains prominence, signal conversion will become an everyday process. Delivering computer-generated images and information to videotape users—even those that don't own computers—will soon be commonplace.

NTSC is the American standard, but PAL and SEACAM signals dominate in Europe and the rest of the world. Willow is already working on versions of VGA-TV that will generate these signals—and you may need these capabilities sooner than you think. After all, as the powerful video presentations and sales tapes you create with VGA-TV extend your profit margins upward, you may want to take your business worldwide.



VGA-TV converts images created on your computer in VGA (left) into NTSC signals (right) for display on television screens.

VGA-TV

IBM PC and compatibles—\$699
256K (VRAM) upgrade—\$100

WILLOW PERIPHERALS

190 Willow Ave.
Bronx, NY 10454
(212) 402-0010 or (800) 444-1585



Earth has become overrun with strange mutated beings.



We've poisoned our planet. Polluted the waters. Killed the animals. ✨ Now, mutated life forms roam the deserted planet spreading deadly radiation. You're the last hope. So, travel through time and space, back to what was once our home and make it fit for man again. ✨ Archipelagos.™ A brand new game from Fanfare.™ With a totally new level of game play. Real 3-D first person



perspective. Real-time ever-evolving animation. And life-like explorations on 9,999 contaminated archipelagos.

✨ Soar above Earth in a plasmic hoversphere — and use a 360° viewing screen to guide you. Purifying the planet may sound easy, but don't get overconfident. You've got little time to search out and destroy radioactive nodes. And even less time to absorb energy from an obelisk on overload — or get blown to bits trying. ✨

Win a Hawaiian trip and search the sands. ✨ Take the Archipelagos challenge. You may win an all-expense paid trip for two — to the world's most famous archipelagos, Hawaii. ✨ Archipelagos. A new game for the MS-DOS, Amiga, and Atari ST. Look for it and the contest display at your favorite software store.

Or, call us at 800/572-2272 (in CA: 415/546-1866) to enter the vacation getaway.

LOGOTRON
RECREATION

D A V I D D . T H O R N B U R G

A torrential downpour splatters the windshield, all but blocking the view of the runway below. Except for the altimeter and fuel gauge, all of the plane's instruments have shorted out. The plane is close to stalling, and runway lights are looming closer as the plane drops down for a landing. A last-minute gust of wind tilts the plane to the right as the landing gear bounces on the runway. The pilot, jarred and sweaty, brings the plane to a stop and eases herself out of the cockpit of the flight simulator—a small box in which she has just spent an hour of sheer terror.

Computer-based simulations have long been used to train pilots of planes and ships, operators of power plants, and other people who work in potentially dangerous environments. Of all the areas where computers have made their mark in the past 30 years, simulations rank among the most exciting. With the simple change of a disk, we have piloted jets, headed up major corporations, and traveled in space.

The computer's task in most simulations can be broken into two parts. First, the program needs to present an interface to the simulated world that is real enough to allow the player to experience the emotional as well as the intellectual aspects of the simulation. For instance, a flight simulator usually has a realistic set of instruments and out-of-cockpit view.

The second major part of a simulation program is the underlying model or set of rules that describes how the simulation responds to the choices made by the player. In some simulations these choices are completely determined by the player's actions (turning a steering wheel turns the car, for example), while in other cases, the player's actions only form part of the computer's response. Other conditions (such as weather) are adjusted by the computer to provide an element of chance and challenge to the player.

Simulations can teach different aspects of the situation they are recreating. The player can gain practice in a complex task when the simulation accurately models the real world. By changing variables in the program, the player can examine the consequences of outside influences and random occurrences on the overall performance of a task.

Consider the most popular simulation program of all: the spreadsheet. Computer-based spreadsheet programs are used to model all kinds of business activities. Most businesses wouldn't dream of starting a new project without creating a computer model of the financial factors involved. By changing assumptions regarding sales, product-development costs, or delivery times, a company can get an idea of a product's potential for success before investing in its development.

**SIMULATIONS
MAKE YOU
WONDER
WHAT'S
REAL
ANymore**

Of course, the result is only as good as the underlying assumptions used to create the model. Bad assumptions may result in a glowing prediction that is never realized in the real world.

When viewed in this light, the only difference between programs like *Flight Simulator* and spreadsheets is

subject area and the ability of the user to change the game's rules.

While few would argue with the power of simulations in the recreational, educational, and business domains, there is another field into which simulated reality is growing by leaps and bounds: music.

Until a few years ago, music synthesizers were sophisticated waveform generators that created musical sounds through the use of oscillators, filters, phase shifters, and other circuit elements that could be adjusted to create a wide variety of timbres. The creation of a sound consisted of selecting a basic waveform and then specifying the attack, decay, sustain, and release parameters for the sound. By blending several such patterns together, one could create rich sounds that, in some cases, resembled the sounds of traditional instruments.

While there will always be a place for music synthesizers of this type, many of the newer synthesizers use sampled sounds. A sampling synthesizer is provided with a sound from a traditional source, such as water dropping onto a sheet of metal. This sound is converted into a set of numbers which, when processed through a digital-to-analog converter, will reconstruct the original sound. If the sampler digitizes the sound in sufficiently high resolution, the result sounds amazingly like the original.

Once a sound is sampled, it can be played back at different rates to produce different pitches. It can be played backward, looped onto itself, or even cut into slices that can be combined with other sounds. Once the sound is digitized, there is virtually no limit to what you can do with it.

Many recordings and live performances take advantage of the high-quality samplers to provide complete string sections, percussion, or other effects. I was amazed to find that one of my favorite recordings of the *1812 Overture* used sampled church bells during the finale. The next time you listen to your favorite music, ask yourself: Is it real or is it a simulation? □

THE \$49 DISK SPACE SOLUTION — PACK MAGIC!



GUARANTEED.

Whether you're a hard disk user who is quickly running out of space, or a software developer whose program no longer fits on a single disk, PACK MAGIC is for you. PACK MAGIC works hard to solve these common disk space problems:

PROBLEM: You never dreamed it would happen, but your hard disk is now fast running out of room.

SOLUTION: Use PACK MAGIC to quickly compress directories when you're not using them. (They'll usually shrink by more than 50%!) When you're ready to use them, PACK MAGIC's rocket-fast algorithm expands any directory in record time.

The following savings are possible with PACK MAGIC:

Disk Size	Space Before PACK MAGIC	Space After PACK MAGIC
20 Megabytes	4 Megabytes	12 Megabytes
40 Megabytes	5 Megabytes	23 Megabytes

It's like getting a bigger hard disk!

PROBLEM: Backing up your hard disk takes forever, so you do it far less often than you should.

SOLUTION: Use PACK MAGIC to compress your directories before backing up. You'll cut the time and number of disks needed to back up by half or more.

PROBLEM: You'd like to reduce the amount of space occupied by the programs you use frequently, or you're a software developer and your program is too large to operate on a 360K floppy disk.

SOLUTION: Also use PACK MAGIC to compress your active program files (.com and .exe files). The average reduction for program files is 22%! Your programs will continue to function normally, but will occupy less disk space.

PACK MAGIC is easy-to-use, comes with a menu-driven interface, on-line help, free technical support and a printed manual.

Try PACK MAGIC for 30 days--if you're not completely satisfied, return it for a full refund (excluding shipping).

For Same Day Shipping

VISA, MASTERCARD & C.O.D. ORDERS CALL

1-800-223-6925

In Canada call: 319-395-7300
Mon.-Fri. 8:30 a.m. to 5:00 p.m. CST
FAX: 319-395-0217

Or send check or money order payable to Parsons Technology.



PACK MAGIC

\$49 + \$5 shipping

NOT COPY PROTECTED
INCLUDES PRINTED MANUAL



Dept. COM
375 Collins Road NE
Cedar Rapids, Iowa 52402

NAME _____

ADDRESS _____

CITY _____

STATE/ZIP _____ PHONE _____

CHECK MONEY ORDER VISA MASTERCARD

CARD # _____ EXP. DATE _____

PACK MAGIC requires an IBM*/Tandy*/Compaq* or compatible computer, 384K or more RAM and DOS 2.0 or higher. Add \$5 shipping/handling—\$10 outside North America. Iowa residents, please add 4% sales tax.

*IBM, Tandy and Compaq are registered trademarks of International Business Machines Corp., Tandy Corp., and Compaq Computer Corp., respectively.

Introducing COMPUTE!'s 1989 Software Video Demo Bonanza!!!

The easiest, fastest way to preview hundreds of dollars worth of the latest software... before you buy!... *and you don't need a computer to do it!**



It's easy! Just put COMPUTE!'s Software Video Demo (VHS format only) into your VCR. Then sit back and examine selected highlights and short scenarios from several dozen exciting software programs prepared by some of today's best software publishers. Affordably priced at just \$14.95 plus postage and handling!

Order your copy today! (Visa or Master Card accepted or use the handy coupon below)

Call TOLL FREE: 800-999-2266

Some of the previews included are:

Activision

A-10 Tank Killer

Take command of the ugliest, most indestructible and devastating plane ever built, the A-10 Thunderbolt II.

Beyond Dark Castle

Penetrate deep into Dark Castle and beyond as you take on the Black Knight himself.

Die Hard

Terrorists have kidnapped your wife and will escape in a matter of hours with \$600 million. You're the only chance anyone's got.

DragonWars

You are thrust into a world of fantasy and magic. Pop up windows, auto-mapping, flexible spell casting, and much more.

Ghostbusters II

Who you gonna call? The Ghostbusters are back, and you're right in the middle of the action.

Electronic Arts

Abrams Battle Tank

The Soviets are crossing the border into West Germany. Choose your weapons!

Buokan: The Martial Spirit

Your senses will train you to compete at the famous Budokan in Japan.

Chuck Yeager's Advanced Flight Trainer 2.0

Every pilot's dream-flying 8G's with the Thunderbirds.

Deluxe Paint II Enhanced

This is for anyone interested in creative expression on the PC.

Earl Weaver Baseball

The winningest manager in baseball is back in the dugout. Play ball!

Hewson

Eliminator

Space highway arcade action which will challenge your joystick skills.

Exolon

Alien, laser action adventure which transports you not just to another world but another galaxy.

Netherworld

You're on a stunning mystical space journey combining the best of fantasy and science fiction!

MicroProse

Airborne Ranger

Parachute deep into hostile territory with limited supplies! Missions never play the same way twice.

F-15 Strike Eagle II

Dogfighting is the name of the game. The sky swarms with bogies.

F-19 Stealth Fighter

The Air Force won't even talk about it. Now it's yours to fly! It's the top secret jet that radar can't detect.

M1 Tank Platoon

With a full platoon of four tanks and sixteen men, you control the whole shooting match.

MicroPlay

Carrier Command

You're in a futuristic battle at sea with devastating weapons.

Pro Soccer

Whether you play on the field or on the slide and jukebox.

Origin

Knights of Legend

Embark on a thrilling journey through fantastic land. Design your own weapons and skills.

Omega

Your mission is to create artificial intelligence as you build the world's supreme cybertank.

Space Rogue

Dare to solve the mysteries of the universe as you zip through space and seek your fortune.

Windwalker

Discover a world of magic, conflict and emotion in the ancient Orient.

Paragon Software

Dr. Doom's Revenge

The evil genius Dr. Doom has stolen a US nuclear missile and threatens to blow up New York. Now it's up to you.

X-Men

The X-Men are back!

Sierra On-Line

Code Name: Ice Man

Crack the deadly security of a terrorist base and rescue a hostage ambassador.

The Colonel's Bequest

Colonel Dijon has called his rivalrous relations to his isolated mansion. Who will inherit his millions?!

Hero's Quest

You construct the character from the ground up. Can you free the land of Spielberg and earn the title "hero"?!

Hoyle's Book of Games

If you're looking for cut throat card games, or just plain fun, you've come to the right place. Fun for the whole family.

Leisure Suit Larry III

Are you goodtime guy, Larry Laffer? Or nightclub singer extraordinaire, Passionate Patti? Wait—now you're both.

Manhunter: San Francisco

Undercover agent goes undercover to catch an alien.



*Many programs previewed available in MS-DOS format; others available for multiple machines. VCR with VHS format required; computer needed to run actual compatible software after purchase.

YES!

I want to preview some of the latest software available from many of the best commercial software houses—all on one convenient video cassette. I've enclosed \$14.95 for the COMPUTE! PC Software Demo Videocassette along with \$2.00 postage and handling.

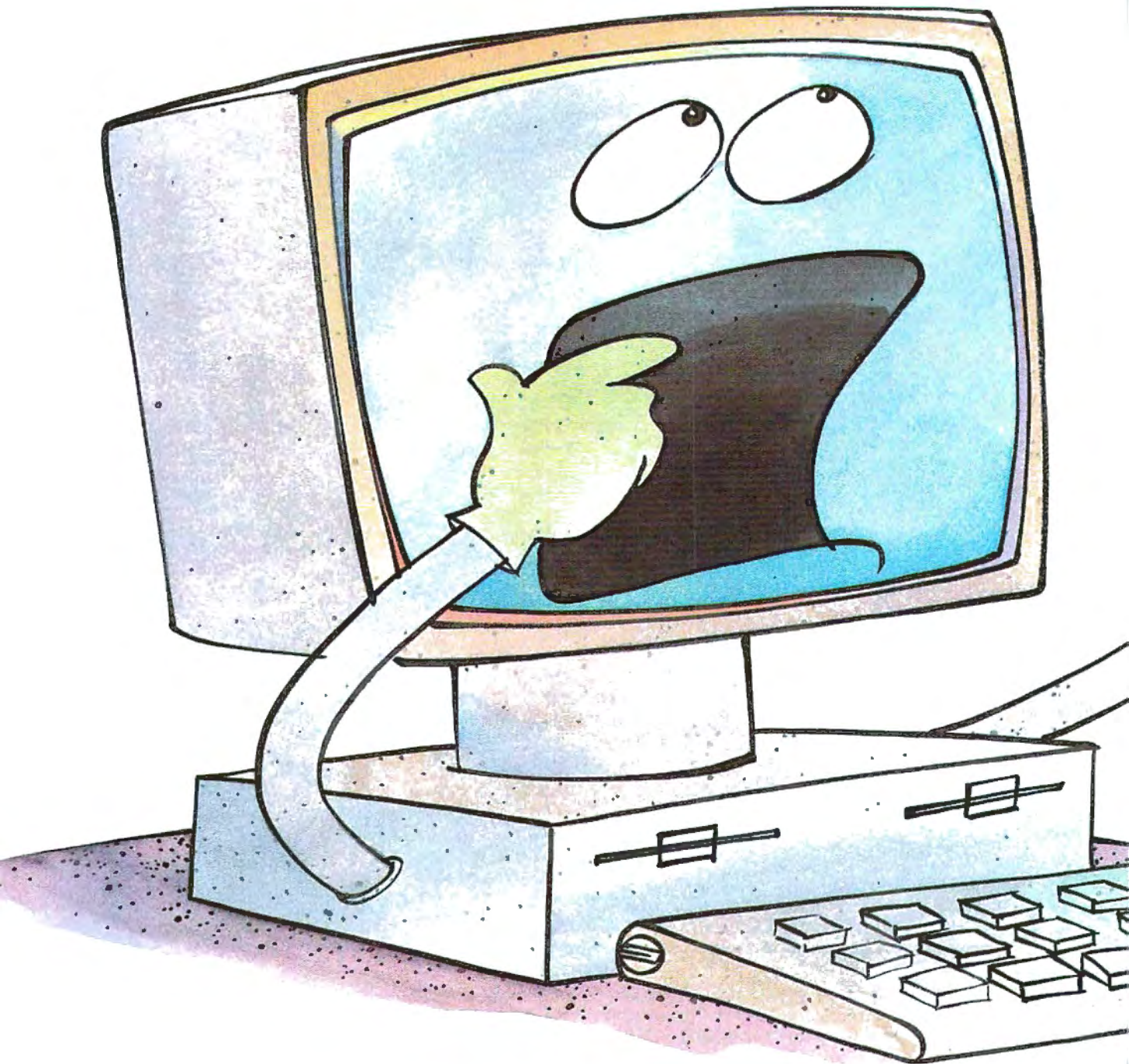
Name _____
 Address _____
 City _____ State _____ Zip _____

Amount _____
 Sales Tax* _____
 Add \$2.00 shipping and handling for each cassette ordered _____
 Total _____

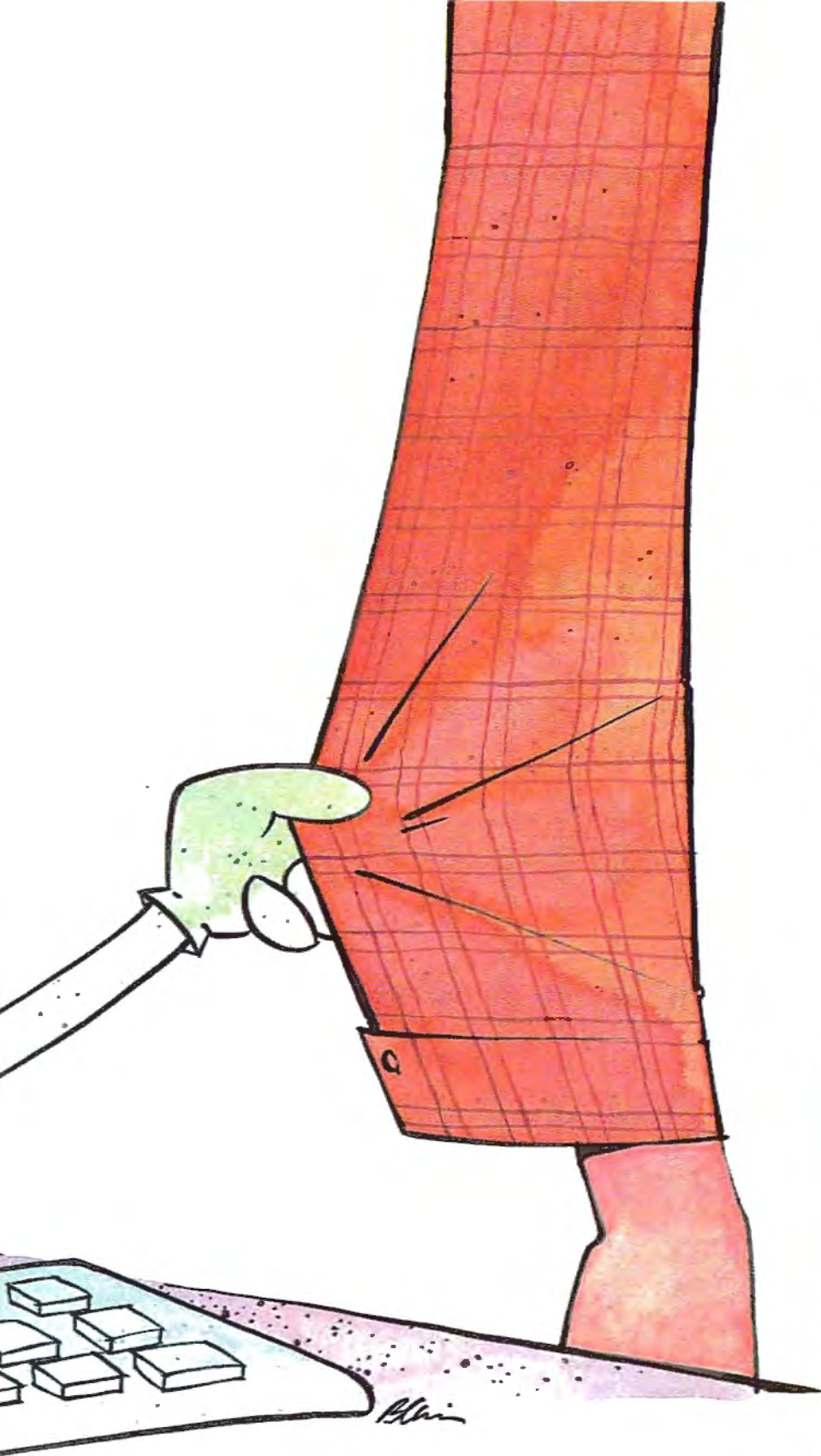
MasterCard or VISA accepted _____
 Credit Card # _____
 Expiration Date _____ Signature _____

Send your order to: COMPUTE! PC Software Demo Video
 P.O. Box 68666
 Indianapolis, IN 46268

*Residents of New York, Pennsylvania and North Carolina add appropriate sales tax for your state. All orders must be paid in U.S. funds drawn on a U.S. bank MasterCard or VISA. Please allow 4-6 weeks for delivery. Offer expires January 31, 1990.



WHEN YOUR PC'S STOMACH GROWLS, FEED IT



PLEASE FEED THE PC

DAN GOOKIN

BEEP. Out of memory. That new word processor you bought is hungry. And RAM is what it needs. It doesn't want more disk space; it doesn't want more ROM. Disks are for long-term storage—great for hibernating data, but not so great for a red-hot software application. And ROM (Read Only Memory) remains unchanged at the heart of your computer: Your software can't get a bite out of it. It's RAM (Random Access Memory) or nothing. If you want to put some more RAM on your computer's menu, this article can give you the right recipe.

Computer Nutrition

In microcomputers, RAM is temporary storage, organized into locations and accessed by addresses. These locations hold values representing program code, data, or other interesting information. The more memory you have, the more locations are available for storing information and the more

SOME MEMORY CHIPS

PLEASE FEED THE PC

things your computer can do.

Today's personal computer systems can have and use about one megabyte (1MB, or 1024K) of RAM, with a potential to go up to 4, 8, or 16 megabytes. The way that memory is organized and how your computer uses it depends on two factors: the computer's CPU, also called a microprocessor, and its BIOS, which is a collection of ROM routines.

The microprocessor sets up limitations on how memory is used in your computer. Eight-bit microprocessors usually handle up to 64K of memory, while 32-bit microprocessors can handle up to four gigabytes of memory.

A computer's BIOS, which really makes up the personality of the computer, is stored in ROM. The BIOS also plays a part in how your computer's memory is organized, by "reserving" certain locations in RAM for itself and device drivers. Sometimes those reserved BIOS locations complicate future memory expansion.

For example, the 8088 processor on the IBM PC limits RAM to one megabyte (about 1 million memory locations). The system uses the upper 384K of that for the BIOS, video memory, and expansion cards. That leaves 640K for running programs, storing data, and other tasks. Because of this, MS-DOS was originally written to address only 640K of memory. Even though the 80286 and 80386 chips allow the system to use much more than one megabyte of memory, MS-DOS is still limited to 640K. Other operating systems, such as OS/2 and UNIX, can use the larger amounts of RAM with no problem, but DOS must juggle the higher memory addresses into a window of RAM in the 256K-1MB area.

Exercising Your Healthy Computer

Why does your computer cry out for more memory? So that it can do more. Most computers come with just enough memory. You can always use more because programs just keep getting bigger and bigger.

Not every program uses all the memory in your system, though. Put that excess memory to good, practical use and it won't be excess anymore.

Aside from running programs and managing normal system operations, your computer can use excess memory for a number of things.

The oldest and most traditional way to use extra memory is to create a ramdisk. Basically, you run a special

piece of software (called a *driver*) that fools the operating system into believing that a hunk of memory is a disk drive—a very fast disk drive.

For example, on a PC with 640K, you could use 360K of that memory as a ramdisk, giving you the storage capabilities of another floppy drive. You'd still have plenty of memory left over to run programs, but you'd also enjoy a speedy ramdisk.

The only drawback to ramdisks is that their contents disappear when you reboot or turn off your computer—as do all the contents of RAM. So make sure you copy any important files stored on a ramdisk to a floppy or hard disk before you reboot the system or turn off the power.

Caches are a bit harder to understand than ramdisks. They use a portion of memory, just like a ramdisk, but the purpose of a cache is to store frequently read information from disk and save it in memory for quick access.

For example, if you're running a database program that is continually accessing the same data from disk, that data is saved in the cache. That way, if you need to read the information again, it would be quickly fetched from the cache rather than from the disk, speeding up the process.

More memory also lets your system tackle some of those really huge programs out there. Big spreadsheets, word processors that incorporate text and pictures, color graphics programs, and drafting applications just love that extra memory.

When you have more than

enough memory, you can also run memory-resident programs, called *TSRs* on PCs. These handy little applications wait for you to press a special key combination, like Ctrl-Shift-A. When you press this key combination, the memory-resident program wakes up and jumps to the foreground, no matter what other program is running. When you've finished using it, the program goes back to sleep.

Finally, some of today's microcomputer operating systems support multitasking. You can run a word processor and a graphics application at the same time, provided you have enough RAM. You find this capability in MultiFinder on the Mac and in the Amiga's operating system.

These are by no means the limits to which you can use extra RAM in your computer. New applications and utilities are popping up every day to take advantage of your system's memory. The trend toward larger programs will not stop, so upgrading your memory now will have definite benefits and payoffs in the future.

Feeding Your Computer

You can add memory to your computer in two ways: directly to your computer's motherboard or through a card you plug into an expansion slot (if your motherboard has one). The memory is just memory, either way. So, no matter how you add it, your system will still have that much more memory, up to 640K on PCs.

There are two methods of adding memory to a computer's mother-

What Size Chip, Please?

Memory chips come in sizes of 256 kilobits or one megabit. There are other sizes available, but these are the most common. Individual chips are assembled into banks, which make up either 256K or 1MB (1024K) of memory. Since there are eight bits in a byte, you need eight 256-kilobit or eight one-megabit chips to make either a 256K or a 1MB bank of RAM, respectively.

The exception is the IBM PC and compatibles. These machines need nine chips in a bank. The extra chip is used for a *parity* bit. The parity bit verifies that the PC's memory is working properly.

Aside from their sizes, chips also have speeds. The speed of a chip is measured in nanoseconds (ns). A nanosecond is one billionth of a second. Common speeds are 150 ns, 120 ns, 100 ns, and 80 ns. The smaller the number, the faster the memory. For fast microprocessors, such as 20MHz 80386s and fast 68030s, you need a minimum speed of 100 ns, but ideally you'd use chips running at 80 ns or faster.

Slower chips are still usable, but they cause *wait states*. The microprocessor is continually reading data from and writing data to the computer's memory. If a microprocessor is faster than the memory, it has to wait for the memory to catch up with it. This wasted time is known as a wait state. For the run-of-the-mill XT, 150-ns memory is fast enough to avoid wait states. On a faster AT, 120-ns chips will do fine.

Put this information to work when you buy memory for your computer. You should specify the size of the chips (256K or 1MB), the number (eight or nine), and the speed (in nanoseconds). If you're unsure, consult your dealer or your system's technical reference manual.



Every week our subscribers take cheap shots at each other.

The GEie™ service lets you take your best shots without shooting your budget. That's because our non-prime time rates are good and low. In fact, it's just \$6 an hour for 1200 baud access.*

And that means more time for more fun and games. Exciting multi-player games like Air Warrior, Stellar Emperor, Orb Wars and Gemstone. Where you can test your skills against some of the best in the world.

Plus enjoy classics like chess, checkers, backgammon, black jack and Reversi. At rates so good you're sure to come out a winner.

And with GEie signing up is as easy as one, two, three.

- (1) Set your modem for local echo (half duplex), 300 or 1200 baud.
- (2) Dial 1-800-638-8369. When you are connected, just enter HHH.
- (3) At the U#= prompt simply enter XTX99638, GEie then RETURN.

And have a major credit card or your checking account number ready. For information in the U.S. or Canada, call 1-800-638-9636. Or write GE Information Services, 401 North Washington St., Rockville, MD 20850.



We bring good things to life.

*Applies only in U.S. Mon.-Fri. 6PM-8AM local time and all day Sat., Sun., and national holidays. Subject to service availability. Some services may be subject to a surcharge. Prices effective May 1, 1989.

The FAERYTALE ADVENTURE

**THE NUMBER ONE
FANTASY ADVENTURE
GAME IS NOW
AVAILABLE ON IBM —
MS/DOS, TANDY, AMIGA
AND NEW FAST-LOAD
VERSION FOR
COMMODORE 64/128!**



Enter the Magical Land of Holm, where you participate in the adventures of three brothers as they seek their ultimate fate in the Faery Tale Adventure. Travel with brave Julian, lucky Phillip and gentle Kevin, on their quest through a land full of vicious monsters, enchanted princesses, fearsome dragons and even a kindly old woodcutter or two. Faery Tale Adventure is a game of epic proportions. Our programmers worked for over two years non-stop creating a new world. This World consists of over 19,000 screens of exploration. Your journey will take you to underground caverns, mazes, forests, deserts, snow covered mountains, lakes, castles, villages, even the astral world!



FROM
microworlds
—Interactive Entertainment—
NATURALLY!

17408 Chatsworth St., Granada Hills, CA 91344
Inside CA (818) 360-3715 Outside CA (800) 522-2041

Circle Reader Service Number 140

PLEASE FEED THE PC

board: You can plug the memory chips directly into socketed holes on the motherboard, or you can plug in a tiny card of chips called a *SIMM*. SIMM is an acronym for Single In-line Memory Module. SIMMs can be more convenient and easier to install than individual chips.

Upgrading memory on an expansion board is sometimes your only choice; for example, you may have exhausted all the open chip or SIMM sockets on your system's motherboard. Check for an open slot. If all of your slots are full, consider removing one card and getting a combined memory/something-else board. For example, you could use a memory board that also contains a serial and a parallel port.

Once you locate an open slot, you can choose from a variety of memory boards on the market. (Check the "Buyer's Guide" in the September issue for detailed information.) In general, you should beware of AT-only or PC-only memory-upgrade boards.

Nearly every memory board will come with some memory chips on it. Usually 256K or 512K—just something to get you going. If you want more memory, you'll have to buy it and plug in the chips yourself or ask your dealer to do it for you.

As with the motherboard, you plug the added memory into rows of chip sockets or SIMM slots on the memory board. Some boards allow you to upgrade one bank at a time—

for example, one row of 256-kilobit or one-megabit chips—where other boards insist on an upgrade of a multiple of either 512K or 1MB. Check the board's technical manual. Nothing is more distressing than buying one bank of chips only to come home and find that you're one or three banks short.

On some systems, especially IBM compatibles, any time you add memory you'll need to change some DIP switches to let the computer know about the new memory. For the ATs and 386s, there's a setup program in the system's ROM that informs it of how much memory is installed.

Second Helpings

Your word processor is satisfied, for a while at least. You can run your favorite TSRs—an address book, a calendar, and the memory-resident version of *Tetris*—and all your applications run faster.

Don't get the idea that your computer won't beep at you again, though. The hunger for RAM is endless. Programs keep growing, the need for speed beckons seductively, and multitasking waits patiently for you to summon it. So start cooking up some nutritional RAM treats now to keep your computer happy later. □

Dan Gookin is, as far as he can remember, a programmer and writer in San Diego. He writes "Off Line," *COMPUTE!*'s monthly humor column.

Extended or Expanded?

There will always be confusion in the IBM world about extended and expanded memory. Let's clear that muddy puddle once and for all.

- Both types, extended and expanded, are memory above and beyond the 640K brick wall in DOS computers.
- Extended memory is only available on AT or 386 computers. (Remember—XT computers cannot use eXTended memory.)
- All PC compatibles can use expanded memory, provided they have the right EMS, or Expanded Memory Specification, software.

Extended memory (remember, only on ATs or 386s) is used mainly by operating-system applications to run programs in the protected mode. For example, OS/2 uses extended memory (it needs 1.5 megs of it) to run. Other advanced operating systems use that memory as well, yet it's not as popular or as well received as expanded memory.

Everyone can use expanded memory. Although you can't use it directly for programs, you can use it as speedy memory storage for some applications, as well as for disk caches and ramdisks.

Many applications use expanded memory for fast memory storage. For example, the Windows operating environment uses expanded memory. If you use *SideKick Plus*, having oodles of expanded memory really speeds up your work. *Lotus 1-2-3* users can manipulate larger spreadsheets more effectively, and Ashton-Tate's *Framework* makes excellent use of expanded memory. Not all programs use expanded memory, so check the software package.

ANNOUNCING... THE \$49 FINANCIAL PLANNING SOLUTION.



GUARANTEED.

We invite you to try **MONEYPLANS**. It's the most versatile, easy-to-use financial planning tool available today. **MONEYPLANS** provides you with the guidance and insight of a Certified Public Accountant and a Certified Financial Planner in each of these critical areas:

- Retirement Planning. Formulate retirement income goals and determine how to reach them.
- Life and Disability Coverage. Determine how much coverage is enough for you and your family.
- College Tuition Planning. Develop a savings program to fund your children's college tuition costs.
- Selecting the Right Mortgage or Other Financing. Compare the true cost of various financing options including mortgages, loans, leases or paying cash.
- Financial Self-Appraisal. Pinpoint areas that require your attention. Develop action plan.
- Adjustable Rate Mortgage Analysis. Discover the effect of interest rate changes on loan payments.
- Certificate of Deposit Analysis. Compute when it makes sense to pay an early withdrawal penalty and purchase a CD with a higher interest rate.
- Financial Organization. Organize your personal records in each of these important areas: Household inventory, insurance policies and financial advisors.
- Much More. Plan for any financial goal, analyze discount feasibility and bond volatility. Import data directly from files created using our popular **MONEYCOUNTS** accounting program. Comes with illustrated printed manual and free technical support.

Hard to believe the low price? Don't worry! There's no catch. Parsons Technology is known for developing high performance software at unbeatable prices.

*If you're not 100% satisfied, return **MONEYPLANS** within 30 days for a complete refund (excluding shipping and handling).*

For Same Day Shipping

VISA, MASTERCARD, & C.O.D. ORDERS CALL ANYTIME.

1-800-779-6000

(In Canada call 319-395-7300.)

FAX: 319-395-0217

Or send a check or money order payable to Parsons Technology.



MONEYPLANS

\$49 + \$5 shipping

NOT COPY PROTECTED
INCLUDES PRINTED MANUAL



Dept. COM
375 Collins Road NE
Cedar Rapids, Iowa 52402

NAME _____

ADDRESS _____

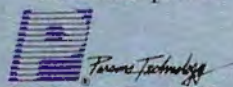
CITY _____

STATE/ZIP _____ PHONE _____

CHECK MONEY ORDER VISA MASTERCARD

CARD # _____ EXP. DATE _____

MONEYPLANS requires an IBM/Tandy/Compaq or compatible computer, 384K or more RAM and DOS 2.0 or higher. Add \$5 shipping/handling—\$10 outside North America. Iowa residents, please add 4% sales tax.



375 Collins Road NE
Cedar Rapids, Iowa 52402



PC PRIMER

H I N T S A N D T I P S F R O M O U R R E A D E R S

The DIR command, which shows a disk directory, is probably the most used DOS command of all, yet it holds much untapped potential.

If you have a lot of files on your disk when you execute a DIR command, the listing scrolls faster than you can read it. Luckily, the DIR command comes with a pause switch. DIR /P displays the directory listing one screenful at a time. If you want nothing more than filenames, use the Wide Display switch. DIR /W displays filenames five-across on the screen.

Say you're looking for a letter you wrote recently and you can't recall the filename, but you do know that it has an LTR extension. The command DIR *.LTR shows you all your letter files.

Perhaps you're missing another file. You can't remember the name, but you know it started with the letter F. Use the command DIR F*.* and you'll see the possibilities.

Building a directory of a disk in another drive is nearly as easy. DIR B: shows you what's on the B: drive. DIR B:*.TXT shows you all your text files on drive B:.

If your system has a hard disk, it's likely to be full of both files and subdirectory names. Use the command DIR *. if you want to exclude your files from the listing and see only subdirectories.

You can use DOS to sort a directory listing. First, put the DOS SORT program in the current drive or directory. Then enter the following command at the DOS prompt:

DIR|SORT

If you want a printed listing of the sorted directory, enter

DIR|SORT > LPT1:

If you want a disk file which contains the sorted listing, enter

DIR|SORT > filename.ext

where *filename.ext* is the name of the file in which you want to store the sorted listing.

Unlike utility programs which sort the directory on the disk, DOS doesn't actually make any changes to the disk—it merely sorts the directory listing.

Using some special DOS symbols, the filter symbol (|) and the redirection symbol (>), you can expand your sorting abilities. These symbols allow you to control the way output is routed through your system. Rerouting information that flows from one device to another is called *pipng*.

In the last two examples, the output of the DIR command is filtered through the SORT command and then is piped to the printer or a disk file.

The root directory is the main directory of a disk. Every disk, when freshly formatted, has only the root directory. To make additional directories, you use the DOS command MKDIR or MD. For example:

MD LETTERS

This creates a new directory named LETTERS. Directories created in this fashion are called *subdirectories*. A

HANDY DOS
COMMANDS GIVE
**DIRECTORY
ASSISTANCE**

subdirectory may contain files, just as a root directory can, and is sort of like a disk within a disk.

Use the DIR command to display a list of files in any other directory, including a subdirectory. To log on to a subdirectory, use the DOS command CHDIR or CD. For example:

CD LETTERS

Now when you type DIR, the directory that appears is for the subdirectory LETTERS. When you want to know which directory you're logged on to, enter

CD

by itself at the DOS prompt. DOS responds with the current drive letter and the name of any subdirectory you're logged on to. If you're in the root directory, it responds with the drive letter and a backslash.

If you're logged on to a subdirectory and want to move back to the root directory, enter the CD command with a backslash:

**CD **

It's easy to change the DOS prompt to keep yourself informed about which directory you're logged on to. At the DOS prompt, enter

PROMPT SP\$G

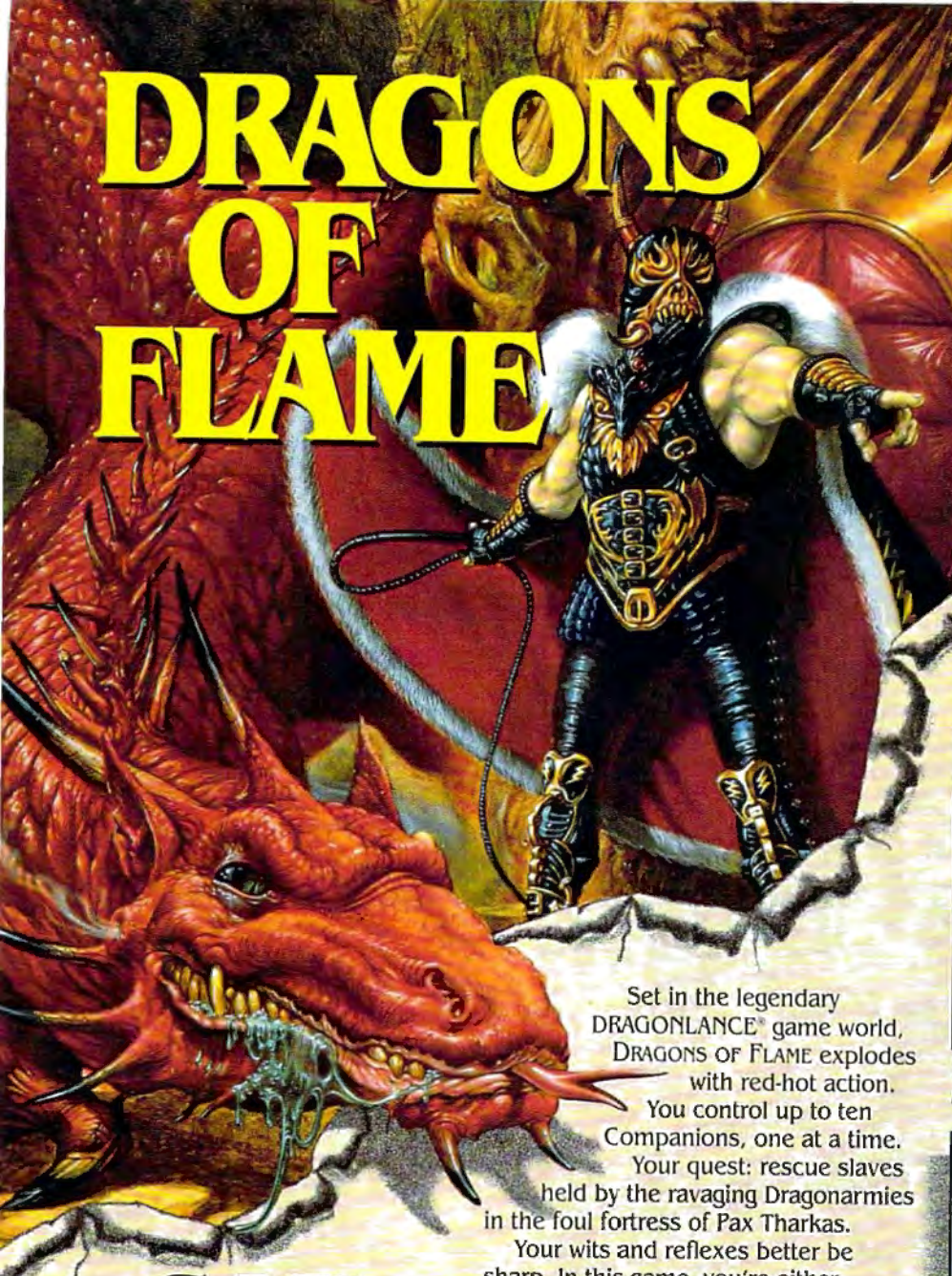
and DOS always displays the current drive and directory as part of the prompt. The \$P in the command above instructs DOS to print the current drive and directory, and \$G instructs it to display the familiar greater-than sign (>).

Tony Roberts

Do you have advice that makes a PC more productive? If so, we'd like to hear from you. Send your tip, no matter how brief, to COMPUTE! Feedback, P.O. Box 5406, Greensboro, North Carolina 27403. If we publish your suggestion, we'll send you a gift. ☐

DRAGONS OF FLAME

Advanced
Dungeons & Dragons[®]
COMPUTER PRODUCT



Tanis confronts a troll before the throne in the Hall of Ancients.



Traveling through the wilderness, Sturm encounters a Draconian.

Set in the legendary DRAGONLANCE[®] game world, DRAGONS OF FLAME explodes with red-hot action.

You control up to ten Companions, one at a time.

Your quest: rescue slaves held by the ravaging Dragonarmies in the foul fortress of Pax Tharkas.

Your wits and reflexes better be sharp. In this game, you're either quick...or you're dead.

Each Companion possesses specialized skills. Use these skills to evade evil Draconian patrols. Keep one step ahead of the Dragonarmies while battling scores of deadly monsters.

All the terrors of the journey, however, pale in comparison to the horror of your destination. The fortress of Pax Tharkas looms before you, crackling with vile energy.

Can you stand the heat?

CAN YOU STAND THE HEAT?



Coming Soon:

IBM PC
C-64/128
ATARI ST
AMIGA

TO ORDER:
Visit your retailer
or call
1-800-245-4525
to charge on
VISA/MC.

To receive SSI's complete product catalog, send \$1.00 to: SSI, 675 Almanor Avenue, Sunnyvale, CA 94086.



TSR, Inc.

ADVANCED DUNGEONS & DRAGONS, AD&D, DRAGONLANCE and the TSR logo are trademarks owned by and used under license from TSR, Inc. ©1989 TSR, Inc. ©1989 Strategic Simulations, Inc. All rights reserved.



STRATEGIC SIMULATIONS, INC.[®]

INMMENT



the redline, winding out fourth gear, pushing to make the Bay Bridge in under three minutes.

All the detail that went into developing this game could very well have overwhelmed the sheer excitement of steering your Corvette through the city. But the crew at Spectrum HoloByte succeeds in outstanding fashion. Buildings line the streets, pedestrians pace the sidewalks, traffic

moves through intersections; you're free to turn down cross streets, make U-turns, and map out your own route to the finish line.

This level of realism is possible because of 3-D solid-modeling graphics. Although some players might object to these stylized representations, in *Vette!* they add a degree of playability that far offsets such complaints. Anyone familiar with the latest generation of flight simulators will immediately feel at home with the boxes that represent trucks, cars, buses, trolleys, and people. And even if the vehicles don't look exactly like their real-life counterparts, you'll recognize them easily. More importantly, the illusion of driving depends on quick graphics processing. Without 3-D

modeling, your Corvette would run like a Model T.

There's a price for this sophistication, and Spectrum wants your hardware to foot the bill. You can't really enjoy the IBM version of *Vette!* on anything less than an 8-MHz machine with 512K of RAM. The package ships with one 3½-inch 720K disk, one 5¼-inch 360K disk, and one 5¼-inch high-density (1.2-megabyte) disk. The high-density disk holds an EGA version, and the other two disks each hold a CGA version. For EGA systems without 5¼-inch high-density drives, Spectrum will exchange disks for \$3. The game doesn't support Tandy 16-color graphics.

The CGA version of the game works, but isn't as enjoyable as the



Choose from four Corvettes and examine their attributes before you hit the streets.

EGA version (that's no surprise). In CGA it's difficult to see oncoming traffic and to distinguish vehicles from buildings, buildings from roads, or even roads from other cars. In a nice touch, however, you can reverse the CGA colors, so you can play the game on some laptops.

The game opens in the garage, where four 1989-model Corvettes idle, waiting to hit the streets. Your choices are a stock Corvette, the ZR1 (a six-speed flash that tops out at 180 mph), and two custom Vettes built by Reeves Callaway. One of Callaway's cars is the Twin Turbo (six speeds and a motor that runs the quarter mile in under 13 seconds), and the other is the Sledgehammer (0 to 60 in 4.2 seconds). This last number is the devil's car for sure: It has nearly 900 horses under the hood and runs like a scalded dog.

Although you can drive with a joystick, the game doesn't support one during the introductory screens. Keyboard commands are available throughout the game, as is mouse support. Select your car and test it on the dynamometer, which displays the car's attributes.

Any of these cars will get you where you're going fast, but the real fun in *Vette!* is picking your route. Unlike other driving simulations, you're not limited to a racetrack oval or a cross-country ribbon of road. In this game, the city is your track. The manual describes the four races, but you have to pick the route that will make you a winner. This is no RAC



Chase your rival across the Golden Gate Bridge and into the city.

rally: Traffic laws are for the meek, and in this case the meek inherit the wind—sucking the exhaust of the front runner.

Use the game's three skill levels to gain proficiency with your car and to learn your way around town. On the Trainee level, it's nearly impossible to damage your car severely enough to summon the tow truck. The Rookie level offers more challenges, and the Pro level is for experienced drivers only—nothing peels a Corvette's fiberglass faster than sideswip-

ing a city bus at 100 mph.

Out on the road is where *Vette!* really shines. Your car's cockpit display (it doesn't seem right to call it a dashboard) tells you everything you need to know about your vehicle and your surroundings. Besides the usual speedometer and tachometer (both digital), you have indicator lights for cruise control, automatic transmission, even turn signals that blink when you change lanes or take a side street.

Beyond these instruments, Spectrum has enhanced your Corvette with a lap-time clock, a display panel that names the street you're driving on and the upcoming cross street, and a four-panel display screen that shows the posted speed limit, traffic signals, and road signs for upcoming streets and intersections.

Keep an eagle eye on all your instruments if you want to make it to the finish line in one piece. If you get confused, you can pause the game and consult the street map. Or, if you like, you can press the H key to display an on-board map that pinpoints the location of your car. (That little extra is ahead of its time—the major car makers are working on such on-board maps for passenger cars but have yet to solve the problem of storing the vast amounts of data needed to keep the map up to date.)

Other nice touches include documentation designed to look like a Corvette owner's manual, a topographical map (with hidden messages), a card diagram of the keyboard commands, and a quick-start card.

You may choose your computer opponent from four barely street-legal roadsters: a Porsche 928, a Lamborghini Countach, and two Ferraris—the Testarossa and the F40. Also, like a few other games that have come out recently, *Vette!* takes group entertainment seriously by allowing you to play against a human opponent by modem or through a null-modem cable.

You'll have some obstacles to contend with, including traffic, jaywalkers, and the ever-vigilant police. I enjoyed the light touch Spectrum used with the police car: If an officer pulls you over for a violation, the game offers you several excuses so you can try to talk your way out of trouble. Some work, some don't. I'm just glad the cop in this game isn't Harry Callahan—he'd empty his Magnum into me for some of the stunts I've pulled in this game.

Spectrum's attention to detail pays off handsomely. If you want to

change your perspective on the game, the F4 key whisks you to a helicopter view high above the action. This is a great position if you're bent on making the best time, but it replaces the game's realism with a simple arcade scroll. If you want to add more realism, you can toggle off the front dash display so that all you see is the road ahead and the world growing smaller in your rearview mirror. This is the closest thing to looking out an actual windshield that I've ever seen in a driving simulation.



A helicopter view gives driving a new perspective.

As with any simulation, *Vette!* has its quirks. Things get especially weird at high speeds: for instance, once, I drove right through the side of a bus without a scratch. I know I was speeding—but a complete mass-to-energy conversion? I witnessed a few airborne vehicles and watched one tanker truck drive across the surface of the bay. These little bits of strangeness didn't harm the overall game experience; in fact, I found them amusing.

I was disappointed in the game's sound. I wish Spectrum had elected to support a couple of the sound cards that are gaining popularity. I also wish that one of the Corvettes of choice had been a vintage Stingray from the sixties complete with analog speedometer and tachometer.

Still, even with these limitations, *Vette!* surpasses other driving simulations in its scope and realism. Although other games have made strides in depicting the driving experience as shifting scenes, instead of routine scrolls, none of them match the wide-open feeling that *Vette!* so successfully emulates.

Vette!

IBM PC and compatibles with 8-MHz clock speed and 512K of RAM—\$49.95
Amiga, Atari ST, and Macintosh versions are in development.

SPECTRUM HOLOBYTE
2061 Challenger Dr.
Alameda, CA 94501
(415) 522-3584

WHEN REALITY JUST ISN'T ENOUGH!

UFO

Take one giant step beyond reality! UFO puts you at the controls of an advanced spacecraft capable of aerodynamic and quantum flight. Your mission; scour planet Earth for the fuel needed to power your galactic ships. Avoid detection as you harvest fuel, then return to the orbiting mother ship to trade raw fuel for supplies.

Your spacecraft features a gluon disruptor propulsion system, translucor (to make your craft invisible to human sensing devices), graviton tractor beam, and terrestrial auto-navigation system. UFO incorporates our newest experimental graphics and special effects with dynamic realistic and fantasy scenery. You can also explore SubLOGIC Scenery Disks in an entirely new way with this fun, easy-to-fly simulation. UFO... **the most fantastic experience you'll ever have!**

UFO for the IBM/Tandy and PC-compatible computers is available for \$49.95. See your dealer, or call SubLOGIC for direct order information.



Flight notes



11

✦ **Worth the Wait!** - Flight Controls I is now available for use with all SubLOGIC flight simulation programs including Jet 3.0 and Microsoft Flight Simulator. These premium-quality flight controls provide the tactile feedback essential for proper aircraft control. And with features that include an ultra-smooth control yoke, full T-handle throttle, and complete gear and flap switches, Flight Controls I is a real bargain at only \$179.95!

✦ **New Flight Simulator Coming!** - Put yourself at the controls of a Boeing 737, 747, or 757 airliner with Flight Simulator: Boeing from SubLOGIC! Select your departure

and destination airports, take on fuel and passengers, receive clearance from Air Traffic Control and you're ready to go!

Flight Simulator: Boeing provides a complete instrument panel for each different aircraft type you can fly. The program lets you specify exact weather conditions or set the program for automatic weather system generation. Four different flight modes are available. From autoflight to free flight. The program contains over 350 U.S. cities, with service to and from 25 major city airports, and is compatible with Flight Controls I Flight Simulator: Boeing will be available November 1989 for the IBM PC/compatible computers.

✦ **New Jet Fighter Simulator!** - Our completely revised Jet Version 3.0 for the IBM PC/compatibles features an all-new instrument panel with realistic Head-Up Display and full-screen out-the-window view. This F-16/F18 simulator also provides all new combat scenery, and incorporates our new 350-city USA database with solid landable 3D roads. A complete set of nav radios now let you

navigate to any location in any scenery area. Jet 3.0 also incorporates a new dogfight auto-view feature that automatically tracks enemy aircraft during aerial combat. New-generation graphic drivers provide blindingly fast animation speeds when dogfighting against multiple solid color-filled enemy aircraft.

See your dealer to purchase SubLOGIC products, or call us direct to order by charge card at (800) 637-4983.

SubLOGIC Corporation
501 Kenyon Road
Champaign, IL 61820

Please address any feedback correspondence regarding SubLOGIC products, operations, or this "Flight Notes" column to ATTN: Chairman's Office.

GAMEPLAY

O R S O N S C O T T C A R D

Several years ago, when *COMPUTE!* and I were young, I wrote an article in which I called for constructive computer games—games that would let players build something and then would bring it to life. My example was a program to create a network of railroads. You lay down the track, and then the computer makes the trains go. Simple enough—but no one ever did it.

Instead, it seemed as though all the new computer games were dedicated to putting the player under the control of the computer instead of the other way around. The arcades are full of them now: games that train you to respond reflexively, allowing you no choices, giving you no chance to create.

The drought is over. Indeed, with two remarkable new games, *SimCity* and *Populous*, it feels as if we're in a deluge of brilliant world-creation games. In our house right now, the chief complaint is that we have only the Amiga versions of both games, so we can only have one of them running at a time!

SimCity does all that I had ever hoped for—and more. Starting with an interesting landscape (forests, rivers, open country) you begin to build up your city from nothing. You build a power plant and then add zones for industry, commerce, and housing.

The traffic moves on the roads. The stadium you build fills up with crowds from time to time. Trains, ships, and airplanes all move through your landscape. And, if you're careful, the citizens will even like you; every year you get the results of an opinion poll letting you know just what they think of you.

As a simulation of reality, *SimCity* is superb: even if you know nothing about city planning, you will by the time you're through. (You may even have a bit more sympathy for the folks down at City Hall—or, per-

haps, a bit more anger at some of the obvious mistakes they make!)

As a game, *SimCity* is very good, too. Not everything goes smoothly for you: There are shipwrecks and plane crashes, power brownouts, earthquakes, tornados, and even an occasional 90-foot monster that stomps through your town.

My 11-year-old loves the game of disasters. He's the one who enjoys playing out scenarios based on real cities—Tokyo, San Francisco, Rio de Janeiro—as bad things happen to crowded towns. But he also loves the process of building. Just like playing with blocks as a little kid. You build it up, and then you knock it down, as spectacularly as possible.

My gripes are few. The instructions promised that a town can achieve "megalopolis" status, but even when I brought my population above 300,000, it didn't happen. More frustrating was the fact that, unlike real sites, the city maps have edges—but that's a limitation of computer memory.

I'm looking forward to Maxis's proposed *SimCity* sequel—*Sim-County*. I hope eventually they can find a way to combine the games, so that we can keep several cities going at

once, interacting with each other.

Populous is another build-up/break-down game, only instead of dealing with a city, you have a considerably larger landscape. To put it bluntly, in this European import (distributed in the U.S. by Electronic Arts), you are a god. You have a group of people who are loyal to you—and therefore good—and a group of hostile people who are trying to destroy you.

As a semi-omnipotent being, wherever you have worshippers, you have certain powers. You can raise and lower land to create level areas where your people can farm. As they get more arable land, they prosper—huts turn to houses, houses to mansions, mansions to castles.

Eventually, though, you have to interfere with the enemy to keep them from overpowering you. Sometimes you'll simply use a moat to keep them away from your people; other times, though, you'll create swamps, volcanoes, earthquakes, and floods.

Make no mistake: *Populous* is a game of all-out war. But it is enacted through strategy, not violence, and it's usually won by the player who is least aggressive and most nurturing.

SimCity's controls are all obvious and intuitive. *Populous*, on the other hand, has a confusing array of possible controls, and it takes some learning—and frustration—before you remember what all the strange words and icons mean. Don't let it throw you. After a short time, you'll be playing a god as if you had majored in that subject in college.

Both of these games are visual delights. *SimCity* makes the most of its flat overhead map—it never feels two-dimensional. And *Populous* is very clever in the way it simulates a three-dimensional world, and the various landscapes, ranging from desert to glacier, are astonishingly beautiful.

Best of all, you create your own worlds—and determine how hard or easy, how aggressive or peaceful a game you want to play. In short, you control the world of the game, instead of the other way around. □

DELUGED BY
**BRILLIANT
 WORLD-
 CREATION
 GAMES**

A SYSTEM SIMULATION FROM MAXIS

BUILD ROME IN A DAY DESTROY IT IN AN HOUR!

MAXIS

IBM EGA screen



Confront Disasters—floods, earthquakes, tornados, meltdowns and monsters

Enter SimCity, the City Simulator, and take charge of an evolving, growing city. Become mayor of a dynamic real-time urban simulation. Your city is populated by Sims—simulated citizens. Sims live, work, play, drive—and complain about taxes, traffic, taxes, crime and taxes—just like us. You control the fate of the city. You zone land, balance budgets, control crime, traffic and pollution.

Satisfied SimCity players say it best...

Great game! I'm hooked • I've got SimCity syndrome! • I find SimCity to be the most addicting, educational, and the best game I have ever played! • Amazing! • I may quit my job so I can play more... well, nah • You guys are Maximum Pinheads • SimCity is not just a game, it's a way of life • Simply the best computer game I've ever played! • SimCity should be outlawed!! It's addictive • Fantastic! I've been playing almost non-stop for 4 days! • Excellent game! But I've been losing a lot of sleep since I bought it • Wow!! • It's a blast! • TERRIFIC! FANTASTIC! • Awesome!! • Super!!! • The airplane pilots are psychotic • Amazing—all mayors need to understand this too; mine doesn't • It's like an electronic ant farm • Outstanding! • What a fantastic program! • My 4 year old loves it too! • Excellent program! Learning can be fun and addicting • Best game ever for the Amiga • My wife and I really love this software • I stay up until 2 a.m. playing it everyday! • Thank you for a piece of intelligent, educational and thought-provoking software • Absolutely wonderful idea and program • Excellent product, I wish I'd thought of it!! • I've never seen a program like this • Make more Sim games, nothing even comes close • On a scale of 1-10 this one's a 20!!! • This is a totally different, stimulating, engrossing and visually enjoyable program. • Spiffy! • Great, Great and Great! •

(These comments are from the correspondence from real SimCity users. *Honest!*)



The City Simulator

DESIGN AND BUILD THE CITY OF YOUR DREAMS

Collect taxes. Buy homes, stores and factories—even nuclear power plants. Design mass transit. Hire police. Build a football stadium. Create an urban utopia.

OR TURN CITY LIFE INTO A NIGHTMARE.

Raise taxes. Bulldoze an entire neighborhood. Manipulate property values. Cause tornados, earthquakes, floods, fires and other disasters at your whim.

SIMCITY TAKES ON LIFE OF ITS OWN.

Build roads—cars appear. Lay track—trains go. Build an airport—planes fly. Helicopters report traffic. Factories cause pollution. Neighborhoods go condo. Areas deteriorate into slums. Lead a thriving metropolis or let it broke, mayor of a ghost town.

SIMCITY GIVES YOU THE KEY TO THE CITY. THE REST IS UP TO YOU.

- Simple to play—all icons and graphics, no text commands.
- Loaded with animation and detailed sound effects.
- An endless number of possible cities—all different.
- Exceptional depth of play.



Distributed by Brøderbund

Available for: IBM & Compatibles, Tandy, Macintosh, Amiga and Commodore 64/128.

Maxis Software

1042 Country Club Drive, Suite C, Moraga, CA 94556
(415) 376-6434, FAX (415) 376-1823

Circle Reader Service Number 137

See Our Rave Reviews in
NEWSWEEK - May
NEW YORK TIMES - June
COMPUTE! - Aug
COMPUTER SHOPPER -
BUSINESS WEEK - August
INFOWORLD - M
WHOLE EARTH REVIEW
Summer 1989

DEMO DISK DIRECTORY

Based on the overwhelming response to COMPUTE!'s 1st Demo Disk Pack offered last year, we've decided to make economical software demo disks available to you on an on-going basis. Every month you will now be able to choose from some of the newest Demo Disks available for many of the "hottest" software releases being offered by some of the leading software publishers. These disks have been designed to give you a representative picture of what each title has to offer and to try and let you experience directly the graphics look and general feel of each software product—before you

buy the actual complete program! From time to time, you may also find some special offers from some of the software publishers for FREE merchandise, premiums, or other related promotions.

Please use the convenient postage-paid envelope for ordering.

We hope you enjoy this easy and economical way to discover the best software for you to buy this Fall and Holiday season!

THE COLONEL'S BEQUEST

Why has the reclusive Colonel Dijon called his rivalous relations together? It's a mysterious re-union at his secluded mansion, deep in the bayous of Southern Louisiana!

Available in 3.5" and 5.25"



Free Poster Offer



Action Game

Graphic Adventure

Get an authentic *Indiana Jones and the Last Crusade* movie poster free with the purchase of either game. See your participating retailer for details.



© and © 1989 Lucasfilm Games Ltd. All rights reserved.

WIDE OPEN. FULL TILT.



IT'S PURE PRO CYCLE ACTION.

Zip up your leathers and rev up that engine. It's full tilt, two-wheel boogie time. From #1 in the arcades to #1 at home.

THE ULTIMATE WEAPON...



WILL BLOW YOU AWAY!

It blew you away in the arcades. Now Data East brings this arsenal of action home.



DATA EAST USA, INC.
1850 LITTLE ORCHARD ST.
SAN JOSE, CA 95125

© 1989 DATA EAST USA, INC. © TM & © 1987 SEGA ENTERPRISES INC. MFD. UNDER LICENSE BY DATA EAST USA, INC.

An ancient land is in turmoil since the king and his young child disappeared 20 years ago, leaving various warlords to battle for control.



Preview the outstanding graphics, the rich detail and the easy-to-use menu and icon interface. See the blend of continuous action, absorbing storytelling and intricate conversations. One of *Compute!'s* "9 Best Games of 1989" (July 1989 issue). From ORIGIN. (IBM-PC 3 1/2" & 5 1/4", Apple, 64/128)



P.O. Box 161750 • Austin, Texas

OFFICIAL Advanced Dungeons & Dragons

COMPUTER PRODUCT

CURSE OF THE AZURE BONDS

The exciting sequel to *Pool of Radiance*, the first AD&D® computer fantasy role-playing game.

SPECIAL OFFER!

If you purchase the special *Compute!* Curse of the Azure Bonds demo disk(s) and the Curse of the Azure Bonds game, send us your game purchase receipt and we'll send you a free full color limited edition AD&D "Real Stuff" computer products poster. Send your receipt to:
Free Poster Offer
c/o Strategic Simulations, Inc.
675 Almanor Avenue
Sunnyvale, CA 94086

Offer good while posters last.

Fatmania is Here!

TONGUE OF THE FATMAN



Get your interactive demo today!

ACTIVISION

MICROPROSE

Simulation • Software

Just for fun!

Demo Disk Offer

- Airborne Ranger
- Dr. Doom's Revenge
- F-19
- Gunship
- Pirates!
- Red Storm Rising

IBM 3.5	IBM 5.25	CGA
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

MEDALIST
INTERNATIONAL

ARCHIPELAGOS



"...the concept alone is worth the five star rating." INFO

"Graphically, this game is stunning, perhaps even shocking."
- Computer Gaming World

Archipelagos is the universally acclaimed Alien World Simulator. Come visit Earth, now haunted by strange life forms and lost souls.

Order the Demo, and enter our contest for a free trip to a different archipelago - Hawaii.

Electronic Arts Presents

F-16 COMBAT PILOT™
Squadron strategy and modem play!

KEEP THE THIEF™
Thieves have more fun...
2 disk demo!

CHUCK YEAGER'S ADVANCED FLIGHT TRAINER 2.0™

New terrain, formation flying, more!

ABRAMS BATTLE TANK™
Tough, realistic combat action!



Discover the DeskMate® Difference!

New DeskMate 3 makes your PC compatible easier to use! Graphically lists all your programs and lets you access them with just a point and a click. Translates MS-DOS commands into plain English. Features word processing, spreadsheet, filing, scheduling, drawing, PC-Link® online information service and more—all in one \$99 program! Send in for a demo disk, or come in for a personal demonstration and get 15% off any software with the DeskMate Interface—the friendly face in the PC crowd!

Radio Shack
The Technology Store™
A DIVISION OF TANDY CORPORATION

How to Order Your Demo Disks

Demo Disk Order List

ACTIVISION

- A1 Tongue of the Fatman MS-DOS 5 1/4
- A2 Tongue of the Fatman MS-DOS 3 1/2

BRITANNICA SOFTWARE

- B1 Archipelagos MS-DOS 5 1/4
- B2 Archipelagos MS-DOS 3 1/2
- B3 Designasaurus MS-DOS 5 1/4
- B4 Designasaurus MS-DOS 3 1/2
- B5 Jigsaw! (MCGA/EGA only) MS-DOS 5 1/4
- B6 Jigsaw! (MCGA/EGA only) MS-DOS 3 1/2

DATA EAST

- D1 Heavy Barrel MS-DOS 5 1/4
- D2 Heavy Barrel MS-DOS 3 1/2
- D3 Super Hang-On MS-DOS 5 1/4
- D4 Super Hang-On MS-DOS 3 1/2

ELECTRONIC ARTS

- E1 Abrams Battle Tank MS-DOS 5 1/4
- E2 Abrams Battle Tank MS-DOS 3 1/2
- E3 Chuck Yeager 2.0 MS-DOS 5 1/4
- E4 Chuck Yeager 2.0 MS-DOS 3 1/2
- E5 F-16 Combat Pilot MS-DOS 5 1/4
- E6 F-16 Combat Pilot MS-DOS 3 1/2
- E7 Keep the Thief MS-DOS 5 1/4 (2 disks)
- E8 Keep the Thief MS-DOS 3 1/2

LUCAS FILM

- L1 Indy—The Graphic Adventure MS-DOS 5 1/4

MICROPROSE

- M1 Airborne Ranger MS-DOS 5 1/4
- M2 Airborne Ranger MS-DOS 3 1/2

- M3 Airborne Ranger Commodore 64 (No longer available)
- M4 Dr. Doom's Revenge MS-DOS 5 1/4
- M5 Dr. Doom's Revenge MS-DOS 3 1/2
- M6 F-19 MS-DOS 5 1/4
- M7 F-19 MS-DOS 3 1/2
- M8 Gunship MS-DOS 5 1/4
- M9 Gunship MS-DOS 3 1/2
- M10 Gunship Commodore 64 (No longer available)
- M11 Pirates! MS-DOS 5 1/4
- M12 Pirates! MS-DOS 3 1/2
- M13 Pirates! Commodore 64 (No longer available)
- M14 Red Storm Rising MS-DOS 5 1/4
- M15 Red Storm Rising MS-DOS 3 1/2
- M16 Red Storm Rising Commodore 64

ORIGIN

- O1 Times of Lore MS-DOS 5 1/4
- O2 Times of Lore Apple 5 1/4
- O3 Times of Lore Commodore 64/128
- O4 Times of Lore MS-DOS 3 1/2

RADIO SHACK

- R1 DeskMate MS-DOS 5 1/4 CGA
- R2 DeskMate MS-DOS 5 1/4 EGA, VGA
- R3 DeskMate MS-DOS 3 1/2

SIERRA ON-LINE

- S1 Colonel's Bequest MS-DOS 5 1/4
- S2 Colonel's Bequest MS-DOS 3 1/2

STRATEGIC SIMULATIONS

- S3 Curse of the Azure Bonds MS-DOS 5 1/4 (2 disks)
- S4 Curse of the Azure Bonds MS-DOS 3 1/2

Select the demo disks you wish to receive and check them off on the attached order list. Be sure to order the correct disk format. Enclose \$3.95 (\$4.95 for 3 1/2-inch disks) for each disk ordered and return your payment in this postage-paid envelope.

- 5-Disk Discount: Take \$3.00 off for every 5 disks you order.
- MasterCard or VISA accepted for orders over \$20.00
- We'll pay the postage and handling

Name _____

Address _____

City _____ State _____ ZIP _____

Disks ordered _____ Amount _____

Subtotal _____

Subtract \$3.00 for every 5 disks _____

Subtotal _____

Sales Tax _____

Delivery Outside U.S. or Canada _____

Total _____

CO11

MasterCard or VISA accepted for orders over \$20.00

Credit Card # _____

Expiration Date _____ Signature _____

Send your order to Demo Disks
P.O. Box 5188
Greensboro, NC 27403

*Residents of New York, Pennsylvania, and North Carolina add appropriate sales tax for your state. All orders must be paid in U.S. funds drawn on a U.S. bank. MasterCard or VISA accepted for orders over \$20.00. Please allow 4-6 weeks for delivery. For delivery outside the U.S. or Canada add \$1.00 for airmail or \$3.00 for airmail. Offer expires January 31, 1990.

**BUY 5
DISKS
SAVE \$3**

SPECIAL NOTE

The following Demo Disks have special requirements: A1 and A2 require 512K and CGA; B1, B2, B5, and B6 require DOS 3.3 and EGA; B3 and B4 require 256K, CGA, and DOS 3.3; E1, E2, E7, and E8 require EGA and 512K; L1 requires a high-density drive; S3 requires 512K (640 for Tandy 16-color) and two disk drives of a hard drive; and S4 requires 512K (640 for Tandy 16-color). E7 and S3 are two-disk packages. M3, M10, and M13 are no longer available.

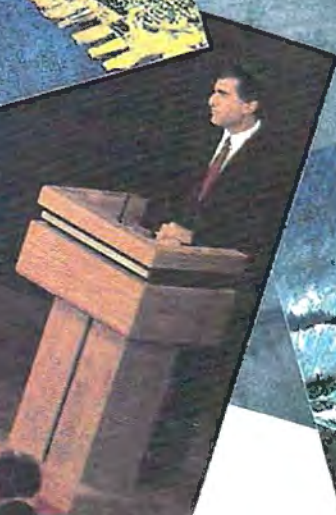
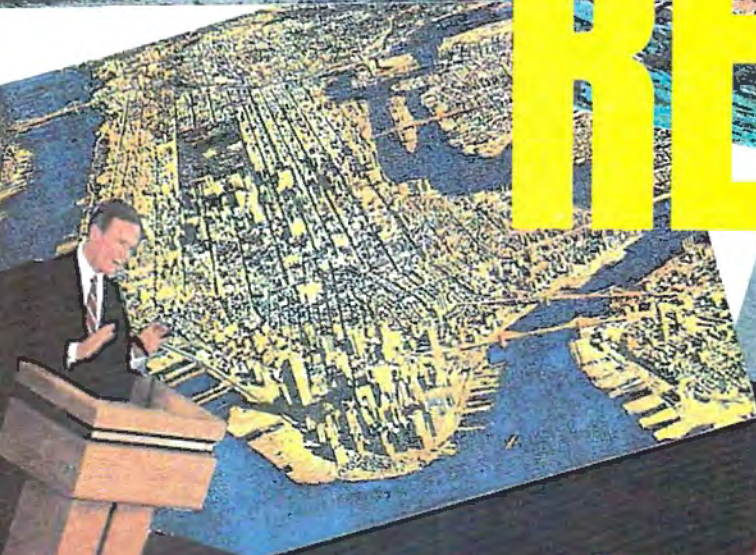


GET REAL



HEIDI E. H. AYCOCK

COMPUTER
SIMULATIONS—
THE NEXT BEST
THING TO REALITY



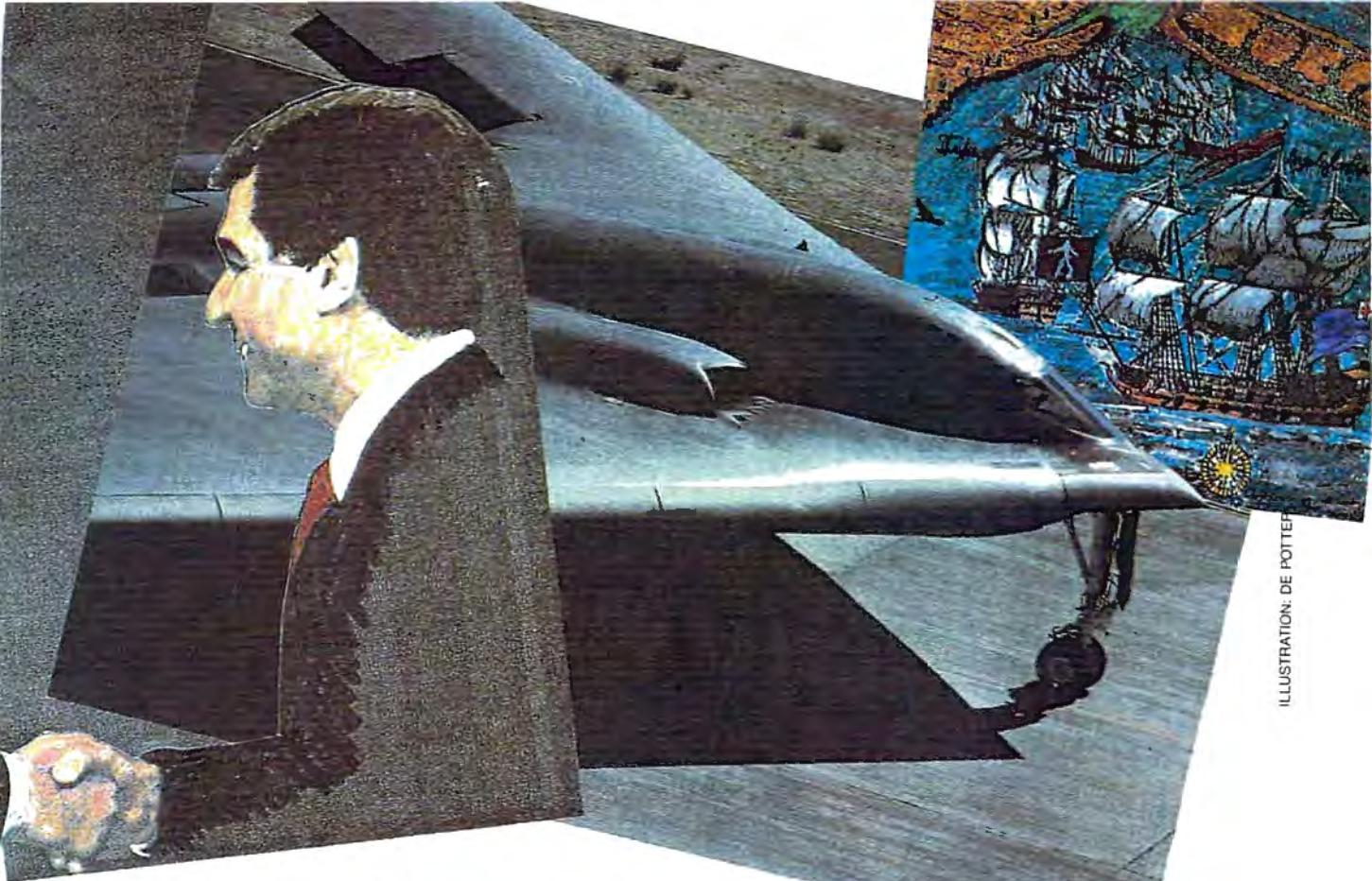


ILLUSTRATION: DE POTTEP

July 1988: George Bush is 14 points down in the polls. Nelson Hernandez cranks up *President Elect*, his political simulation, and proclaims Bush as the November victor. He predicts the distribution of electoral college votes within 1 percent and the popular vote within 0.13 of 1 percent.

"Dukakis tried to make inroads with the solid South by selecting Bentsen as his running mate," Hernandez says. "I could have told him that wasn't going to work. I consider myself the best predictor of presidential elections in the country."

Maybe he is. Maybe he isn't. But one thing's for sure, simulations are more than just games. City planners can experiment with Maxis Software's *SimCity*. Concerned citizens can learn about Stealth-fighter technology from MicroProse's *F-19 Stealth Fighter*. And eager students can develop a better understanding of our Latin American neighbors by leading Chimerica in Springboard's *Hidden Agenda*.

The Real Feel

Think of a simulation as a possibility engine. It sets up a situation, then lets you change parts of that situation. Finally, it shows you the result of your changes. Simple as that.

"I think *simulation* is a very broad category, and sometimes things

are called simulation for lack of a better or more specific term," says Jim Gasperini, senior designer at TRANS Fiction Systems, which produced *Hidden Agenda*.

"Simulation is like a species of theater," he says. "It puts you in a role. You're the protagonist, and the other characters are supporting roles. Then it's like an actor's improvisation workshop."

In a flight simulator, the simulation sets the scene in an airplane, creating your tools (your flight instruments and controls) and creating the factors that affect the plane. Those factors are all the outside influences—from the physical nature of air to the capricious whims of weather—that add to the scene. The simulation designer quantifies the factors by writing an equation to describe how much effect they have on the situation.

In a political simulator, setting a scene is more difficult because the external factors are often human influences. It's much easier to quantify how gale-force winds affect a plane than it is to quantify how general discontent affects a presidential campaign.

Using this process of collecting variables and creating equations, simulation designers develop models of the situations they're trying to set up.

"A model is a way of representing aspects of the real world inside the computer," says Sid Meier, vice president of MicroProse Software and de-

signer of *Pirates!* and *F-19*.

"The model is a key part of computer games, and it's one that has the potential to grow in sophistication in the coming years," Meier says. "That's part of the neatness of the future of computer games. It's the potential we have for making more and more sophisticated and realistic models of the world."

As computers get more powerful and memory becomes more plentiful, simulations grow more complex. And the more complex a simulation can be, the more like real life it can feel.

Adventures in Reality

Some simulations may sound more like adventure games than models of reality.

MicroProse's *Pirates!*, for example, drops you into the middle of the buccaneer age. You captain a sailing ship, collecting treasure and fighting other pirates. The game has many elements of adventure games, but it's still a model of reality. Fencing and sailing are based on the way a real fencing match is organized and the way a real ship responds to winds and storms.

"Even in products that are simulation-oriented, we've added some role-playing to let you start inhabiting the computer," says Meier.

"With people like Sid out there, we're beginning to consider that we can do more with simulation than just simulating a vehicle," says Gilman

GET REAL

Louie, CEO of Spectrum HoloByte. "The reason why *Pirates!* is such a good game is because it does more than simulate the vehicle. There are personalities and people involved."

Ezra Sidran, president of Intergalactic Development of Davenport, Iowa (maker of *Universal Military Simulator*), explains how simulations are different from other games. "Arcade games are more ballistics than anything else. Text games and adven-

ture games are involved with something hard—text parsers, language processing, and riddles. Simulations are very, very heavily grounded in logic. There's just no way around it. If a wizard shows up out of nowhere, then it's not a simulation."

Seize the Possibilities

With a possibility engine, you can predict the future, explore new worlds, try new vehicles, and lead the masses.

But the accuracy of the simulation is only as good as its model.

So Spectrum HoloByte's *Falcon* can be a good runway for prospective flyers, but it's certainly no substitute for real flight. You can't hop from computer cockpit to Navy fighter once you've mastered a flight simulator. There's simply no way to model all the factors involved in flying—not yet.

"There are some skills you just can't train for in simulators," says Louie, who designed and programmed Spectrum HoloByte's *Falcon*. His simulators train people in the generics of flying, making real-world training more efficient. He explains that a flight simulator can be a practical lesson as well as a fun adventure. "*Falcon* started off as a computer game," he says. "It's what I wanted to see on my Macintosh. When the product came out, the Air Force saw it and gave us a call. The Navy called us. The Pentagon called us. The next thing we knew, people wanted us to build simulators to train real pilots."

Meier also discourages people from trying to fly a plane with only simulator experience under their belts. "We try to keep our products interesting, but our primary purpose is to create for the player the interesting parts, not exactly what the real world is," he says.

"It's kind of a two-edged sword because there's got to be some realism," Meier says. "The simulation can't be too contrived, but it's not realistic to the extent that you could hop into the Stealth fighter. I don't think you can have both. The real world runs at a little less exciting pace than a game."

Other kinds of simulations, such as *President Elect* and *Hidden Agenda*, don't actually train you in a skill. They teach you about human nature.

"A lot of lessons are implicit," says Hernandez. Heed his teachings and you'll understand how a political campaign works. You'll also learn what factors make or break a candidate.

"I looked at the things that win an election," Hernandez says. "First of all, it's the people involved. What are their personal attributes? These are subjective things, but you recognize that these are subjective and you try to quantify them."

In *Hidden Agenda*, you learn about Latin American politics from the point of view of the people involved. "One of the wonderful things a simulation can do is put you in the shoes of somebody else," says Gasper-

TAKE THE CHALLENGE!



Available for the IBM PC and the Apple Macintosh

Thirty-four. Orange 19. Orange 19. Hut! ... Hut! Hut! Play the best ... **NFL Challenge** and **PRO Challenge**: Officially Licensed Products of the National Football League. For true collegiate basketball action, play the top twenty favorites in **Basketball Challenge**.

Tackle the **Bermuda Square** puzzle for a less "physical" challenge. Use pattern recognition to solve the puzzle. You might win \$5,000! If money gets you moving, become the richest person in the world with **Oligopoly**. Build your empire and conquer the world!

Call for **Free Catalog**.



XOR
CORPORATION

7607 Bush Lake Road, Minneapolis, MN 55435 1-800-635-2425 (612) 831-0444
1-800-NFL-CHAL

Circle Reader Service Number 116

STAR FLEET II

Krellan Commander

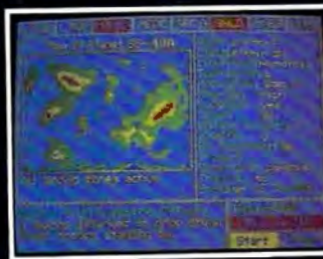
In STAR FLEET I you fought with the good guys. Now, join the *winning* side with STAR FLEET II - Krellan Commander.

As a ruthless Commander in the Krellan Fleet, penetrate 1700 star systems in 35 regions of enemy space as you seek out and destroy Alliance ships, bases, and planets in an all-out war to conquer the galaxy.



Command a powerful Battlecruiser and 4 escorts to form a deadly battle fleet. You control 12 critical ship systems, advanced weapons, warriors and shock troops, supply ships, troop ships, and over 100 commands.

Engage in real-time ship-to-ship combat against 7 classes of Alliance ships. Destroy them, or send shock troops to board and capture disabled vessels. Take prisoners to interrogate and torture, then cash them in as slaves to increase your mission rating.



1000 planets to exploit. Beam down landing teams to get supplies, establish bases, and negotiate treaties. Or, personally command the invasion and conquest of planets with legions of elite warriors. Successful missions earn battle honors and promotions as you advance through 7 ranks to become an Imperial Tribune.

interstel
corporation

For the IBM® PC & compatibles (512K, CGA/EGA graphics) - \$59.95.

TO ORDER: Visit your retailer or call 800-245-4525 in the USA and Canada.
Distributed by ELECTRONIC ARTS DISTRIBUTION.

P.O. Box 57825 • Webster, TX 77598
(713) 486-4163

Circle Reader Service Number 1

WHITE DEATH



Historical map drawn from 1:100,000 scale maps captured from the Red Army by the Wehrmacht and captured from the Wehrmacht by the Allies.



Magnified scrolling view shows even more detail, including unit ID, unit type, damage, movement expended, and transportation category.

You are on the Russian Front, winter 1942-1943. As the German Sixth Army slowly starves in the devastated city of Stalingrad, the Soviets launch a second onslaught. The mission: Encircle and destroy the German garrison entrenched at the vital rail junction of Velikiyi Luki. The stage is set for one of the most bitterly fought battles on the Eastern Front.

Historical accuracy, crucial detail, realistic sound effects and advanced personal computer technology combine to make White Death a highly challenging and exciting wargame.

White Death is adapted from the GDW game of the same name which won, in the year it was released, the Game Designer's Guild Award and F&M's Best Operational Game Award.

- Six Scenarios
- Play by Telephone
- Computer Opponent
- Bunkers
- Morale
- Headquarters
- Tank Fright
- Commandos
- Weather Effects
- Sound Effects
- Unit ID
- Rockets
- Supply
- Artillery Spotting
- Support
- Barrage
- Garrisons
- Rail Movement

Amiga® with 1 Megabyte \$59.95

IBM with 512 k and 256 k EGA \$49.95

COMMAND Simulations
Bldg 3, 297 North Street
Hyannis, MA 02601

VISA and MC orders call toll free
1-800-242-1942
For information and tech support call
1-508-790-1994

Also available for the AMIGA
Blitzkrieg at the Ardennes

Circle Reader Service Number 117

GET REAL



Role-playing features make the *Pirates!* simulation more engaging.



After seeing *Falcon*, the Pentagon asked for training copies.

ini. "It's perspective shifting. Our goal was to put you in the role of a Latin American leader. The more you play *Hidden Agenda*, the more you are encouraged to look at the world as a Latin American would."

You don't learn concrete facts from Gasperini's simulation. You learn about the Latin American experience. "*Hidden Agenda* teaches patterns of conflict, and it teaches what the issues are that are important in Latin America," he says. "Then people can turn around and look at the actual history and current events and be sensitized to the underlying issues that cause these events."

His simulation has attracted the attention of the Foreign Service Institute, an arm of the State Department. That agency uses *Hidden Agenda* in its training classes. Diplomats, drug

enforcement officers, and CIA agents alike delve into the world of Chimerica in an effort to look at Latin America in a new way.

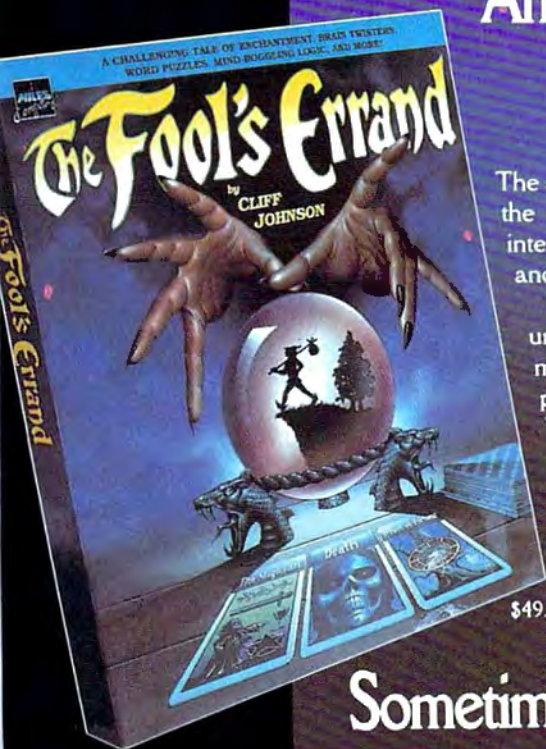
For the lessons learned in war rooms, *Universal Military Simulator* is a good choice and a good teacher. The game teaches you general battle strategy. "As far as *UMS* goes, you definitely learn lessons," says Sidran, who designed the game. "You can learn the lessons that Lee learned at Gettysburg, for example. That is, you cannot charge thousands of men across an open field against masses of artillery."

Underneath all the obvious lessons is a lesson about the logical and illogical ways that the world works. Simulations are based on a lot of rules and a few random numbers. But the games are still unpredictable. ▸

A Fool's Errand- 1492.



Columbus
Discovers
America.



The Fool's Errand- 1989.



America
Discovers
A Great
New Game.

The award-winning *Fool's Errand* is a game like no other. It tells the enchanting story of the fool in his search for wisdom, intertwined with over 80 original puzzles: graphic, word, logic, and more.

Each unique puzzle is woven into the threads of the unraveling story. The puzzles give you pieces of the sun's map. But the map is a puzzle as well. And there are more puzzles that lie hidden in the map.

You figure it out.

And when you do, you will be rewarded with a four-minute animated finale.

You will have earned it.



\$49.95. For IBM or compatible, Tandy, and Macintosh computers. Available at your local retailer or order direct from Electronic Arts Direct Sales at 1-800-245-4525.

Sometimes, it's wise to play the Fool.

Circle Reader Service Number 177

MILES
Computing

GET REAL

Messin' with the Real Thing

No matter how much you learn about a particular simulation, and no matter how well you understand the underlying model, you can't win with counterintuitive tactics. You can't survive your tenure as Chimerica's leader, for example, by killing everyone you encounter. You can't use your understanding of the model underlying Maxis Software's *SimCity* to build a city that loves pollution. While simulations are based on a quantitative model, the challenge comes from their unpredictability.

"The trick is, if the person who wrote the program loses once in a while then you know that you have a pretty good model that makes the game unpredictable," says HoloByte's Louie.

Many designers agreed that they can't cheat at their own simulations.

"If you understand the simulation, it helps you win, but what messes people up is the unpredictability," agrees Will Wright, *SimCity*'s designer and part owner of Maxis. "Also, you can always run a simulation forward, but you can't run it backward. And, theoretically, you can't compute the final result without going through the game."

Random numbers help account for chance in a simulation and keep the game from becoming too familiar. But there's another element that keeps games from going stale: emergent behavior.

"If you set up properly, you can have a lot of things happen that the designer didn't even plan," Wright says. "It's called *emergent behavior*. It emerges as a result of the rules. It wasn't coded into the program. I think emergent behavior is something we should be striving for."

Emergent behavior and chance combine with recognizable patterns and just enough predictability to give the best simulations a rich sense of realism.

Your World or Mine?

For a taste of other worlds, other jobs, other experiences, you can't beat a simulation. Some simulations provide escape hatches to new worlds. Others act as crystal balls, revealing tomorrow's events.

Simulations have their own tomorrow. Look for more mixing of role-playing adventures and simulations. Look for games that bring futuristic cars and flying machines to your desktop. Experience nonlinear narratives and interactive theater.



Each town is a new city-planning experiment in *SimCity*.

By the way, Hernandez says to look for Charles Robb, a Virginia Democrat, to make a strong run for the 1992 presidency. But if the economy stays healthy, he says, the incumbent Bush can't be beat. Whichever scenar-

io proves correct, simulations will remain home computer winners. □

Heidi E. H. Aycock is an assistant editor for *COMPUTE!*, and the popular mayor of Heidi Hill, her *SimCity* creation.

The Old Possibility Shop

Intergalactic Development
1427 Washington St.
Davenport, IA 52804
(319) 323-5293

Universal Military Simulator

Amiga—\$49.95
Apple IIGs—\$49.95
Atari ST—\$49.95
IBM PC and compatibles—\$49.95
Macintosh—\$54.95

Maxis Software
Distributed by Broderbund
17 Paul Dr.
San Rafael, CA 94903-2101
(415) 492-3200

SimCity

Amiga—\$44.95
Commodore—\$29.95
Macintosh—\$49.95

MicroProse
180 Lakefront Dr.
Hunt Valley, MD 21030
(301) 771-1151

F-19 Stealth Fighter

Commodore 64/128—\$44.95
IBM PC and compatibles—\$69.95

Pirates!

Atari ST—\$44.95
Commodore 64/128—\$44.95
IBM PC and compatibles—\$44.95
Macintosh—\$59.95

Spectrum HoloByte
2061 Challenger Dr.
Alameda, CA 94501
(415) 522-1164

Falcon

Amiga—\$49.95
Atari ST—\$49.95
IBM PC and compatibles—\$49.95
Macintosh II—\$59.95

Springboard Software
7808 Creekridge Cir.
Minneapolis, MN 55435
(800) 445-4780

Hidden Agenda

IBM PC and compatibles—\$59.95
Macintosh—\$59.95

Strategic Simulations
675 Almanor Ave.
Sunnyvale, CA 94086-2901
(408) 737-6800

President Elect

Apple II—\$14.95
Commodore 64/128—\$14.95
IBM PC and compatibles—\$14.95

Tap the Resource

Join DELPHI and you'll tap into one of the most comprehensive PC resources available. With your personal computer and modem, you'll connect to DELPHI's *Business Forum* and *PC & Compatibles Special Interest Group*, where you'll find all the expert advice and the wealth of free and shareware software you need to make the most of your PC.

And you'll find all the services you expect from a full-featured online information service. With a simple phone call, you get the latest *news*, discounts on *travel reservations*, complete business and financial services, *stock quotes*, online *shopping*, *electronic mail*, *telex*, *fax*, conferencing, multi-player games, special-interest groups on a wide and expanding range of topics and even a complete encyclopedia.

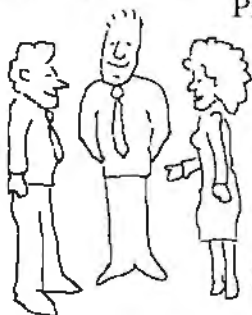


What your PC was really meant for.

Participate

Chat with colleagues, consult computer experts, and make new friends.

Exchange views on important issues or cut the cards with the regulars in the Thursday night poker tournaments.



Wallet-Friendly

You can access DELPHI with a local phone call from almost anywhere. There is NO premium for access at 1200 or 2400 bps, and connect rates are as low as \$4.80/hour - *the lowest of any major online service.*

Save \$20!

Join now and you'll save \$20 on the membership fee. Your lifetime membership includes your first two evening hours* online and a copy of Simon & Schuster's *DELPHI: The Official Guide*, for only \$29.95! A \$49.95 value!

There's No Risk

If you're not completely satisfied, simply return your handbook within 30 days for a refund of your membership fee.

Sign Up Online Now!

With your PC and modem dial 1-800-365-4636.

Press RETURN once or twice. At *Username:*, type **JOINDELPHI** and at *Password:*, type **COMPUTE**. Have your credit card information or checkbook handy.

And shortly, you'll see what your computer was really meant for.



DELPHI

The World's Premier Online Information Service

General Videotex Corporation • Three Blackstone Street • Cambridge MA 02139
800-544-4005 • 617-491-3393

* Usage credits are given in terms of dollars: the two hour credit with this offer is worth \$14.40. The book is sold nationally for \$19.95. Shipping is included within the U.S.

GAMESCOPE

H I N T S A N D T I P S F R O M O U R R E A D E R S

Greens are good for you. Well, at least the ones found on golf courses. Crowds of golfers head out to local courses every weekend to seek sport and relaxation. But what to do on the rainy Saturdays? Silicon golf courses are open 365 days a year, and you never have to pay a green fee or wait to tee off.

You overhear the ABC sportscaster as you line up your shot: "He's 36 yards from the green and should make par. There's the backswing, the connect—*was that a driver?* Yes, he used a wood and the ball went into orbit!" To save yourself from embarrassment and wasted strokes, make sure you select the club that's appropriate for your current shot. A couple of pointers: Unless you're bogged down in a sand trap, woods generally send your ball farther than irons. Also, consult the chart of club ranges that accompanies your golf program—it's like having a personal caddy.

For some shots, you may decide to choose a club with more distance potential than necessary and hit the ball with less than full power. The most obvious case is when you're chipping the ball onto the green. The target distance will almost always be less than the range of your pitching wedge. In any other circumstances, especially around water, you'll find that less-than-full swings will produce less-than-desirable results.

You'll have to make some rough choices when your ball lands outside the fairway and off the green. Shots from sand traps and the rough require extra power. Add 25 percent to the power you would select under fairway conditions.

Regardless of your ball's proximity to the green, an obstacle might determine the club you choose. If you hit a tree from close range, your ball may ricochet and you'll find yourself in a bad spot. If you're pretty far from the hole, you may want to use a two

or three iron; but, a lower-number club won't lift the ball above tall obstacles. A five or six iron may not get you to the green but might get you over a tree and back onto the fairway with a clear shot at the hole.

Although straight shooting is normally the best path to a lower score, sometimes using a hook or a slice is a better bet. These two shot deviations have opposite effects. Slicing sends your ball to the right, while hooking veers it to the left. The harder you hit the ball, the more pronounced the effect will be. These shots come in handy on doglegs, holes that bend sharply to the right or left.

Wind adds an element of realism to golf simulations. The higher you hit your ball, the greater the wind's effect on your shot, so you'll need to compensate more when swinging a seven iron, for example, than when swinging a two iron. You can either aim partially into the wind or use a hook or slice to overcome the breeze's force.

Just like in the real game, putting will affect your score more than any other aspect of the game. Two major factors to consider when attempting to successfully sink the ball are distance and slope (or *break*, in some games). On a straight and level surface, you'll find that hitting the ball with enough force for an extra four feet will give you more consistent shots. Remember to adjust the power of your stroke if you're shooting up or down a slope. Grades that cause a

straight shot to roll away from the hole are most troublesome. The only solution is to aim toward the high ground. Greater distances need even larger compensatory angles.

Weary of the sublime and a ten-plus handicap? Miniature golf satisfies the need for relief, mostly comic. Here's some advice: Don't go alone, even if you're the only one at the computer. Using multiple players will increase your odds of scoring well and offer you a better chance to master the hole. You're also more likely to get through to the next hole in games that allot a certain number of total strokes for each hole.

If you don't know your own strength, and you're not sure how hard to hit the ball, take it easy. In almost every case, less force is better.

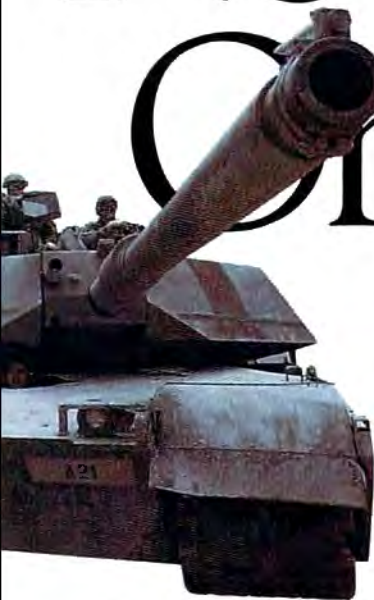
On some around-the-corner shots, you may have to bank it. Consider your shot carefully, play all the angles, and remember some geometry: The ball will come away from the wall at the same angle at which it struck. Good luck with your game, and go easy on the 19th hole!

Richard C. Leinecker

If you've got game tips and shortcuts of your own, we'd like to hear from you. Send your tip, no matter how brief, to COMPUTE! Feedback, P.O. Box 5406, Greensboro, North Carolina 27403. If we publish your suggestion, we'll send you a gift.



Now Shooting On Location.

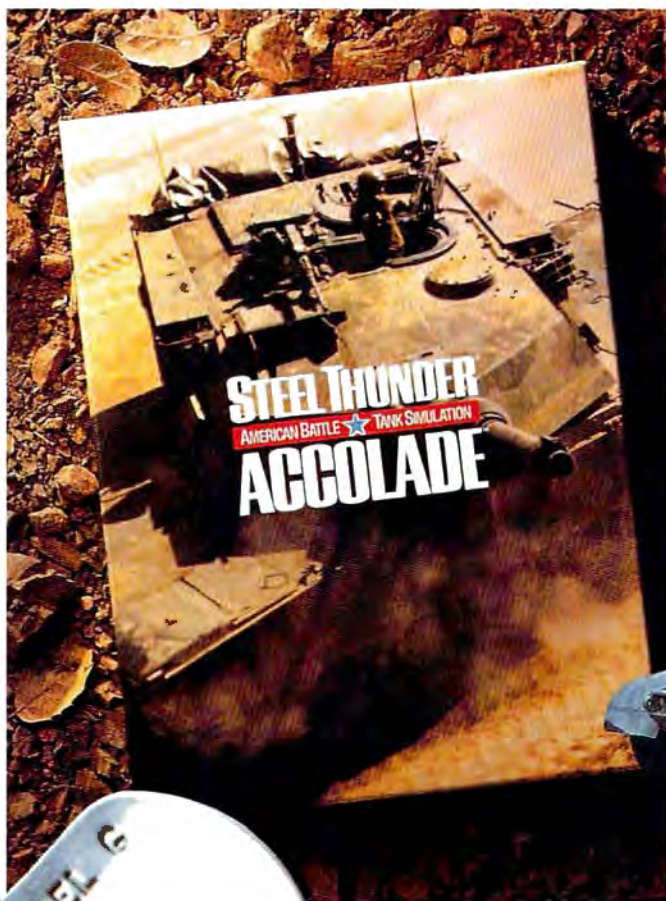


Cuba. Syria. West Germany.
Now you can visit any of these
global powder kegs and unleash
60 tons of lethal firepower.



Welcome to the front lines.
Time to rock 'n roll.

Steel Thunder™ is the only
modern battle tank simulation
that puts you behind the con-
trols of four state-of-the-art
American battle
tanks.



the M60A3 Main Battle Tank,
the M3 Bradley Cavalry Fighting
Vehicle or the devastating
M1A1 Abrams Main Battle Tank.



Fight 24 day and night battles
in three theaters of operation.
Master authentic firing sequences



and follow actual military
land strategy. Rumble over rug-
ged enemy landscapes at 70 mph.
Eye-ball Soviet armor through
thermal gunsights. Blow kisses
to the Eastern Bloc with six
authentic weapons systems —
including TOW-2 missiles.

America's four best battle
tanks vs. Russia's top combat
armor. Three of today's crisis
regions. This is the kind of simu-
lation that makes the Pentagon
sweat.

How to order: Visit your favor-
ite retailer or call 800-245-7744.



You'll do combat in war zones
where East-West tensions run
rampant.

Assume the roles of Com-
mander, Driver and Gunner,
then choose your weapon — the
M48A5 Patton Battle Tank.

Actual game screens from IBM PC EGA version of the game. Other versions may vary.

ACCOLADE™
The best in entertainment software.™



LEARNIN

LEARN TO DESIGN INSTRUMENT SOUNDS WITHOUT BANKRUPTING YOURSELF ON PROFESSIONAL SAMPLING HARDWARE AND SOFTWARE. THIS PACKAGE REALLY SINGS.

The Music Studio 3.0

- Compose and Play Music
- Create Your Own Sounds and Instruments
- Real-Time MIDI Input/Output

ACTIVISION

the features are best understood only by experienced arrangers.

The Music Studio 3.0 falls right in the middle. It's reasonably priced at under \$100, is easy to use, and can charm a pro musician's ears by playing 15-voice arrangements through MIDI instruments. Best of all, it has a lot to teach about making music with computers.

The program's versatility required that I experiment with three separate system configurations to cover all the possibilities: I tested it on a stock PC-monochrome system to simulate the use of only the tiny built-in speaker for one-voice music; I tried the program with a Tandy 1000SL with its 16-color graphics and three-voice digital sound and sampling features; and I pushed the package to its MIDI limit on a CGA-equipped XT-class com-

puter with a Roland MPU-401-compatible MIDI interface and several MIDI instruments.

Earlier versions of *The Music Studio* featured a user interface created by Audio Light of Los Gatos, California (makers of the colorful *Koala Painter* program). But *The Music Studio 3.0* for PC compatibles uses Tandy's DeskMate as its primary user interface, with overall design and development credits still going to Audio Light. In some ways, I like Audio Light's interface better than the new DeskMate arrangement, but with so many Tandy and PC-compatible users already familiar with DeskMate, it's clear why Activision made the switch. The package comes with a runtime

COMPUTE! CHOICE

JOEY LATIMER

During the six years I've been playing with music programs on the IBM PC and compatibles, I've seen a large gap develop between so-called "home and educational" products and those earmarked for "professionals." Most of the programs I've tried in the former category use only the PC's poor-quality speaker, don't support harmonies or multi-voiced sound, and tend to be discounted in price—and it shows. And while many high-powered MIDI recording, scoring, and sound-editing software packages have emerged, the prices are generally prohibitive and

G



version of DeskMate for users who don't own a copy; also, instructions are provided for loading and running *The Music Studio* on your current system, if you're a DeskMate user.

The first thing to strike me about *The Music Studio 3.0* was how user-friendly it is. When the program starts, you're brought face-to-face with a musical staff, a pointer that you can control with a mouse or joystick, and a screen made up of pull-down menus and icons that you use for selecting various options. Moving the pointer up and down the staff produces tones corresponding to the notes indicated on the staff. For music students, this creates an immediate relationship between musical notation and the sound a note makes. Of course, if you want to put notes on the staff without hearing them, you can turn off that feature.

The title of the current song is displayed across the top of the screen with the date and time. Just below, the DeskMate-style menu bar offers pull-down menus labeled File, Edit, Options, Notations, Notes & Rests, and Goodies. The work area takes up the middle of the screen and consists of a musical staff for entering standard musical notation and vertical and

horizontal scroll bars for scrolling through the current musical composition. At the bottom of the screen, a series of icons represent controls for song playback, including volume, tempo, time signature, key signature, note value, song number, pitch name, instrument name, and the play button. You can access each of *The Music Studio's* features represented on the main screen with your mouse or joystick button, adding to the program's intuitive feel; just point at what you want and click.

The Music Studio 3.0 gives you a choice of two methods of composing: You can place notes directly on a staff (grand, treble, bass, alto, or tenor) using the point-and-click method; or, if you've connected a MIDI instrument to your system, you can record a musical performance that the program will automatically convert into notes on the staff. Also, the instrument sound you select when entering notes is the one that plays back. But although other *Music Studio* versions let you paint music on the screen using a stylus, that feature isn't included in this PC incarnation. (*The Music Studio 2.0*, designed for the Apple IIgs, does have this capability.)

If you use a 16-color Tandy or EGA monitor, the program assigns a color to the instrument you select. For example, violin notes might be green, flute notes might be light blue, and piano parts might be pink. This color scheme eases the editing process for music students because they can tell exactly which instruments they're affecting when they change the arrangement. In the case of CGA and monochrome systems, the notes for each instrument are the same color, but each note has a different graphics pat-

tern. It's more difficult, but not impossible, to identify different musical parts using this approach. If you're serious about learning music composition on the PC and you go with this package, I recommend an EGA-equipped (or a Tandy 16-color) computer.

For ultimate control over the composing process, place your notes directly on the staff. The pull-down menus make it easy to select the exact musical notation required to produce the sound you want to hear. Using the Notation menu, you can add notations such as crescendos, diminuendos, repeats, measure bars, beams, ties, and slurs to a song. The Notes & Rests menu lets you change the type of notes and rests you add to a song by adding dots, accents, staccato marks, accidentals, triplet markings, and rests. *The Music Studio 3.0* gave me an enjoyable, educational experience as I entered, bar by bar, pieces by my favorite classical composer, J. S. Bach. After I had entered each bar of *Bourrée*, I played what I had and listened for mistakes. Being the klutz that I am, I made some bad ones. In the course of straightening out the problems, however, I learned a lot about musical notation that I never learned during guitar lessons.

Using a MIDI instrument to enter notes is fun but difficult unless you're a good player. I used a Kurzweil 1000 synthesizer with a velocity-sensitive keyboard to test the MIDI Record feature. After you select MIDI Record from the Options menu, you're offered the option of a metronome (highly recommended) to keep time while you play and record. Pressing the Start Record button starts the



Editing sampled sounds introduces you to a new world of unique sound effects.

metronome clicking through the internal speaker of the PC at the tempo you've selected. As you play along with the beat, your performance is recorded until you press a key to stop. Unless you play precisely on tempo, however, your musical score is likely to be pretty jumbled-looking. You may get a lot of 1/16 notes when you only played 1/8, 1/4, and 1/2 notes. If your playing was a little off-tempo, you can clean up your score with the program's Quantize option, which rounds off notes to the nearest 1/64 to 1/2 note. Unfortunately for me, this really messed up some of the songs I played (I'm not a very good piano player); however, I found that if I played a song pretty close to the correct tempo, the quantized score would play back OK and look fine. After using *The Music Studio 3.0's* MIDI Record feature, I had gained a lot of practice and a new appreciation for good players.

Entering notes is but one step in the composing process. The program's powerful editing tools are there to take you to the next level, where you modify your score to your liking. The program's editing arsenal allows cutting, copying, merging, pasting, transposing, or filtering blocks within a song. (A *block* is a section of music that you define by highlighting. By defining and altering a whole block at once, for example, you can avoid having to transpose an entire song note by note—and that saves work and time.)

No piece of music can be complete until it's heard, and *The Music Studio 3.0* includes plenty of options

for this experience as well, all dependent on the type of computer setup you have. If you're using a PC without MIDI instruments connected or if your PC isn't a Tandy SL or TL model, then you're limited to hearing a single note at a time emitted from the PC's tiny speaker.

If you have a MIDI interface connected to your computer, along with one or more MIDI instruments, you can play more complex arrangements containing up to 15 independent musical parts. Of course, playback may require several MIDI instruments. In testing this feature, I created a simple four-bar arrangement that used all 15 instruments and assigned each of them to a different MIDI channel. I hooked up my Kurzweil, two Yamaha FB-01 MIDI sound modules, two Casio CZ-101 synthesizers, and a drum machine. I was then able to isolate and test all of *The Music Studio 3.0's* 15 instruments. Even though my arrangement sounded horrendous when all the instruments played together, I'm living proof that you can play all 15 at once.

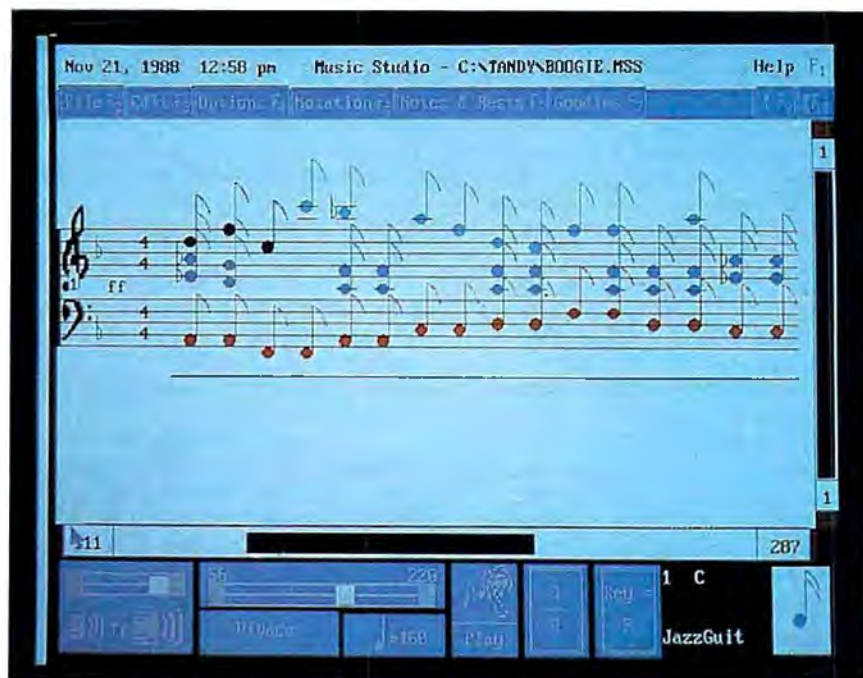
Tandy SL or TL computer owners get a real treat out of this program, not the least of which is the chance to play back songs with up to three voices of digital-instrument sound samples. In addition, you can use *The Music Studio's* Design Sound feature to create, edit, and store your own instruments using a sampling rate of

11,000 samples per second. You edit on a high-resolution graphics display using editing functions I've previously seen only in expensive professional sound-editing programs. With a mouse, you can modify waveforms and play the current sound you're editing so that you can continuously hear what you're doing. You'd be hard-pressed to find a better way to gain hands-on experience designing instrument sounds without spending big bucks for professional sampling hardware and software (we're talking \$1,000 and up, easy).

Printer support on *The Music Studio 3.0* enables you to print your music to a Tandy DMP 105, 200, 420, or 430 printer; an IBM-compatible graphics printer; or a Hewlett-Packard LaserJet or LaserJet-compatible printer. On my IBM-compatible graphics printer, I found the results to be good enough to read but not anything fancy. A previous version of *The Music Studio* designed for the Apple IIGS produced far more impressive results on an ImageWriter II. Also missing from the PC version is the ability to integrate and print lyrics along with a musical score. This feature made it fairly simple to create an accurate melody/lyric lead sheet for archiving songs, and I wish it were offered in version 3.0.

A 92-page user manual documents all of *The Music Studio 3.0's* functions in a clear, easy-to-follow manner. Especially helpful are the many screen shots throughout and the 10 pages dedicated to hardware/software requirements and installation. I was able to get the program up and running quickly, without a hitch, on each of the systems I used.

For experimenting and learning about music, it's hard to beat *The Music Studio 3.0*. Create simple or elaborate musical scores and get instant results. Try new musical ideas without worrying where you'll find the soloists, trios, and orchestras to play them. The program is simple enough for a child to operate yet powerful enough for incorporating classical works and faithfully reproducing them through modern MIDI instruments. Whether you're new to *The Music Studio* line or an old hand at computer-generated music, this is one package that's really in tune.



The Music Studio 3.0 displays notes on the screen as you compose your masterpiece.

The Music Studio 3.0

IBM PC and compatibles—\$99.95
The Music Studio 2.0 for the Amiga (\$79.95) and the Apple IIGS (\$69.95)

ACTIVISION
 Distributed by Mediagenic
 3885 Bohannon Dr.
 Menlo Park, CA 94025
 (415) 329-0800

How to tell if an integrated software package is right for you.

Look How Things Have Changed.

When integrated software first appeared, it had limited functionality, was difficult to learn, cumbersome to use, and cost between \$300 and \$500. Today most integrated products have a more complete set of features, are easier to learn, and are priced between \$149 and \$259.

Amazingly, critics say Eight-in-One™, a product costing only \$60, is the easiest to learn, easiest to use, yet has the highest performance. Who needs an integrated package the most? And what can you do with them?

Home Office and Small Business People Have Discovered a Secret.

Working in a home office or small business usually means that you do a little bit of everything - write reports, do financial analysis, schedule appointments, track customer information, and anything else it takes to run a business without lots of people. If you have all of the tools you need in one integrated software package you get several immediate advantages.

Imagine having a collection of robust applications, poised in a single program, ready to tackle all of those tasks you always thought that a computer should be good for . . . to put a graph into a letter and have it finished three minutes later . . . to instantly check your next appointment, or automatically dial a customer on the telephone while you're in the middle of working on a spreadsheet.

With integrated packages you can save a lot of time. Since you probably teach yourself how to use software (unlike working in a large corporation where you'd get training and support from the department down the hall) you'll appreciate how much more quickly you'd become productive using one integrated package rather than many separate programs. Because when you learn one tool, you've learned them all.

And you can save a lot of money too - over \$1000. Because you won't have to buy many separate packages like a word processor, spreadsheet, database, graphics, and communications program, just to get all of the tools you could find in one complete, affordably priced, integrated package.

What Do You Get In The Best Integrated Packages?

The best integrated packages put a complete solution at your fingertips. They provide you with all of the useful tools that you need to do your job - a word processor, spreadsheet, database, outliner, desktop organizer, communications module, graphics program and powerful spell checker and thesaurus.

Well designed integrated packages are obvious-to-use. All of the options are right there on the screen. And each tool should work in the same way, so that after spending a few minutes working with one of the applications, you've virtually mastered the entire program.

What's more, the best integrated packages are lightning fast. Doing things like recalculating a large spreadsheet or spell checking a letter should never slow you down. So with a high quality integrated package you take full advantage of the power of your computer. Many users say they get their work done in half the time.

Surprises in Eight-in-One.

Here's why over 150,000 people in home offices and small businesses have switched to Eight-in-One in the last two years.

With Eight-in-One you get more useful tools than you find in other integrated packages. You not only get a powerful spreadsheet, word processor, database, graphics, and communications program, but also a desktop organizer, outliner, spell checker, thesaurus and pop-up calculator.

You might expect the most expensive packages to have the highest performance. But Eight-in-One actually outperformed Microsoft Works® and PFS: First Choice™, costing more than twice as much, in a recent test conducted by a nationally recognized independent software testing laboratory.

Eight-in-One is the only program that's truly obvious-to-use. Knowing what to do next is always apparent from the on-screen prompts and drop down menus. According to Eight-in-One users, this experience goes beyond "easy learning". They say it's more like not having to learn at all, because everything is so obvious on the screen.

The Experts Agree . . .

"... the best integrated package I've ever seen ..."

-Home Office Computing

"You don't need to open the manual at all to use BetterWorking Eight-in-One"

-PC Magazine

"Eight-in-One may be the only computer program you'll ever need ..."

-New York Times

"... PFS: First Choice and Microsoft Works, move over!"

-PC Magazine



Computer Editor's Choice

DISCOVERIES

DAVID STANTON

Poking fun at educators, R. J. Heathorn's satirical essay "Learn with BOOK" first appeared in 1962. In it the English writer took aim at educators and others he felt had succumbed to the lure of expensive and unproven gadgetry and forgotten the time-tested power of books as teaching and learning tools.

He compared books with electronics, and, on every point, books came out on top. Books are small and require no electricity, so they can be transported and used anywhere. Books cover every subject and are available for everyone from beginning readers to college professors. Books are inexpensive. They require no batteries and have no confusing buttons, switches, or knobs—just easy, orderly learning from page to page.

Of course, Heathorn couldn't have had modern-day microcomputers in mind. The first of those didn't even appear until the mid-1970s. Nevertheless, his point is well taken. Expensive doesn't necessarily imply effective. Newer doesn't always mean better.

But if he were writing that essay today, he might take a different view. Experienced craftsmen usually select the best tool for the job without regard to matters of history or hype, and writers are no different. In recent years, computers have proven themselves far superior to traditional print media in a number of situations.

For beach reading, magazines and paperbacks remain supreme. Sand and sun won't harm them. Shakespeare, Hawthorne, Michener, and Frost still read better from cover to cover than from screen to screen. At 7:00 a.m. on a leisurely weekend morning, nothing can replace freshly brewed coffee and the local newspaper. But anyone who's still doing research the old-fashioned way has a lot to learn about technology.

Remember the *Reader's Guide to Periodical Literature*, those green in-

dexes we spent hours poring over in high school and college? The *New York Times Index* wasn't perfect either, but it kept our thumbs relatively free of black printer's ink. Even with those venerable research tools and a myriad of specialized indexes, a diligent few spent more than one evening leafing through stacks of magazines and papers. Computers and compact discs have changed all that!

Consider InfoTrac's *Magazine Index Plus*. This CD-ROM database from Information Access Company covers over 400 popular magazines and recent issues of the *New York Times*. Monthly updates assure currency, and listings going back four years (two months for the *Times*) guarantee sufficient depth for many purposes. For those who need more, InfoTrac provides a four-year back-date of its *Magazine Index Plus* and several additional CD-ROM indices as well—the *TOM Database* for secondary schools, the *General Periodicals Index*, the *Academic Index*, and others.

Users can search by subject or author, and a research task that took hours in Heathorn's day requires less than one minute today. Next time your college pride and joy brings tears to your eyes complaining about his or her dated word processing software, think about that.

Ironically, electronics have scored their largest victories over print media in libraries. H. W. Wilson Company, one of the oldest and most respected publishers of reference materials, now produces CD-ROM versions of many titles, including the previously mentioned *Reader's Guide*, Grolier's *Academic American Encyclopedia* is available on compact disc, as are Bowker's *Books in Print*, the *Merriam Webster Ninth New Collegiate Dictionary*, and hundreds of other library favorites. Not only does researching CD-ROM databases take less time, but students with a computer and a modem don't even need to leave home. They can do much of their work via national online ser-

vices. Three computer terminals have taken over all card-catalog duties at my alma mater.

But you don't need to go to a library to see computers improving upon print. A home computer can do many things with text that books could never do.

Imagine pages that talk and stories that respond to reader input. *Tran* (shareware for IBMs and compatibles) and *CNSay* (Macintosh freeware; requires Macintosh—also free) add speech-synthesis capabilities to their host computers without requiring any additional hardware. Just load a text file into them, and they'll read it aloud. By now everyone knows about

**GADGETS
NO MORE
COMPUTERS
TAKE HOLD IN
EDUCATION
AND RESEARCH**

interactive adventures that mix text with graphics and sound. Both commercial products and public domain/shareware plots abound. With Scholastic's *Super Story Tree* and similar software, users can create their own interactive adventures. And don't forget hypertext applications. What book could provide instant definitions and other clarifying material at the click of a mouse?

Bibliophiles don't need to worry; no one is predicting the complete elimination of print media. Nor should we judge Heathorn too harshly. After all, who could have predicted in 1962 what we take for granted today? □

INSTANT BIBLE ACCESS - ONLY \$49



QUICKVERSE BIBLE CONCORDANCE

QUICKVERSE BIBLE CONCORDANCE is a fast, easy-to-use tool for general Bible study and in-depth Bible research. QUICKVERSE puts the complete text of the King James, New International, New King James, or Revised Standard Version of the Bible at your fingertips, allowing you to:

- Instantly locate any word or verse in the entire Old and New Testament in only tenths of a second — as fast as any Bible research program available today — or faster.
- Perform partial phrase or word searches. For example: searching for *Bapt* With* would locate any verse containing *Baptize With*, *Baptized With*, and *Baptizing With*.
- View verses in context. You can easily browse back and forth through surrounding verses and chapters.
- Limit your searches to a particular range of books, chapters or verses.
- Print passages with the search phrase in bold type, and with words added by the KJV translators in italics.
- Use any monitor and printer.
- Export passage selections to a file for use with your favorite word processor.
- Display or print scripture in several popular formats (e.g. verse reference following or in front of passage, etc.).

Hard to believe the \$49 price? Don't worry, Parsons Technology is known for software that outperforms products costing much more. And the QUICKVERSE BIBLE CONCORDANCE is completely guaranteed. **If you're not 100% satisfied, return the QUICKVERSE BIBLE CONCORDANCE within 30 days for a full refund** (excluding shipping).

Available in IBM or Macintosh versions, with printed manual. Not copy protected.

For Same Day Shipping
VISA, MASTERCARD & C.O.D. ORDERS CALL

1-800-223-6925

(In Canada, call 319/395-7300)
Weekdays 8:30 a.m. to 9:00 p.m. CST
Saturdays 9:00 a.m. to 5:00 p.m.
Or send check or money order payable to Parsons Technology.



Dept. COM
375 Collins Road NE
Cedar Rapids, Iowa 52402

Customer may select:

- King James Version
- New International Version (Add \$10 publisher's royalty)
- Revised Standard Version (Add \$4 publisher's royalty)
- New King James Version (Add \$4 publisher's royalty)

Then select IBM or Macintosh version:

- IBM or Tandy version Macintosh version

NAME _____

ADDRESS _____

CITY _____

STATE/ZIP _____

CHECK MONEY ORDER VISA MASTERCARD

CARD # _____ EXP. DATE _____

Iowa residents please add 4% sales tax. Orders outside North America please add \$10 shipping and handling.

IBM version requires IBM, Tandy or compatible computer with 256k or more memory, two floppy disk drives or floppy disk drive and hard disk drive, and DOS Release 2.0 or later. (A hard disk drive is recommended but is not required.)

Macintosh version requires 512k or more memory and works with any disk drive configuration.

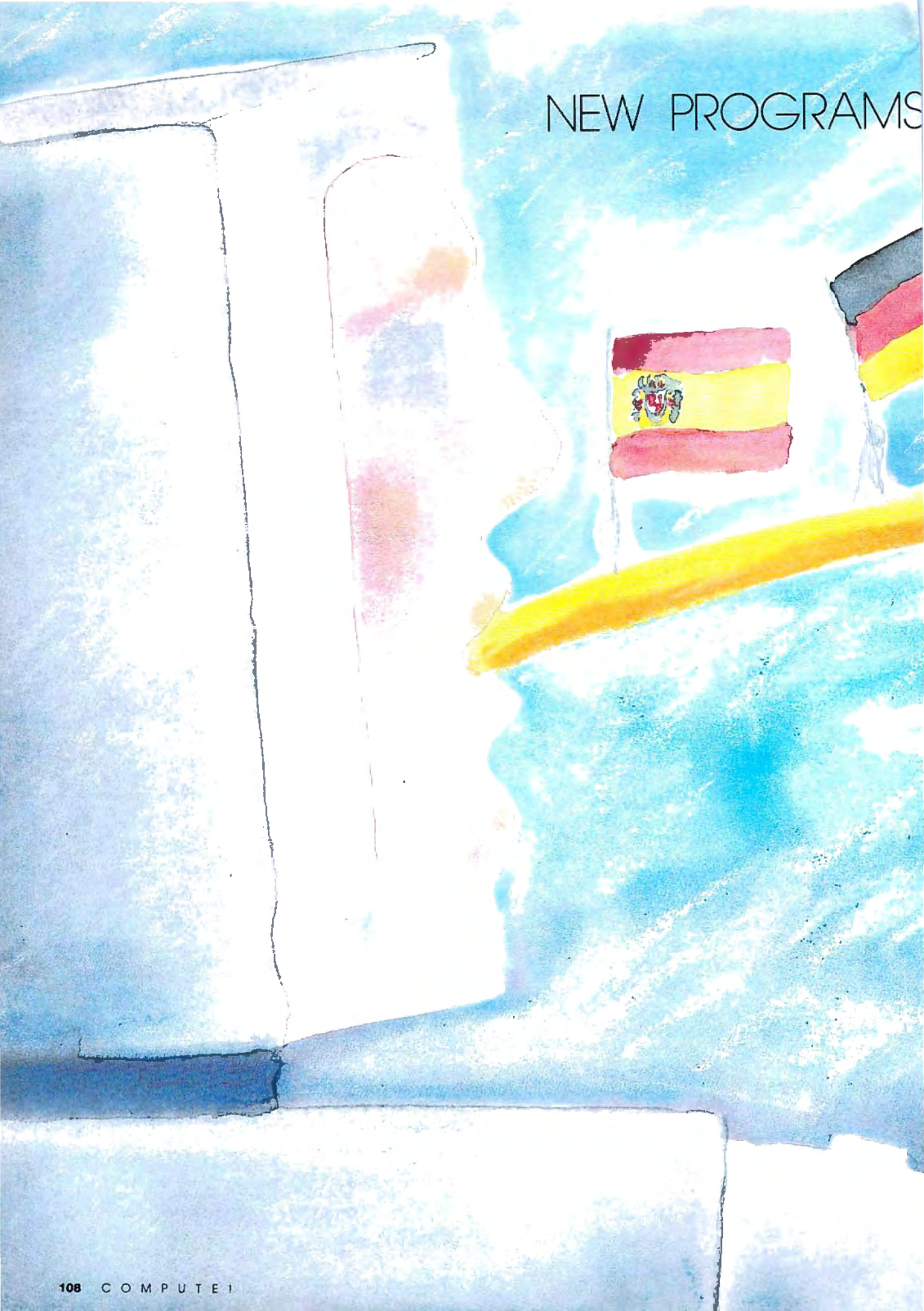
**QUICKVERSE
BIBLE CONCORDANCE**
\$49 + \$5 Shipping/Handling

NOT COPY PROTECTED
INCLUDES PRINTED MATERIAL

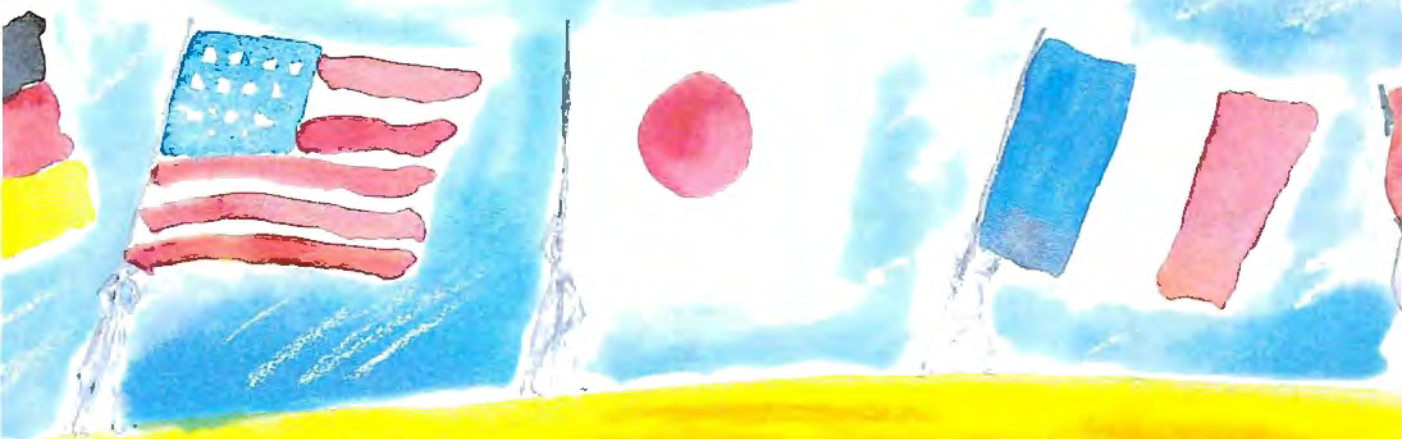


375 Collins Road NE
Cedar Rapids, Iowa 52402

NEW PROGRAMS



TEACH NEW LANGUAGES



SPEAKING IN TONGUES

The best way to learn a foreign language is to visit a foreign country. The second-best way is in a classroom with a teacher. The third-best way is to learn a language by yourself. No matter which route you choose, take along a computer; it can help. Computers offer foreign language students a wide range of learning possibilities, says Dr. Frank Dominguez, associate professor of Romance languages at the University of North Carolina at Chapel Hill.

Coupled with sophisticated software and hardware, computers bring not only text but also audio and video into the learning experience.

"When there's more money available—and that's usually in an institutional setting—then the student has access to digitized speech, videotapes, and videodiscs," Dominguez says. "This equipment is not yet in the mass market, but I can see it coming with the new CD-ROM drives."

Take a look at what higher education is doing with foreign language software today.

French and Spanish Tortoises
In *En Route* and *Caminando*, you crawl into a tortoise shell and find your way around a French- or Span-

TOM NETSEL

ish-speaking village. You show your progress by giving accurate directions, identifying local landmarks, and following traffic signs. Before finishing the game, you must answer questions in the target language and visit a school, a home, a restaurant, and a train station.

En Route and *Caminando*, from Gessler Educational Software (55 West 13th Street, Suite 34, New York, New York 10011; 212-627-0099), teach you about four main topics: family life, meals, education, and travel. You test your knowledge of the country's culture in addition to its language. For classwork, teachers can modify the program to create new questions and data.

These two programs were designed for beginners, but they provide a vocabulary review for intermediate students. "*En Route* and *Caminando* are well balanced programs. They help students develop vocabulary and general knowledge of the culture. But more importantly, they help students to retain what they have learned," says Katrine Watkins, co-principal of the French-American School of New York, where the programs were field-tested.

Computers as Adjuncts

In some foreign language classrooms, computers are almost as familiar as

SPEAKING IN TONGUES

textbooks and chalk. At Dartmouth College in Hanover, New Hampshire, computers in foreign language classes are used as adjuncts to traditional teaching methods. "We don't have someone come in who has never spoken Japanese and give them software to learn Japanese," says David Bantz, director of computing in humanities. "We do this in conjunction with a regularly scheduled course where the students have a great deal of personal

interaction, repeating the language, and doing written assignments." interaction, repeating the language, and doing written assignments." In such an intense environment, you may find the experience stressful, especially if you have a speech problem or if you're hesitant about talking in a group. "But when working with the computer," Bantz says, "there's no social pressure or embarrassment about getting something wrong the first 11 times."

For drills and exercises, Dartmouth language instructors employ

translate when you can simply click on a word for an instant glossary. "I find it most boring to always have to leaf through a dictionary when I am reading something and do not understand a word," says Otmar Foelsche, manager of Dartmouth's Language Resource Center. "I also find students are more likely to ask things—and tackle harder texts—if they know it's easy to get an answer."

Foelsche and computer programmer Kevin Calhoun are testing the program with beginning German students. Versions are also planned for Spanish students. Text can be scanned in or typed in manually. Along with the definition, cultural and grammatical information appear in a window at the bottom of the screen.

Say It in Chinese

Chinese is receiving special attention at Dartmouth. This language and its dialects present special problems for Western students. Chinese is a tonal language. In most Western languages, people raise or drop the tone of a word for emphasis. In Chinese, however, changing a word's tone often changes its meaning. A word can have two totally different meanings, depending on whether its tone increases or decreases.

Adding digitized speech to a pronunciation program helps students understand this concept. With Dartmouth's *Hanzi* program, you can hear each of 2500 Chinese characters spoken in a digitized voice so you catch the proper pronunciation and its all-important intonation.

Writing Chinese characters is also tricky. It takes several strokes of a pen or brush to create most characters. "As you quickly write a word," Bantz says, "you want the way you naturally distort the character to be the same as everyone else for it to remain legible. You have to learn to write Chinese in the proper stroke order."

Dartmouth's *Hanzi* project has a "card" for each of the 2500 different characters. Each card presents a digitized image of the character written in the traditional Chinese brush strokes and the same character written in ballpoint pen or pencil. The latter version is animated so you can see exactly how the character is formed.

"This is a fun way to help students learn and review characters," says Susan Blader, who teaches Chinese at Dartmouth and aided in the program's development. Blader emphasizes that the program is a high-tech study tool and not a replacement



some commercial software designed for universities—Yale's *Private Tutor* and Harvard's *MacLang*, for example. But computer and language experts on the New Hampshire campus are working on advanced language-skill programs, making computers perform new and extraordinary tricks.

Advanced Learning Techniques Bantz says Dartmouth is experimenting with interactive online foreign language texts and dictionaries. The program is called *TextWindow*. "Instead of reading through a simplified reader, second-semester German students may be presented with an actual short story by Günter Grass. When stumped by a word or phrase, instead of flipping through a dictionary and deciding which meaning is appropriate, students simply click on the puzzling item for an instant translation."

TextWindow is an ideal application because computers quickly sort through information such as words in a dictionary or thesaurus. It's easier to

At Dartmouth, instructors focus computer activities on areas not easily duplicated in the classroom. For example, the computer gives students a sense of control that they don't have in group lessons. "In a classroom, an instructor may spend considerable time covering material you already understand without getting to the areas where you need additional help," Bantz says. "With a computer, you work at your own pace and repeat a section as often as you like. A computer gives you the individualized control you need."

A computer is ideal for drills because it provides instant feedback and doesn't embarrass you if you get something wrong. There's no clock ticking and there's no score. Working with a computer is designed to be low-key, low stress, Bantz says. This contrasts with the pace set in Dartmouth's foreign language classes, where instructors call on every stu-

FACE THE FIRE

Weapons of fury.

It's the next century in FORGOTTEN WORLDS, and you're the only one left who can save Mother Earth from savage aliens. Your space-age weaponry is awesome but so are your obstacles! Armed with an anti-gravity device you can fly through enemy defenses and eradicate the alien bases. But watch out! Missiles, monsters, dragons, robots and laser guns are bombarding you from every direction!

If you're ready to save Earth's defenseless men, women and children, see your favorite software retailer or call Capcom U.S.A. at 408-727-1665



There's havoc in the factory as you blast away the invaders.



The Bronze Dragon is a formidable foe. You never know when it will strike!

CAPCOM[®]
USA

Circle Reader Service Number

SPEAKING IN TONGUES

for conventional teaching. "The only real way to learn Chinese characters is to do them by hand."

Another prototype program challenges you to match what you hear with one of six Chinese characters presented on the screen.

Dartmouth's *Hanzi* program runs on a Macintosh computer and it's based on a similar program developed for IBM computers at Mount Holyoke College in South Hadley, Massachusetts.

Multidimensional Programs

With the considerable amount of software available, teachers and consumers often have difficulty deciding which programs to buy. Dartmouth's Otmar Foelsche offers software buyers some suggestions.

A lot of good software deals with some specific aspect of a language. "If it means Spanish verb conjugation, fine; we have programs for that and they work well," Foelsche says. "In language instruction in general, you're

looking for something that is not so flat, which means single-dimensional—typing in, evaluating, and sending a message back to the student. What you're looking for is something multidimensional, using animation, sound, video, and input."

Multidimensional software may be the ideal, but gaps still exist between what's possible with certain hardware, what's available for that machine, and what's affordable on the consumer level. Digitized speech and images may be desirable but what about more traditional programs? "If you can't go back and forth within what's offered, discard it," Foelsche says. "Users should be able to control the material and select their own paths through it. You don't want to be led through it, forced to finish one task before going on to the next. We want users to do any task and possibly even encounter disaster. That makes them realize they should start at the beginning. But nothing should be blocked."

A Learning Environment

As technology makes further inroads into education, Foelsche sees language instruction branching out of the classroom and into what he terms *learning environments*. Springing up to aid travelers and language students, these learning environments could spring up in travel agencies, airports, ticket counters, supermarkets, or even restaurants.

These environments would include a dictionary and a small encyclopedia in a computerized workstation. They would take advantage of the multidimensional concept. A short video sequence with sound could allow students to replay phrases they had heard, with or without accompanying animation. They could hear the words, see them in print, and input material by using the keyboard or by clicking on multiple-choice selections with a mouse. "Students could go there knowing they could read, do reference work, see video sequences, and write in the language of their choice," Foelsche says. □

Tom Netsel is assistant features editor with COMPUTE! Publications. A former Navy man, he has traveled all over the world.



Sprechen Sie Deutsch?

A Computer Tour of Germany

German students at Dartmouth can tour the city of Mainz on Macintosh computers. The program provides digitized pictures of different buildings and scenes in the ancient city and quizzes students about them, according to college spokeswoman Catherine W. Wolff. A complete video tour of Mainz has been recorded and is being incorporated into the program. Students can look forward to a speaking German dictionary, drills, and other activities that are also being developed.

Similar interactive programs are offered at MIT, Cornell, and Brigham Young University. Armed service personnel studying German at the Defense Language Institute at the Presidio of Monterey, California, can also tour Germany before they leave the United States.

"The idea is to take the student to a

country, in this case Germany," says Earl Schleske, director of the Educational Technology Division of the institute's Foreign Language Center, which teaches 34 different languages. "*German Gateway* is a program designed originally as a language survival course for officers assigned to Germany."

Activities presented on this interactive video include scenes of a person renting an apartment, seeking car repairs, and asking for directions. The information is recorded on a videodisc which is played back through the army's Electronic Information Delivery System (EIDS). This interactive videodisc system is basically an IBM AT compatible with a 3 1/2-inch floppy drive and a built-in videodisc player. The audio and video quality are as good as the equipment used to make the videodisc.

EIDS overlays the computer video signal with the picture coming from the disc player. The computer controls the disc player so students can choose the audio and video information and mix it with computer signals. "Students can select the computer information, any frame or any sequence from the video player, or mix both signals and have them appear on the monitor," Schleske says.

Various levels of help are available. Students can repeat a whole sequence or break one down sentence by sentence, Schleske says. One level of help explains what's happening in very simple German terms for students with little knowledge of the language.

Schleske feels the interactive nature and flexibility of this type of program is beneficial to language students.

SANTA CLAUS IS COMING TO TOWN

Better watch out!

After a test ride on *Pocket Rockets*, the high-speed motorcycle simulation game, Santa picked up a new sleigh that will make this year's rounds faster than ever. And whether you've been naughty or nice, you could win this Suzuki 600 Katana during "Santa's Sleigh Giveaway" in January.

Meanwhile, experience all the thrills and spills of high-speed racing with machines that take you from zero to 60 in under four seconds. Already gaining critical acclaim, *Pocket Rockets* lets you choose from four of the quickest, most exotic bikes on the planet. The action's as real as the adrenaline you'll feel.

Then, enter "Santa's Sleigh Giveaway" from Capcom U.S.A. Besides the chance to win a new Suzuki motorcycle, you could get a Bell full coverage helmet, or Capcom computer game software. Look to enter in all Capcom computer game packages or visit your favorite computer game retailer for more information. Capcom's belated Christmas giveaway is just around the bend so don't miss out on your chance to win!



LEFT: Try your skill against the clock with a couple of laps around the test track. RIGHT: Drag racing demands a quick wrist and fast shifting. Just don't blow the engine!



POCKET ROCKETS



SWEEPSTAKES RULES How to Enter:

1. NO PURCHASE NECESSARY. Fill out and mail official entry found in package or you can enter by hand printing your name, address and zip code on a 3" x 5" piece of paper and mailing it to CAPCOM Santa's Sleigh Giveaway, 3303 Scott Blvd., Santa Clara, CA 95054. Enter as often as you wish. Each entry must be mailed separately by JANUARY 15, 1990. No mechanical reproductions of entry will be accepted and all mail-in entries must be received at the above address by JANUARY 31, 1990. No responsibility is assumed for lost, late, misdirected, or damaged entries.
2. Prize winners will be determined by means of a random drawing to be conducted by an independent judging organization whose decision shall be final. All prizes listed will be awarded, but there can be only one prize winner per household, group or organization. Odds of winning depend on the number of entries received. Approximate grand prize retail value is as follows: Suzuki Katana \$4,495.00. Winners will be notified by mail by FEBRUARY 15, 1990 and may be required to execute affidavits and advertising release. Taxes on prize winnings are solely the responsibility of the winners.
3. Sweepstakes is open to U.S. residents except employees of CAPCOM U.S.A. and their immediate families, its subsidiaries and affiliates, its advertising and promotional agencies, and the judging firm. Prizes won by minors may be awarded to parent or legal guardian. Void where prohibited or restricted by law. All Federal, State and Local regulations apply. For a list of major prize winners send a stamped, self-addressed envelope to CAPCOM Santa's Sleigh Giveaway Winners List, 3303 Scott Blvd., Santa Clara, CA 95054 by MARCH 31, 1990.

CAPCOM[®]
USA

HOMework

HINTS AND TIPS FROM OUR READERS

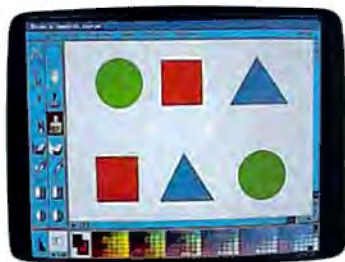
Sometimes, a great teaching tool is born of ingenuity and an ordinary graphics package. To teach your child about shapes and colors, you could buy one of the excellent educational packages on the market. Or you could put together your own tutorial using a paint program and these instructions.

Start by teaching your children about shapes. (You could teach them about colors instead, but choose one item at a time; don't jump into teaching colors and shapes together.) Draw two shapes on the screen—a square and a circle, for example. Identify them for your child: Say "This is a square," and point to the square with the mouse or your finger. Identify the circle in the same way. After a little drill, you can ask your kids, "What's this?" while pointing to the circle or square. When they've got it down cold, ask them to point to the circle or the square (physical activity helps kids remember). Next, replace one of the shapes with a new one, and after that add more shapes.

You can do the same with color. Draw two circles and fill one with red and one with green. Now point to the red one and say, "This is a red circle." Tell your kids what the color is and then make your kids tell you what the color is. At the beginning you'll want to use the same shapes with different colors so your children won't have to wrestle with two concepts at the same time. (This exercise works best if your computer has at least 16-color graphics. If you only have CGA graphics, you may want to stick with shapes.)

After you've drilled shapes and colors, you can try some matching games. These require your kids to combine reasoning with the rote learning they've already practiced.

Draw several shapes at the top of your screen and one shape—a square, for example—at the bottom of your screen. Pick up the square and let your child use the mouse to move the



Matching games teach children to recognize shapes and colors.



Tell your children what color the circles are; then get them to tell you.

selected square under the other square on the screen. You can also draw a group of shapes at the top of the screen and a group of the same shapes in a different order at the bottom; then ask your children to put the two rows in the same order.

Translate this exercise to color by drawing one shape—a circle, for example—several times and filling each with different colors. Stick with one shape at first so that your children can focus on color. Then draw a circle at the bottom, fill it with a color, and pick it up. Ask your children to move the selected circle under the circle filled with same color. You can also try the other matching exercises using color instead of shape.

Finally, work on shapes and colors together. Draw a red square, a yellow square, and a red circle. Then ask your kids to pick the red square. Each of the exercises described above will also work here.

Draw a set of shapes in different colors and sizes. Using the cut and paste functions, construct composite pictures with these shapes and have your kids identify the pictures and pick out the various components. Help your children make their own pictures with the shapes.

Further exercises can reinforce size discrimination and sequencing. You can draw a big circle and a small circle. Talk about which one is big, which one is small. Talk about how they are the same shape even though they are different sizes. Then draw a circle in three or four different sizes and ask your child to put them in order from smallest to biggest or biggest to smallest.

These exercises will also work with letters and numbers. Use a large font to type several letters on the screen. Tell your kids the name of each letter and then ask them to repeat the names. You can even ask them to repeat the sound each letter makes if they're ready to learn phonics.

With numbers, you could draw groups of shapes and count them with your kids. Then draw several groups, perhaps organizing them as dots on the side of a die. Type a numeral at the bottom of the screen and ask your child to match the numeral with the group of the same value.

Infinite possibilities present themselves: That's the beauty of using a graphics package instead of a specially designed educational package. A paint program is flexible; you can use it to teach many different concepts. The exercises grow as your kids grow.

The most important ingredient, however, is *you*. Your interest and reinforcement can't be duplicated by a computer program.

Heidi E. H. Aycock

Do you have advice that makes a better teacher out of your PC? If so, we'd like to hear from you. Send your tip, no matter how brief, to COMPUTE! Feedback, P.O. Box 5406, Greensboro, North Carolina 27403. If we publish your suggestion, we'll send you a gift. ☐

ANOTHER ONE BITES THE DUST

Eliminating terrorists.

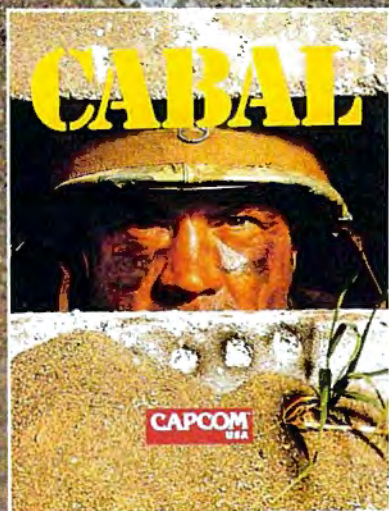
Easier said than done. You must destroy these soldiers of fortune who strike you with machine guns, tanks, grenades and worse. Only then can you celebrate your victories.

Go beyond traditional war games and see why CABAL is #1 in the arcades. The fast action of every covert operation keeps you at the edge of survival.

See your favorite software retailer to enlist in the excitement. Or for more details, call Capcom U.S.A. at 408-727-1665. Act fast so that "another one" is one of them.



Cabal Screen Shots.



CAPCOM®
USA



REVIEWS

BATTLE DOOM, PAINT PC PICTURES, PLANT STORIES, BLAST BADDIES, BUILD WEALTH, SEARCH SPACE, ELIMINATE EVIL, CLEAR VISION, INSPIRE KIDS, AND LEARN LAW.

DR. DOOM'S REVENGE!

Comic books cry out for software adaptation; their material combines strong narrative with lurid characters—perfect for the computer screen. And the very best—Marvel's and D.C.'s top heroes and villains—seem made for interactive interpretation. Yet most computer adaptations have failed. It's a shame.

But Paragon's first adaptation of Marvel Comics characters captures much of the feel of a certain type of Marvel comic. Holding down the hero side of the game are two of Marvel's stalwarts: Captain America and the incomparable Spider-Man. Their challenge is to penetrate a heavily guarded castle, battle their way past an army of powerful but lesser villains, and confront the greatest Marvel villain of all, Dr. Doom.

The setup is a classic Marvel scenario: Dr. Doom has stolen a Thermo C4 VG missile, appropriately enough, a doomsday weapon. The missile is hidden at Doom's Latverian castle and guarded by the Doom Brigade. In alternating sequences, Spidey and Cap battle their way through the bad guys in hopes of stopping Doom's planned destruction of New York. It's up to webhead to stop the missile, while winghead captures Dr. Doom. This is harder than it sounds, and it doesn't sound easy.

Dr. Doom's Revenge! is a simple game to learn and a handsome one to watch. The framing sequences are set up like comic book frames, with a cur-

sor that moves from one frame to the next. At appropriate points, the frames come alive, placing you and your character in the line of fire of one of the Doom Brigade. A health bar at the bottom of the screen lets you know how you're doing.



Captain America takes on an ornery Rhino in *Dr. Doom's Revenge!*

Action sequences are well animated, with characters that respond nicely to either joystick or keyboard control. Keyboard commands are, for the most part, logical, with only a couple of keystroke combinations required. Spider-Man can shoot web, while Captain America can throw his famous shield. Spidey likewise can cling to walls, but I would've loved to see him swing on a long strand of web. The game offers three levels of difficulty, each sufficiently advanced over the previous to ensure many hours of play before mastery is achieved.

Dr. Doom's Revenge! is a handsome package. The soundtrack supports both the Ad Lib and Hearsay sound boards. An original 16-page comic is included; its story sets the stage for the game. The game demands little in the way of instruction; actual instruction takes up only 6 of the manual's 24 pages. The rest of the space is filled with thoughtful extras,

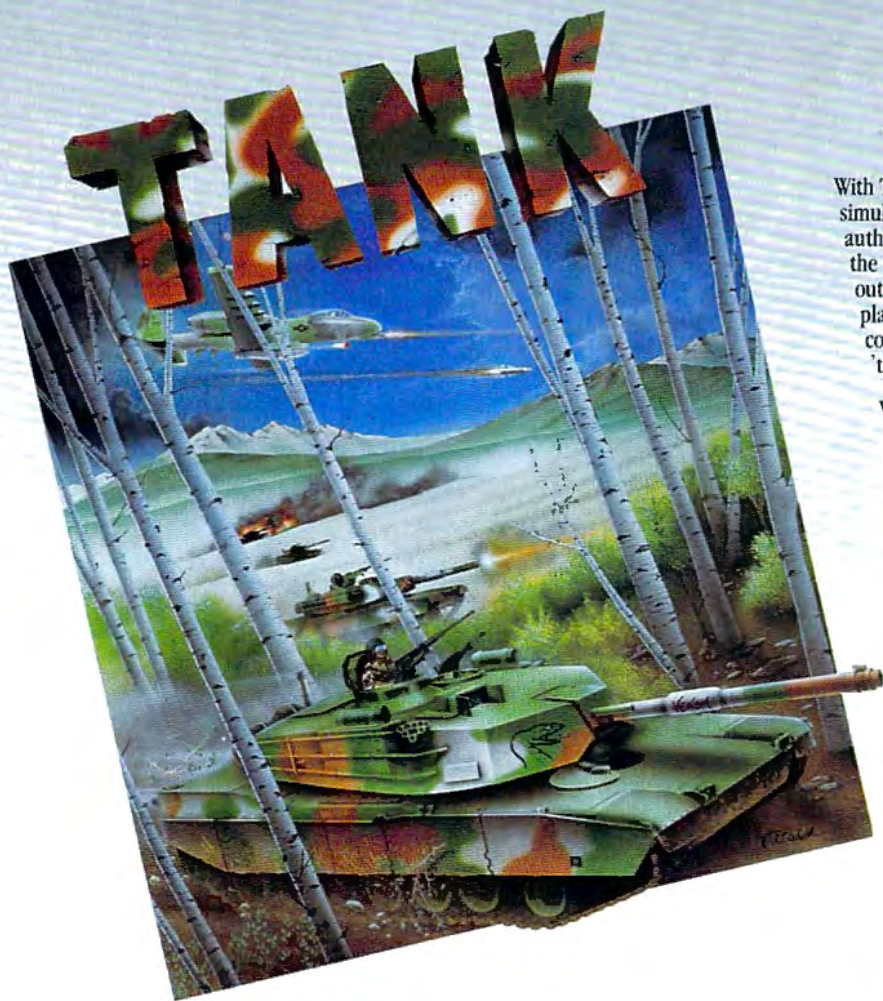
ranging from an introduction by the ever-ebullient Stan Lee to biographies of the game's heroes and villains to a capsule history of Marvel Comics and the Marvel universe.

That history prompts my only reservation about the game. As the documentation points out, Marvel has produced some of the most sophisticated and intelligent comic books the genre has seen. It was Marvel that introduced a sense of the cosmic, not to mention the psychological and pseudophilosophical, to comics. Unfortunately, those aspects are missing here.

To be fair, I don't think Paragon set out to include them. This is an action game, and an admirable one. Its simplicity makes it perfect for arcade fans, especially younger ones. It has its moments for comic-book addicts as well, although serious members of the Mighty Marvel Marching Society might wish for a little more depth. There is, after all, more to most Marvel comics than just action. There was a framework, a context, a sense of mystery, of both infinite and personal complexity. I'd like to see some of that complexity included in the software.

With Marvel's material and its own arsenal of approaches to a story, Paragon has the opportunity to produce a new amalgam, a true interactive, intelligent comic book. The company's next stop is with those moody mutant adolescents, the X-Men, an ideal crew for such a project. Beyond that, we might hope for the Fantastic Four, the soulful Silver Surfer (and Galactus!), the mystical magic of Doctor Strange. (Personally, I'd give anything for a software version of *Nick Fury, Agent of S.H.I.E.L.D.*, done in the style of comic innovator Jim Steranko.) Handled properly, Marvel's universe should yield soft-

PATTON WOULD BE JEALOUS.



With TANK™, a battle star is born! In this M1 Abrams® simulation, your weapons systems and enemy forces are totally authentic. Deploy your forces in West Germany, Ft. Knox, or the Middle East amidst incredibly realistic terrain created by outstanding 3-D solid modeling graphics. Lead a company, platoon or an individual tank against a formidable enemy committed to the Soviet Doctrine of War. Just how long 'til the Russian Frogfoot comes to this party?

Victory is possible with your semi-automated forces — up to 32 vehicles, including tanks, helicopters, artillery, and A-10 aircraft. Before you find yourself looking down the wrong end of an enemy gun, check the battlefield map and do your strategic and tactical planning. From within your tank, view the scene from multiple perspectives — gunner, driver, commander, or turret. For a more comprehensive look at the situation try the reconnaissance and out-of-tank views. For lots of action TANK has an easy-to-learn "arcade" mode. And in traditional Spectrum HoloByte style, the head-to-head combat option against friends and peers offers that ultimate challenge. No other simulation can top TANK for authentic battle sequences. "Old Blood and Guts" himself would love to get his hands on TANK! Visit your local retail dealer and get your copy NOW!

Spectrum HoloByte™

A Division of SPHERE, INC.

2061 Challenger Drive Alameda, CA 94501 (415) 522-0107

Available for IBM AT, PS/2 and compatibles. Requires EGA
TANK and Spectrum HoloByte are trademarks of SPHERE, INC. Abrams is a registered trademark of the
U.S. Army. All other products are trademarks of their respective holders.

Circle Reader Service Number 163

ACTION!

Slick up your joystick it's hot!



TITUS™

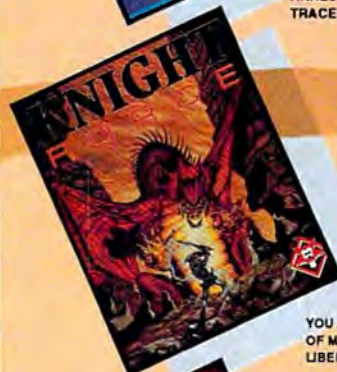
20432 CORISCO STREET,
CHATSORTH CA 91314
818-709-3693



DARK CENTURY



YOU CONTROL THE GREATEST HIGH-TECH TANKS IN THE WORLD. YOU ARE ON A PRISON PLANET TRYING TO ARREST SOME ESCAPED CONVICTS. PROGRAM AND LEAD YOUR TEAM OF TANKS TO TRICK YOUR OPPONENT! RAY TRACED 3D UNIVERSE, MULTITASKING, ONE OR TWO PLAYERS ARE THE FEATURES OF THIS GAME.



KNIGHT FORCE



YOU ARE THE SWORD MASTER, OF MAGIC GRAPHICS. LEAD LIBERATE THE PRINCESS

DEFENDER OF BELLOTH REALM. QUEST THROUGH FIFTEEN LEVELS AND FIVE ERAS YOUR ENCHANTED POWERFUL WEAPONS AND SPOIL THE MALEVOLENT TRAPS, TO TANYA FROM THE CLAWS OF RED SABAT THE SORCERER.



WILD STREETS



A SUPERCOP AND A BLACK PANTHER TEAM TOGETHER IN A HIGH RISK MISSION. "A TOP CIA AGENT HAS BEEN KIDNAPPED, FIND HIM! YOU KNOW THAT ACTION AND FIGHTING IS INEVITABLE". YOU'LL HAVE TO VISIT THE CITY SLUMS TO FIND HIM AND PROTECT YOU BOTH FROM MOBSTERS, PUNKS AND OTHER RIFF RAFFS.



F40 PURSUIT



AT THE WHEEL OF YOUR FABULOUS FERRARI F40, YOU'RE RACING AGAINST TIME AT 200 MILES PER HOUR. PLAN YOUR ROUTE, BUT BEWARE OF POLICE THAT WILL TRY TO STOP YOU IN YOUR MISSION. 360 DEGREE SPINS, AND REALISTIC 3D ROAD JUNCTIONS WILL MAKE YOU SENSE THE THRILL OF SPEED. DON'T JUST TAKE OUR WORD, BURH SOME RUBBER.



OFF SHORE WARRIOR

YOU ARE AN OFF SHORE WARRIOR AND YOUR FIRST ARENA, FULL OF FANS, IS WAITING FOR YOU. STRUGGLE AGAINST ROCKS, WAVES AND OPPONENTS IN A DEADLY GAME. ONLY FEW CAN LEAVE ALIVE. DO IT OR DIE!!!



FIRE AND FORGET

FACE THREE LEVELS OF SIX CONFLICTS, FROM SPORADIC WARFARE TO TOTAL WAR. NEVER LOOK BACK! IT COULD BE YOUR LAST MISSION. ONE OR TWO WARRIORS CAN TEAM UP.



CRAZY CARS

YOU ARE RACING FOUR OF THE MOST PRESTIGIOUS CARS IN THE WORLD'S CRAZIEST RACE THROUGHOUT THE UNITED STATES. PREPARE TO START, READY? GO!!!



TITAN

MAKE YOUR WAY THROUGH THIS STRATEGIC PUZZLE OF EIGHTY WORLDS WITH YOUR MAGNETIC CONTROL UNIT. BUT BE CAREFULL, THE ULTRA-FAST SCROLLING HAS ALREADY CAUSED SOME MENTAL BREAKDOWNS.

ware games for years to come.

Until then, as the sainted Stan Lee says, "Excelsior!"

KEITH FERRELL

IBM version—\$44.95
Commodore 64/128—\$34.95
Amiga—\$39.95

PARAGON SOFTWARE
Distributed by Medalist International
180 Lakefront Dr.
Hunt Valley, MD 21030
(301) 771-1151

PC PAINTBRUSH IV

Paint programs were considered to be more electronic doodle pads than productivity tools when ZSoft's *PC Paintbrush* was released in 1985. Since then, over one million copies of the program have been sold, and the latest version, *PC Paintbrush IV*, will be snapped up not only by casual doodlers and computer artists, but by businesses and home-office users, too.

ZSoft has added many features to *PC Paintbrush IV*, including new tools for enhancing digitized pictures, VGA support, and the ability to load and save TIFF-format images.



Retouch scanned images using tools from *PC Paintbrush IV*.

Configuring *PC Paintbrush IV* for your system is easy thanks to a complete, menu-driven install program. Just tell the program what type of printer, mouse, and graphics adapter you're using, and PBsetup will install the program on your hard drive or create a work disk for floppy-based systems.

PC Paintbrush IV adds support for painting in the 256-color, 320 x 200 VGA and MCGA graphics modes. It also allows you to paint in

CGA, EGA, or Hercules modes. Unfortunately, if you own a high-resolution graphics card and want to create a graphic in a lower resolution, you must load PBsetup and install a new graphics adapter driver from the Drivers floppy. It would be much more convenient if the program had a menu selection that would let you switch from 256-color VGA mode to 16-color EGA, for example, on systems supporting multiple resolutions.

The program's work screen will look familiar if you've used earlier versions of *PC Paintbrush* or programs like *MacPaint* or *DeluxePaint II*. A row of icons lines the left side, with the color palette running along the bottom of the screen. Functions and tools not represented by icons are selected using the keyboard or from pull-down menus.

Because the icon and palette tools take up so much screen space, the actual painting window is rather small when you are using the 320 x 200 graphics mode. The Show Screen selection lets you switch off the menus and tool bars to display the entire picture, but you can't paint in this mode.

PC Paintbrush IV includes all the standard painting tools: line, ellipse, and regular and rounded box tools; scissors; a spray can; two erasers; and

Prof. Jones, Inc.®



PROFESSIONAL HANDICAPPING SYSTEMS™



Complete Manuals and Backups Included

DEMO DISKS
\$5.00

(REFUNDABLE)

"Software for the Serious Investor"

Products for:



"The most powerful and complete handicapping software available"

For more information or for a free Catalog call:

1-800-553-2256

Prof. Jones, Inc.

1940 W. State St., Boise, Id 83702
(208) 342-6939



ONLY
>\$28

"I am genuinely impressed by Ocean Isle's new software program. Neurobics represents a new category of entertainment/educational software that provides exercise for the brain."

-Dr. Joyce Brothers

SYSTEM	REQUIREMENTS	PRICE
Apple II Series	3 1/2"	\$28
Apple II Series	5 1/4"	\$28
IBM 3 1/2"	CGA, EGA, MGA 256K	\$28
IBM 5 1/4"	CGA, EGA, MGA 256K	\$28

MAINSTREAM
America

"If you want it, we have it.
Call for the best price and service!"

Call 1-800-345-1181 NOW!



Please send your check or money order to Mainstream America, 1012 South Main Street, Taylor, PA 18577. All orders must add \$3.00 for shipping and handling. Canadian orders add \$7.00. C.O.D. orders please add an additional \$4.00. Pennsylvania residents please add 6% sales tax. All inquiries call (717) 562-0650.

双截龍

DOUBLE DRAGON

The Revenge™

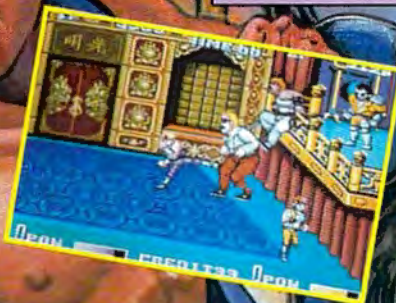
Billy and Jimmy Lee return in the latest and greatest version of the coin-op smash hit!

Featuring more weapons and more powerful moves, with more new missions such as the Underwater City, the Garden of Death, and the infamous Trap Room!

It's martial arts at its best, coming soon for your home computer!

Machine availability:

IBM 5-1/4"	\$39.99	Atari ST	\$39.99
IBM 3-1/2"	\$39.99	Commodore 64	\$34.99
Amiga	\$39.99		



Games

DISTRIBUTED BY
MASTERTRONIC

18001 Cowan, Irvine, CA 92714 Tel (714) 833-8710

Circle Reader Service Number 168

a paint-roller fill tool. Variable Zoom magnification allows you to work on magnified details or display a reduced view of the entire page.

A surprising addition is a Bezier curve tool. Usually found only in high-end drawing and CAD programs, this tool lets you easily draw precise, smooth curves with a few mouse clicks.

The new Eyedropper tool is especially helpful in the 256-color mode, where you may have many shades of one color. Just click the eyedropper on the picture to pick up the color you want to paint with.

If your graphics adapter doesn't support 256 colors, *PC Paintbrush IV* will substitute dithered patterns for the extra colors. That way you can load and display pictures created in EGA or VGA modes even if you only have a CGA system. You can also edit gray-scale images for output on non-color printers.

The Effects menu has many features you'll appreciate if you ever need to modify or enhance digitized color images. The Brightness selection makes creating shadows easy. Using Contrast, you can make parts of the image seem blurry, as if they were being seen through foggy glasses. Blend will average the colors in an area, let-

ting you smooth areas of sharply contrasting colors. Gradient will create shapes filled with a color that is graduated from light to dark, creating a 3-D effect.

The text tool has a number of new options, including support for both bitmap and outline fonts. Outline fonts are more suitable for titles and printing on high-resolution printers, since they don't appear blocky when blown up to large sizes. To make your titles really stick out on the screen, use the new Shadow and Gradient Shading commands to give text a 3-D look.

PC Paintbrush IV's Undo feature doesn't work as you'd expect it to. Instead of taking back your last brush stroke, Undo cancels all changes since the last time you selected a tool from the toolbox. If you make a mistake while drawing a series of boxes, Undo will remove all of the boxes, rather than just the most recently drawn box. The only way to work around this feature is to select the tool box every time you draw a new object, even if you aren't changing tools.

When you finish your video masterpiece, you can save it in either PCX or TIFF format. The PCX format is the de facto standard for PC graphics files—almost any MS-DOS program

that uses graphics files will import PCX pictures. The addition of the TIFF format lets you use *PC Paintbrush IV* to edit images from scanners or to send pictures you've drawn through fax boards.

PC Paintbrush IV follows Microsoft's Common User Access interface standard, so the program will be easy to learn for anyone who has ever used a Windows-based program. A complete online context-sensitive help feature can be switched off once you've learned the program.

ZSoft has done an excellent job of updating *PC Paintbrush* so that it meets the demands of a more sophisticated market. While there are more sophisticated paint programs on the market, *PC Paintbrush IV* is relatively inexpensive. And it's hard to go wrong with a program that's considered to be a standard. ▶

DENNY ATKIN

IBM PC, PS/2, and compatibles with 640K, graphics adapter, drawing device, and DOS 3.0 or later—\$99.95

ZSOFT
450 Franklin Rd.
Suite 100
Marietta, GA 30067
(404) 428-0008

New! SPEECH THING®

For all PCs, compatibles, laptops



\$69.95

**CLEAR, CLEAN,
DIGITIZED SPEECH
AND MUSIC,
UNLIMITED TEXT-
TO-SPEECH!**
*Attaches outside the
computer.*

Speech Thing is a full-featured 8 bit D/A sound converter that attaches in-line with the parallel printer port. Does not interfere with normal printer operation. Demo programs give your PC many useful applications. Incorporate the prerecorded digitized words in user written BASIC programs. Editor allows for special effects, new words, and music. **BONUS** Unlimited text-to-speech with SmoothTalker (TM) from First Byte. Use for proofreading scripts, electronic mail and message distribution, educational software, product tutorials/demonstrations, more.

Speech Thing is the most advanced, lowest cost, hardware/software speech system you will ever need. Comes complete with audio amplifier speaker with headphone jack, software, and manual. Only \$69.95. 30-day satisfaction guarantee. One year warranty. (Add \$5 shipping and handling for USA, \$8 Canada, \$12 overseas). Visa, MasterCard phone orders accepted.

Call or write today for **FREE** Catalog on Speech Thing and other speech recording/voice recognition products



COVOX INC. (503) 342-1271
675 Conger St., Eugene, Oregon 97402
FAX (503) 342-1283

Circle Reader Service Number 151



**ONLY
▶ \$19**

"... if you believe that the concept of fantasy role-playing can and should go far beyond the clichés of sword and sorcery, Search for the Titanic should be hailed as a benchmark in the history of computer gaming."

- Game Player's Magazine

SYSTEM	REQUIREMENTS	PRICE
CGA/128		\$19
IBM 51/4"	CGA, EGA 256K	\$25

MAINSTREAM
America

"If you want it, we have it.
Call for the best price and service!"

Call 1-800-345-1181 NOW!



Please send your check or money order to Mainstream America, 1012 South Main Street, Taylor, PA 18517. All orders must add \$3.00 for shipping and handling. Canadian orders add \$7.00. C.O.D. orders please add an additional \$4.00. Pennsylvania residents please add 6% sales tax. All inquiries call (717) 562-0650.

SUPER STORY TREE

Sit down under the *Super Story Tree* and listen to a tale of two—or more—endings. With Scholastic's *Super Story Tree*, kids can create interactive electronic storybooks with text, graphics, music, speech, and several possible resolutions. The finished stories run as stand-alone applications, so they can be shared with friends who don't own *Super Story Tree*.

The program is so flexible that children can create a wide variety of illustrated narratives, such as family histories, fairy tales, mysteries, adventures, or science-fiction sagas.

Youngsters develop an interactive story by designing individual pages that they link together into a book. A page holds straight text or a mixture of text and graphics. As readers flip through these electronic pages, they come upon branches in the main plot where they can choose a character's next step. Each decision leads the

plot toward one of several possible endings.

To begin, children should work through *Story Tree Help* and through the program's online tutorial. The tutorial takes kids through all the steps to creating a branching story. They'll read a sample document, learn about its design elements, and get tips on writing their own interactive tales. For further information, they can refer to the detailed reference guide in the program manual.



With *Super Story Tree*, kids create a story with several possible endings.

After the tutorial, it's time to start a project. Kids can jazz up text pages with sound effects and musical accompaniment, even though they can

use only one font and one color.

Graphics pages, on the other hand, display multiple fonts, shapes, borders, clip art, freehand drawings, and multiple colors. Kids can add sound and music to these pages, too. Although graphics pages are visually interesting, they take up more disk space.

Several tools help with page design. Young artists can select from 32 brush shapes, 80 colors, and five line widths. Drawing tools include filled and hollow rectangles, circles, and ovals. You can fill areas, copy and paste items from one page to another, and select from nine different fonts. While the drawing tools are not as powerful as those in dedicated paint programs, they are sufficient to create a wide variety of original art screens.

The clips in the sound-effects library include thumps, a siren, drums, a dragon's breath, and laser guns. There are also ten speech clips in the Sound Library, but the voice quality is poor. You're better off choosing one of the many musical scores. If these aren't enough, Scholastic sells additional theme packs containing graphics backgrounds, clip art, and sounds.

Kids can add even more pizzazz to their stories with one of ten wipes—visual effects that are activated when

4

5

6

HELP OUR KIDS KEY



Kids are key to America's future. And so are computers. By the year 2010, virtually every job in our nation will require some computing skills. That means preparing all of our youth today to take on technology tomorrow.

Our students' math and science scores are far below those in other countries. To excel in our high tech times, our kids need to catch on to computers. They're tools that can inspire them to think more independently. More creatively.

The Computer Learning Foundation is a non-profit organization that's taking the lead in computer literacy efforts nationwide. We're bringing together companies, state departments of education, national non-profits and local groups.

Our Computer Learning Month in October is a focus for thousands of community and classroom programs. We've involved millions in discovering the benefits of computing.

The Computer Learning Foundation is sponsored by: Academic Computing*, Apple Computer, Inc., Broderbund Software, Inc., Classroom Computer Learning, Computer!, Education Systems Corporation, Electronic Learning, IBM Corporation, iCider Magazine, Logo Computer Systems, Inc., MECC, Mindscape, Inc., Prodigy Services Company,

a page is turned. For example, a page can fade to black, turn like a Venetian blind, or dissolve. Once the text is finished, the graphics are done, and the special effects are added, kids must choose how the page will link with others in the story. The Continue link automatically moves the reader to the next page, while Choice offers the reader as many as eight pages to move to. The Chance link randomly moves the reader to one of two different pages.

Stories are created using a Macintosh-like user interface featuring scroll bars, dialog boxes, pull-down menus, and other options. The program accepts input from a mouse, joystick, graphics tablet, or keyboard; however, the mouse was easiest to use. Unfortunately, *Super Story Tree* doesn't use enough command-key equivalents. Enhanced keyboard control would make *Super Story Tree* more flexible. The user interface is almost identical to the one in Scholastic's *Slide Shop*. In fact, you can share clip art, screen backgrounds, sound effects, and music clips between the programs.

Super Story Tree comes on 3½- or 5¼-inch disks. The 5¼-inch version includes two double-sided floppies. While the program functions ade-

quately with a single disk drive, a second drive reduces disk swapping. The 3½-inch version contains the startup program, tutorial, graphics backgrounds, clip art, fonts, borders, and sounds on a single 800K floppy. This minimizes, but doesn't eliminate, disk swapping.

Super Story Tree's strength lies in its open-ended approach. It builds language arts skills because children will want to write stories they can present to their classmates. The Teacher's Guide provides several ideas for integrating the program into other curriculum areas, such as science, social studies, and health. *Super Story Tree* is a program that clearly demonstrates the usefulness of the computer as an instructional aide in the classroom.

In the home, too, *Super Story Tree* encourages creativity. So sit down with your children and spin a yarn with an ending or two.

CAROL S. HILZBERG

Apple IIc, IIe, or IIgs—\$79.95

SCHOLASTIC
P.O. Box 7502
2931 E. McCarty St.
Jefferson City, MO 65102
(314) 636-5271

ECHELON WITH REALSOUND

FAST LOOKS

Remember: In space, no one can hear you scream. But that doesn't mean it isn't noisy out there. The updated version of *Echelon* proves that. *Echelon* is an ideal platform for premiering Access's new RealSound, which lets standard MS-DOS machines produce realistic sound effects, voices, and music using the computer's built-in speaker—no add-on boards required.

With the steady hum of fusion engines and the voice of the ship's computer verifying your input, it's easy to feel as if you're really in the cockpit of a space fighter, much easier than with the "beep, click, buzz" of the old version.

With three different play modes, you can play *Echelon* to match your mood. Wiped out after a long day on the job? Select Flight Simulation and take a relaxing flight around the patrol area without fear of bad guys ruining



oin us. We're here to help you discover the ease and fun of computing.

Contact the Foundation now for more information about our contests, books, free materials, programs and events. We're dedicated to sharing computer learning ideas. Write us today: Computer Learning Foundation, Dept. CP11, P.O. Box 60007, Palo Alto, CA 94306-0007.

*You Won't Believe
What You'll Achieve!*



Circle Reader Service Number 150

your day. Your boss yell at you today? No problem; choose Arcade Action and blast away relentlessly at enemy ships, imagining your supervisor in the cockpit of each one. Snowed out of work with time on your hands? Select Exploration mode and start gathering some of the 240-plus artifacts that will help you locate the pirate base. But watch out; The pirates won't be happy with your amateur archeology.

Echelon already has outstanding graphics and play action, especially on

faster machines with EGA or Tandy graphics. With the beeps and buzzes eliminated and RealSound added, *Echelon* becomes one of the most realistic simulations available for the PC.

DENNY ATKIN

IBM PC and compatibles with 384K—
\$59.95

ACCESS
545 W. 500 S
Bountiful, UT 84010
(801) 298-9077

WEALTHBUILDER BY MONEY MAGAZINE

Cash doesn't grow on trees, but you can cultivate it on the branches of stocks, bonds, precious metals, and other exotic plants. Designed for greenhorns and green thumbs alike, *WealthBuilder by Money Magazine* teaches you to budget and invest your money wisely. It also helps you plan for future crops.

WealthBuilder, from Reality Technologies, features three modules. First, take the Money Quiz to evaluate your mental soil. Second, study the tutorial to learn the techniques of a productive money-grower. And third, watch your seeds grow.

The Money Quiz takes about ten minutes. Some questions are trivial, but others are very helpful. Whether useful or useless, all the answers are in the program's tutorial. Coming back to the quiz after using *WealthBuilder*, you may be surprised at the financial savvy you've gained.

Unless you score very high on the quiz or you already know all about investments, learning is your next chore on the money farm. In the tutorial, you'll learn how to manage your funds through budgeting, saving, debt reduction, and investment. As a supplement to the tutorial, Reality Technologies has included *Money Magazine's Making Your Money Count* video.

Even if you don't have a large supply of money seeds, *WealthBuilder's* tutorial can help you make the most of your funds. Perhaps you're fighting the credit-card weevils but also looking at investments. Then you win \$1,000 in a contest. According to the program, paying off your credit card is your best pesticide, because paying off your balance by \$1,000 can save around 18 percent before taxes. That's almost double what you'd earn if you put the \$1,000 in a money-market fund.

The tutorial's Money Tips and Money Facts give you good advice on how to use your new knowledge. In the section on health insurance, one of the Money Tips explains that rising health costs have financially stressed some HMOs (Health Maintenance Organizations). The tip suggests that you investigate the condition of an

HOME/OFFICE

Create pages that look as good
as your ideas!

HOME OFFICE PUBLISHER

NEW YEAR SALE

HELP US MAKE ROOM FOR THE NEW PERFORMANCE
YOU GET 80 DOLLAR SAVINGS

NEW 2 AND 4 LINE PHONES

FRIDAY THRU MONDAY,
January 5-8,
10:00 AM - 6:00 PM
Early Bird: \$27.95 AM - \$30.00 AM - \$44.95 25 OFF

WE'RE READY TO DEAL!!

HOME OFFICE PUBLISHER provides ready-to-use solutions to your newsletter, brochure, stationery, books, labels and other document needs. You can modify these pre-designed solutions or create your own new pages. Combine text and graphics, using the 15 fonts and 50 art images provided.

OR, increase your art library with **P.A.L.**, a 9 disk collection of over 500 originally drawn graphics and borders.

Not only can P.A.L. be used with **Publisher**, but also with **First Publisher**, **PageMaker**, **Ventura**, **Publish It!**, **Swift** and **Personal Publishers**, and most other publishing software.

Only \$59.95

Unleash the creative genius
in your home/office.

ENCORE!
Software Publishers

1237 E. Warner
Santa Ana, CA 9270
714-668-9287

The Best For Less

\$1.75

Per Disk/10 or more

Easy to use Software for IBM PC's and compatibles

\$2.25

Per Disk/less than 10

**FEDERAL EXPRESS STANDARD
OVERNIGHT SERVICE ONLY \$5!***

ACCOUNTING

- Financial Consultant 4.2** — An excellent accounting program for home or office.
- Medlin Accounting** — Complete with Gen. Ledger, Accounts Receivable, Accounts Payable & Payroll
- Painless Accounting 3.0 (3 disks)** — An easy to use accounting program that's loaded with features! (HD)
- Small Business Accounting 1.5** — An excellent accounting program designed for small businesses.

BUSINESS/HOME

- Blakbook** — A handy program that will keep track of your addresses and print out nice address books.
- Express Check 3.0** — A great program to manage your checking accounts!
- Home Inventory 3.2** — Helps you keep track of everything you own. Great for insurance.
- Ticklex 4.7** — Great tickler program for appointments, deadlines, reminders and timetables. Can handle up to five people at once. (HD)

DATABASE/SPREADSHEET

- Wampum** — An excellent dBase clone with menus.
- Instacalc 2.5** — Memory-resident, Lotus-compatible spreadsheet. ("Editor's Choice" — PC Magazine!)
- PC-Calc+ (3 disks)** — A very powerful spreadsheet.
- Qubecalc 3.02** — Lotus-compatible multi-dimensional spreadsheet. ("Editor's Choice" — PC Magazine!)

EDUCATION

- Amy's First Primer 1.7** — Six different learning programs for children ages 4-8. (CGA)
- Bible-Q 3.3** — Test your bible knowledge with this fun and educational program.
- Funnels and Buckets** — A fun way to teach children basic math skills! (CGA)
- Play 'n' Learn 2.03** — A collection of six programs for children 18 months to 4 years. (CGA)
- Typing Teacher** — This disk contains 2 programs designed to improve the speed & accuracy of your typing!
- World 2.93** — The ultimate globe! Learn about cities, countries and continents with this computer version of the globe. (CGA)

GAMES

- Arcade Games 1** — Pac-man (3 versions!), Hopper, Space Invaders, Janitor Joe and others. (CGA)
- Arcade Games 2** — Q-Bert, Donkey Kong, Mario Bros., Breakout, Beast and others. (CGA)
- Arcade Games 3** — Striker, Space War and Quantoids. (CGA)
- EGA Cuning Football 2.1** — The best football simulation anywhere. EGA or VGA Graphics required.
- EGA Games** — A collection of the best EGA games including EGARoids, Reflex, Aldo, Flees and others. EGA or VGA Graphics required.
- Monopoly** — A great rendition of the classic game. Great color and sound! (CGA)
- Pinball** — A collection of several different pinball games. (CGA)
- Strategy Games** — Risk, Othello, Chess, Nyet (Tetris clone), and others. (CGA)
- Star Trek Games** — Three great games on one disk! An arcade game, standard Star Trek game, and a Trivia game.

(CGA) Requires Color Graphic Adapter
(HD) Requires Hard Disk



* Federal Express orders received by 1:30 p.m. Pacific time (4:30 p.m. Eastern) are guaranteed delivery by 4:30 p.m. of the next business day. (contiguous 48 states) Phone number, street address, and zip code are required for Federal Express delivery. We cannot Fed Ex COD

- **ALL orders shipped same day!**
- **Free shipping on all orders of 5 disks or more!**
- **Easy to use instructions on each disk!**
- **We always ship the latest versions!**
- **No membership fees!**

Unconditional Money Back Guarantee!

OUR LATEST AND GREATEST! RS DISK PICKS

- Banner & Sign Makers** — A collection of programs to make banners or signs for any occasion. Works with any printer.
- Computer/DOS Tutor 4.4** — Learn how to use your computer and DOS easily and correctly with this very educational program. A must for anybody trying to learn about computers!
- Ed's Chess** — The best chess game anywhere. (It beat Chessmaster 2000 easily!) Also, this game does NOT require graphics!
- Formgen 3.3** — A very versatile form generator. Make any kind of form for business or home on any printer! (Better than EZ Forms Executive!)
- Graphic-Less Games** — A great collection of games that don't require color or graphics. (They will work on ANY system!)
- The DOS Learning System** — Learn how to use DOS with this great tutorial. covers all versions of DOS through 3.3.
- The Lotus Learning System (2 disks)** — Learn Lotus 1-2-3 easily and quickly. (Lotus 1-2-3 is NOT required!)
- PC-File:dB (3 disks)** — The latest version of an excellent dBase compatible data base program. Very powerful! (HD)

WORDPERFECT 5.0 UTILITIES

- WordPerfect 5.0 Learning System (2 disks)** — Learn WP 5.0 easily and quickly with this great tutorial (WP 5.0 is NOT required).
- WordPerfect 5.0 Macros (2 disks)** — Hundreds of macros for WP 5.0.
- WordPerfect 5.0 Menu/Mice (2 disks)** — Menu systems, mouse drivers.
- WordPerfect 5.0 Tools (2 disks)** — A collection of 17+ utilities.
- WordPerfect 5.0 Art/Graphics (2 disks)** — Dozens of clipart images.
- PC-Draft III (2 disks)** — Create graphic files (in .WPG format) for WP 5.0. Includes dozens of images to help get you started. (CGA) (HD)



Order Toll Free (800) 876-3475

Name _____
 Business _____
 Address _____
 City / State / Zip _____
 Phone _____
 Disk Size: 5 1/4" 3 1/2" (add \$1 per disk)
 No. Disks _____ x _____ = \$ _____
 Shipping: 1-4 disks (\$2) \$ _____
 5 or more disks FREE! \$ _____
 U.S. Only: Federal Express, contiguous 48 states (add \$5) \$ _____
 UPS 2nd Day Air (add \$3.00) \$ _____
 COD (add \$4) \$ _____
 Foreign (add \$4) \$ _____
 TOTAL ORDER \$ _____
 Method of payment: Check/Money Order Enclosed VISA MasterCard COD
 Card No. _____
 Exp. Date _____ Signature _____

GRAPHICS

- Flowdraw (2 disks)** — An excellent drawing program with a multitude of features! (CGA) (HD)
- PC-Key-Draw 3.52 (3 disks)** — An exceptionally powerful graphics program. (CGA) (HD)
- PC-Key-Draw Library** — A large collection of ready made graphics for PC-Key-Draw.

MISCELLANEOUS

- Brother's Keeper 4.2 (2 disks)** — Excellent, full-featured genealogy program that's easy to use. (HD)
- Easy Project 3.4** — A powerful project manager with lots of features.
- Kwikstat 1.3 (2 disks)** — A complete, easy to use statistics package.
- Pianoman 4.0** — Create and play music on your PC! Lots of fun!

UTILITIES

- Automenu 4.5** — Latest version of the most popular menuing program of all time!
- Backup Whiz 2.1** — Backup your hard-disk quickly and safely with this easy to use program.
- Best DOS Utilities** — Essential utilities for DOS. File finders, listers and numerous other handy utilities that will save you time. Very easy to use!
- Epson Utilities (2 disks)** — A collection of utilities for Epson and Epson compatible printers.
- Help/Pop-Help** — A program that will help you with any DOS command. Very popular and educational.
- Hercules Utilities** — A collection of utilities for Hercules graphics cards. Includes SIMCGA.
- Mr. Label 3.0** — A very powerful and versatile labeling program.
- Newkey 5.0** — The latest version of the best keyboard macro program available. ("Editor's Choice" — PC Magazine!)
- On-Side** — Allows you to print anything sideways.
- PC-Deskteam 2.01** — A Sidekick-like program with even more features!
- Professional Master Key** — A collection of utilities like Norton's. Recover erased files easily!
- Vaccines and Virus Killers** — A collection of utilities designed to protect your system from viruses! This disk includes Flu-Shot+ 1.52.

WORD PROCESSING

- PC-Outline 3.34** — An excellent thought outliner! Can also be used as a free-form database. (Resident & Non-Resident versions included!)
- PC-Stylist 1.2** — Analyze and improve your writing style.

Some of the programs we sell are "shareware". Shareware programs are copyrighted and require additional payment to the authors if found useful!

**Free Catalog of
over 200 programs
with every order
or by request**

**Order: 800-876-3475
Information: 503-776-5777
FAX: 503-773-7690**



**We also accept checks
money orders and COD**

Reasonable Solutions
2712 Jacksonville Highway Medford, Oregon 97501

Delivering Excellence in Software, Service & Support

SINCE
10th
Anniversary
1979

COMPUTER DIRECT

WE WON'T BE UNDERSOLD!*

Expires 11/30/89

VIP

THE RAM CRISIS
IS OVER!

Now, A Complete XT® Compatible
Computer For Under \$500!!
640K 10MHZ TURBO XT COMPUTER

For Only **\$499⁹⁵** LIST \$899.95
NO HIDDEN COSTS - INCLUDES!

Don't Pass Up
The Wise Buy,
Buy Wise Now
And SAVE!

- ☆ High Tech IBM® XT® Compatible With Front Panel LED Display, Switchable Turbo Mode, And Security Keylock
- ☆ Full 640K RAM, Installed And Tested
- ☆ Parallel, Serial, And Game Ports Standard
- ☆ CGA, RGB, MGA Card Included
- ☆ Clock/Calendar
- ☆ 150 Watt Power Supply
- ☆ 101 Key AT® Style Keyboard
- ☆ 360K Floppy Drive And Controller
- ☆ 32K ROM
- ☆ Completely Assembled, Tested, And Burned In!
- ☆ PLUS—Free Quality Word Processor "Ability"



We
Won't Be
Undersold!

FREE!
DOS
A \$69⁹⁵ Value

TRIPLE THE VALUE!!!

1. We want you to be the first to take advantage of this opportunity. VIP Computer Inc. has made Computer Direct your source for the best deal in the country!

2. If this computer fails due to workmanship or quality during the first year, we will replace it.

3. **NO RISK! 30 Day Home Trial!!!**

Monitor Optional

Throw Away Those Keys!!!
1 MB 16 Mhz* 0 Wait Computer

Here's What You Get...

- 8 Or 12 Mhz Switchable Turbo
- 80286 Microprocessor
- 1 MEG Standard, Expandable To 4 MB
- Compatible With All Video Cards
- Dual Floppy/Hard Drive Controllers
- 1 Parallel, 2 Serial, 1 Game Port
- 101 Key AT® Style Keyboard
- 1.2 MEG Floppy Drive
- Built-in Math Co-processor Slot
- 200 Watt Power Supply
- Operation Speed Indicator
- IBM®, OS/2, Novell, Unix Compatible
- 110/220 VAC Switch
- Suntac Chip-set Technology
- EMS 4.0 Software Included

QUICK 12
\$949⁹⁵ LIST \$1299.95



NEW! State Of The Art
Soft Touch Security Keypad.

*16 Mhz Throughput On
Norton Performance Rating

© IBM, AT, and XT are Registered Trademarks of International Business Machines, Inc.

Monitor Optional

VIP 16 Mhz* Computer
AT® Compatible

Includes MS-DOS 4.01 & GW BASIC

Comes Completely Assembled & Tested

With All These Standard Features

- 512K, Expandable to 4 MB
- 80286/12.5 Microprocessor
Runs at 16 Mhz*
- Switchable Turbo 8, 10, 12.5 Mhz
- Phoenix BIOS
- High Tech Aero-Dynamic Case
- 101 Key Enhanced AT® Keyboard
- Dual Hard/Floppy Controller
- 2 Serial, Parallel & Game Ports
- 1.2 MEG Floppy Drive
- MGP Card
- Built-in Math Co-processor Slot
- 5 Device Bays -
3 Open, 2 Closed



JUST ARRIVED!

*16 Mhz Throughput On
Norton Performance Rating

© IBM XT and AT are registered
trademarks of International
Business Machines

Monitor Optional

VIP 286
\$779⁹⁵

List \$1299.95

IMMEDIATE ANSWER
800-BUY-WISE EXT. 51
800-289-9473 EXT. 51

Outside Service Area call 312 382 3058

We Love Our Customers
COMPUTER DIRECT
22292 N. Pepper Rd
Barrington, IL 60010

BEST SERVICE IN THE USA**PRICE IS NOT ENOUGH!**

- 90 Day Immediate Replacement
- Experts in Customer Satisfaction

- Free Technical Assistance
- Bulletin Board Service

- Fast, Low Cost Delivery
- No Credit Card Fees

- 15 Day Home Trial
- Free Catalogs

LOWEST PRICES EVER!

SEAGATE Hard Drives & Cards

20 MEG Half-Height Drive Kit Includes Controller

\$229⁹⁵ List \$499 Model ST-225

40 MEG Super Fast Drive

\$378⁹⁵ List \$799 Model ST-251-1

80 MEG Hard Drive

\$599⁹⁵ List \$799 Model ST-4096

20 MEG Hard Card

\$294⁹⁵ List \$399 Model ST-125

30 MEG Hard Card

\$334⁹⁵ List \$499 Model ST-138RL

10" 180 CPS Printer with NLQ



No Jam Tractor Feed

NLQ 180-II

\$149⁹⁵ List \$399.95

No one can sell this printer for less!

720 CPS 6 Head Printer



15" Carriage

\$699⁹⁵ List \$1995

The fastest printer you'll ever need.

5 1/4" DSDD Disks As Low As...

Qty of 251" each
Qty of 25 w/sleeves21" each
Qty of 100 w/sleeves & labels24" each**19⁰⁰**

Lowest Price in the Country!

5 1/4" High Density Disks

As Low As...

Qty of 2545" each
Qty of 25 w/sleeves47" each
Qty of 100 w/sleeves & labels48" each**45⁰⁰**

★ Made in the USA! ★

3 1/2" DSDD Disks

As Low As...

Lots of 10 59" ea

59⁰⁰

No Limits - Lifetime Warranty!

100% Hayes Compatible Modems

1200 Baud Internal Modem Software Included ... a \$29.95 Value!

\$44⁹⁵ List \$129.95

1200 Baud External Fits in the palm of your hand

\$69⁹⁵ List \$238.90

2400 Baud Internal

Made in the USA! Modem Software Included ... a \$29.95 Value!

\$89⁹⁵ List \$129.95

2400 Baud External

Made in the USA!

\$99⁹⁵ List \$349.00

Magnavox 8762 Color RGB Monitor

**\$234⁹⁵** List \$399

Magnavox EGA Monitor

**\$299⁹⁵** List \$599

100% IBM® Compatible Laptop Computer



The B-300 is a 286 based unit that gives you the power of an AT® at only 15lbs. With its built-in 20 MB hard drive and 1200 Baud Hayes compatible modem, this is the one you've been waiting for!

\$2195⁹⁵ List \$2495

High Speed Ultra-Compact PC with Supertwisted Display

Save 1%* On Any Product in Our Discount Catalog with the Computer Direct Credit Card



Computer Direct, Inc.

"We Love Our Customers"

Call Now 800-BUY-WISE

to Apply for the Credit Card and Get Your FREE Catalog

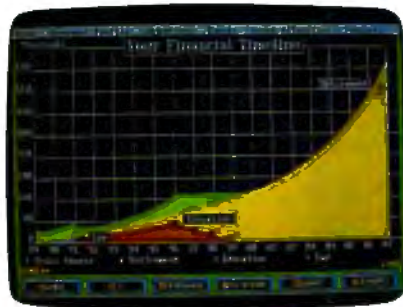
* Introductory Offer - Apply Now!

VISA
MASTERCARD
COD

Prices do not include shipping charges. Call to get your lowest delivered cost. We insure all shipments at no extra cost to you! All packages are normally shipped UPS Ground. 2nd day and overnight delivery are available at extra cost. We ship to all points in the US, Canada, Puerto Rico, Alaska, Hawaii, Virgin Islands and APO-FPO. Monitors only shipped in Continental US. Illinois residents add 6.5% sales tax. Prices and availability subject to change without notice. Not responsible for typographical errors or omissions.

HMO before signing up.

There are 18 sections in the tutorial which teach you how to plan for your family's future. A section on investment products unearths the secrets of such financial fertilizers as mutual funds, stocks, gold, and limited partnerships.



WealthBuilder can add order to the chaos of financial mismanagement.

After completing the tutorial, you start to cultivate your funds. You fill out a profile sheet which holds your vital statistics. On the Investment Philosophy scale, you indicate how much risk you're willing to take in your financial dealings. Generally, the more risk you take, the more green stuff you harvest—if the Money gods smile on your little acre. The Balance Sheet records assets and liabilities, and the Budget records household expenses. The program also provides data sheets for your retirement, your children's education, and other goals.

One of *WealthBuilder's* strengths is the way these different screens help you figure out your financial status. Unless you're very conscientious and organized, you probably can't make an accurate estimate of your monthly household expenses. It's easy to leave out small details. But call up the detail sheet on household expenses and you've got an instant itemized list.

Once you've completed the sheets, *WealthBuilder's* other strength blossoms. Using all the data you've entered, the program tells you how much you need to save to reach your goals. *WealthBuilder* goes on to suggest how to invest your money—what portions of your savings you should put in equities, bonds, and precious metals. Armed with this Asset Allocation pie chart, you can use the program's database of investment products to identify the specific organizations with which you'll do business.

WealthBuilder's database sorts the investment products by risk, yield, and so on. If you see a government bond that interests you, you'll find a phone number for the organization

that sells that bond. You'll also find the minimum investment, the bond's performance during bull and bear markets, and the cumulative returns during different times.

Moving from tutorial to information sheets to database is easy and fast. Although the program is mouse-driven, it actually works more smoothly from the keyboard. You get to main screens through menus, and you get to subsequent screens through context-sensitive key combinations.

WealthBuilder is for devoted cash farmers—beginners or old hands—who can invest time as well as money. But all the work is worthwhile. This program gives you the information you need to plant your money in fertile soil.

HEIDI E. H. AYCOCK

IBM PCs and compatibles—\$249.95

REALITY TECHNOLOGIES
3624 Market St.
Philadelphia, PA 19104
(800) 346-2024

SPACE QUEST III: THE PIRATES OF PESTULON

Sierra's *Space Quest III* is a 3-D animated adventure that puts you in the role of Roger Wilco, an intergalactic sanitation engineer who was last seen (in *Space Quest II*) drifting through space in an escape pod. At the opening of *Space Quest III*, the pod drifts beneath a robot-controlled garbage ship, is mistaken for a piece of scrap, and is beamed aboard. Once aboard the garbage ship, your first objective is to discover a way to escape. Then you can go about your real mission, which is to search the cosmos for Two Guys from Andromeda.

It seems these Two Guys (*Space Quest* designers Mark Crowe and Scott Murphy) have been kidnapped by software pirates working for a disreputable software publisher called Scumsoft. Unless you save them, they will be forced to turn out dull, buckazoid-operated arcade games like *Astro Chicken*. Unfortunately, the location of Scumsoft Software Empire is a closely guarded secret.

You can use a mouse, a joystick, the cursor keys, or the numeric key-

pad to make Roger Wilco walk around the screen. Sierra's animated adventures have a 3-D feel because, along with horizontal movement across the screen, characters like Roger can also be moved up the screen into the background and down into the foreground. Roger can walk completely around many objects, disappearing as he passes behind large objects and reappearing again when he comes around to the front. This effect is enhanced not only by the shadow Roger casts when he's in the light, but also by the way his character darkens when he's moved into the shadows.



Only you, Roger Wilco, can defeat the bad guys from Scumsoft Software in *Space Quest III*.

Of course, just moving around won't help Roger get off of the garbage ship or find the Two Guys. You also have to explore your surroundings, take items that will help you achieve your goals, and interact with the people (and aliens) you meet on your travels. You do this by typing simple commands such as *Look at Computer*, *Take the Wire*, or *Examine Postcards*. At times, you're forced to quickly think of an appropriate command and enter it before Roger suffers some unspeakable horror. For instance, early in the game you must come up with the correct combination of commands that will save Roger as he heads down a conveyor belt toward a shredding machine.

As you make your escape on the spaceship Aluminum Mallard, the ship's computer display replaces your own display, and the onscreen function keys must be used to access the ship's weapons and navigation systems. Your options are limited, and your operation of the Mallard can't exactly be called flight simulation. But having even a small degree of control during a sequence that many game designers would have simply automated helps to maintain the illusion that you are part of the story, that you're not simply watching it unfold.

The animation looks good in all graphics modes. *Space Quest III* is the

Merry Diskmas from SD of A

Ho! Ho! Ho! Save Dough, Dough, Dough.



We have what you're looking for!

ACCESS
Software Incorporated

This interactive detective movie represents the cutting edge of entertainment technology with over 60 MB Digitized graphics and real sound information.



Mean Streets List \$59.95 Discount Price \$39

ACCOLADE

- Ace of Aces \$9.88
- Blue Angels Call
- Bubble Ghost \$23
- 4th & Inches Football \$24
- Grand Prix Circuit \$24
- Hardball \$9.88
- Hardball 2 \$25
- Harrier 7 \$9.88
- Jack Nicklaus Golf \$32
- J.N. Golf Champ Courses \$14
- Mental Blocks \$9.88
- Mini-Puff \$24
- Steel Thunder \$25
- T.D. 2: The Dual \$29
- T.D. 2: Calif. Scenery \$14
- T.D. 2: Europe Scenery \$14
- T.D. 2: Muscle Cars \$14
- T.D. 2: Super Cars \$14
- The Cycles Call
- The Third Courier \$32

ACTIVISION

- Apache Strike \$9.88
- Battle Chess \$32
- Death Track Call
- Ghost Busters 2 \$29
- Grave Yardage Call
- Last Ninja \$9.88
- Music Studio 3.0 \$65
- Neuromancer \$29
- Rampage \$24
- The Manhole \$32
- Tongue of the Fatman \$25

ARTWORK

- Bridge 6.0 \$25
- Centerfold Squares \$19
- Daily Double Horse \$19
- Kaleidokubes \$19
- Linkword Languages Call
- S.P. Data Disk Call
- Strip Poker 2 \$25

BETHESDA

- Wayne Gratzky Hockey \$32

BRODERBUND

- Ancient Art of War at Sea \$29
- Ancient Land of Ys \$32
- Banner Mania \$23
- Carmen S.D. - Europe \$29
- Carmen S.D. - U.S.A. \$29
- Carmen S.D. - World \$25
- Jet Fighter: Adventure \$32
- Murder Club \$32
- Omni-Play Horse Racing \$36
- Print Shop \$32
- P.S. Companion \$31
- P.S. Graphics #1 or #2 \$32
- Star Wars \$32
- VCR Companion \$32
- Wbarm \$25

CENTRAL POINT

- Copy 2 \$25
- PC Tools Deluxe 5.5 \$79

CINEMAWARE

- Defender of the Crown \$32
- Krysal Call
- Three Stooges \$32
- T.V. Sports Football Call

DAC

- Dac Easy Accounting 3.0 \$65
- Lucid 3D 2.0 \$65
- Rolodex Live! \$32

DATA EAST

- Bad Dudes \$25
- Batman Call
- Guemlia War \$25
- Heavy Barrel \$25
- Ikan Warriors \$9.88
- Platoon \$9.88
- Robocop \$25
- Super Hang-On \$25
- Vigilante Call

DATA SOFT

- Hunt for Red October \$32
- Time & Magic \$26

DAVIDSON

- Algeblaster \$29

Call About Our Special Of The Month for Your IBM Or Compatible!

- Math Blaster Plus \$29
- Reading & Me \$24
- Word Attack Plus \$29
- DESIGNWARE**
- Desgnasaurus \$25
- Jigsaw \$25
- ELECTRONIC ARTS**
- Abrams Battle Tank \$26
- Bard's Tale 1 or 2 \$32 Ea
- Battle Hawks 1942 \$32
- Beyond Black Hole \$32
- Caveman Ugh-Lympics \$21
- Crossmaster 2100 \$32
- Cribbage/Gin King \$39
- C. Yeagers AF1 2.0 \$32
- Deluxe Paint 2 \$65
- Double Dragon \$26
- Earl Weaver Baseball \$26
- Empire \$32
- Ferrari Formula One Call
- Fools Errand \$32
- Indiana Jones \$32
- Last Crusade \$32
- Jordan vs. Bird \$26
- Lakers vs. Celtics Call
- Legacy of Conquest \$9.88
- Summer Games 2 \$9.88
- World Games \$9.88
- World Karate Champ \$14
- FREE SPIRIT**
- Sex Vixens from Space \$25
- GAMESTAR**
- Face Off Hockey Call
- Motorcross \$25
- Pete Rose's Pennant Fever \$23
- Take Down \$23
- GAMETEK**
- Candy Land \$9.88
- Chutes & Ladders \$9.88
- Double Dare \$9.88
- Hollywood Squares \$9.88
- Super Password \$9.88
- HI-TECH**
- Fun House \$9.88
- Muppet Print Kit \$9.88
- Remote Control \$9.88
- Ses. St. First Writer \$9.88
- Ses. St. Print Kit \$9.88
- Swm Wear \$6.88
- INFOCOM**

Broderbund

Where in Time is Carmen San Diego List \$44.95 SDA Discount Price \$29

Carmen & her gang are at it again! Travel thru time warps from 400 A.D. to the 1950's to catch them. Includes paperback encyclopedia.

- Magic Candle \$32
- Maniac Maroon \$23
- Might & Magic 1 or 2 \$32 Ea
- Puzzle Storybook \$25
- Scavengers \$32
- Sentinel Worlds \$32
- 688 Attack Sub \$32
- Skyfox 2 \$9.88
- Starflight \$32
- Strike Fleet \$26
- Wasteland \$32
- World Tour Golf \$9.88
- Zak McKracken \$29
- Zany Golf \$26
- EPYX**
- Axe of Rage \$32
- California Games \$24
- Death Sword \$19
- Destroyer \$9.88
- Final Assault \$14
- Games: Summer Edition \$32
- Games: Winter Edition \$32
- Home Video Producer \$32
- Mind-Roll \$19
- Print Magic \$39
- Project Neptune \$21
- Purple Saturn Day \$19
- Revenge of Defender \$21
- Snow Strike \$21
- Sporting News Baseball \$24
- Battletech \$32
- Beyond Zork \$9.88
- Hitchhikers Guide \$9.88
- Journey \$32
- King Arthur \$25
- Leather Goddesses \$9.88
- Shogun \$39
- Zork Trilogy \$16
- Zork Zero \$39
- LEARNING COMPANY**
- Reader Rabbit \$25
- Think Quick \$32
- Writer Rabbit \$32
- MASTERTRONIC**
- Scrabble \$26
- Scruples \$26
- MELBOURNE HOUSE**
- John Elway's QB \$19
- Magic Johnson B-Ball \$25
- War in Middle Earth \$32
- MICROPROSE**
- Airborne Ranger \$25
- F-15 Strike Eagle \$14
- F-15 Strike Eagle 2 \$35
- F-19 Stealth Fighter \$44
- Gunship \$32
- M1 Tank Platoon \$44
- Pirates \$29
- Red Storm Rising \$35

ACCOLADE

The best selling baseball game is now unbelievably better. Constantly updated stats, 5 camera views, team construction set and more.



Hardball 2 List \$39.95 SDA Discount Price \$25

- Sword of the Samurai \$36
- MINDSCAPE**
- Balance of Power 1990 \$32
- Captain Blood \$25
- Combal Course \$29
- Fiendish Freddy's Bigtop Gauntlet 1 or 2 \$25 Ea
- Int'l Team Sports \$23
- Out Run \$25
- Paperboy \$25
- Shadowgate \$29
- Shinobi Call
- Space Harrier \$25
- Star Trek 5 Final Frontier \$25
- Super Star Ice Hockey \$25
- Super Star Soccer \$25
- Uninvited \$25
- ORIGIN**
- Omega \$32
- Quest For Clues Book 2 \$19
- Space Rogue \$32
- Times of Lore \$25
- Ultima 4 or 5 \$39 Ea
- Ultima Trilogy \$39
- POLARWARE**
- Tracron \$29
- SHARE DATA**
- Avoid the Noid Call
- Concentration 1 or 2 \$9.88
- Family Feud \$9.88
- Jeopardy \$9.88
- Jeopardy Jr. \$9.88
- Jeopardy 2 \$9.88
- Nightmare on Elm St. Call
- Sports Jeopardy \$8.88
- Wheel of Fortune \$8.88
- Wheel of Fortune 2 or 3 \$9.88
- Wipe Out \$9.88
- SIERRA**
- Black Cauldron \$25
- Gold Rush \$25
- Hoyle's Book of Games \$23
- King's Quest 1, 2, 3 or 4 \$32 Ea
- Lessure Suit Larry \$25
- Lessure Suit Larry #2 \$32
- Manhunter SF or NY \$32 Ea
- Monkey Goose \$19
- Police Quest 1 or 2 \$32 Ea
- Silphed \$23
- Space Quest 1 or 2 \$32 Ea
- Space Quest 3 \$39
- 3-D Helicopter Sim \$14
- Thexder \$23
- SIR TECH**
- Heart of Maestrom \$32
- Knight of Diamonds \$32
- Legacy of Lygamin \$32
- Proving Ground \$39
- Return of Werdna \$39
- SOFTWARE PUBLISHING**
- PFS: 1st Choice 3.0 \$101
- PFS: 1st Publisher 2.1 \$84
- Professional File 2.0 \$194
- Professional Write 2.1 \$149
- SPECTRUM HOLOBYTE**
- Falcon \$32
- Solitaire Royale \$23
- Tetris \$23
- Vette \$32
- SPINNAKER**
- Quadrant \$25
- Sargon 4-3D Chess \$25
- Starquake \$25
- SPOTLIGHT**
- Darksade \$25
- Speedball \$25
- Total Eclipse \$25
- SPRINGBOARD**
- Certificate Maker \$24
- C.M. Library #1 \$19
- SSI**
- Curse of Azure Bonds \$32
- Demon's Winter \$23
- Gettysburg \$39
- Heroes of the Lance \$26
- Hillstar \$32
- Pool of Radiance \$32
- Red Lightning \$39
- Stellar Crusade \$32
- Sword of Aragon \$26
- TAITO**
- Arkanoid \$9.88
- Arkanoid 2: Revenge \$23
- Bubble Bobble \$23
- Operation Wolf \$23
- Ox Call
- Rastan \$23
- Renegade \$23
- Sky Shark \$23
- MISC. UTILITIES**
- Superbase 2-M.S. \$173
- Windows \$129
- Timeworks Publish It! \$129
- Timeworks Word Writer \$32
- Tobias: Managing-Money \$139
- Word Perfect 5.0 \$235
- ACCESSORIES**
- Desk Case 5 1/2 or 3 1/2 \$6.88 Ea
- Drive Cleaner \$23
- 5 1/4 or 3 1/2 \$6.88 Ea
- Epyx 500 KJ Joystick \$25
- Sony 3 1/2 DSDD \$16.80 Bx
- Sony 5 1/4 DSDD \$6.99 Bx
- Suncorn Starfighter Joystick \$16

Speedy Delivery
Deep Discounts
Astronomical Selections

If you can't find what you're looking for in our ad, call us.

Send check or money orders to:
P.O. Box 111327-Dept. CP
Blawnox, PA 15238

USA/CANADA orders
1-800-225-7638
PA orders 1-800-223-7784
Customer Service (412) 361-5291

- Free shipping on orders over \$100 in continental USA.
- No surcharge for VISA/MasterCard.
- Your card is not charged until we ship.
- Purchase orders accepted.

Software Discounters
Of America

Order Line Hours: Mon.-Thurs. 9:00 AM-9:00 PM, Fri. 9:00 AM-7:00 PM, Sat. 10:00 AM-4:00 PM Eastern Time

*Please Read The Following Ordering Terms & Conditions Carefully Before Placing Your Order: Orders with cashiers check or money order shipped immediately on in-stock items! Personal & Company checks, allow 3 weeks clearance. No C.O.D.'s! Shipping: Continental U.S.A.-Orders under \$100 add \$3; free shipping on orders over \$100. AK, HI, FPO, APO-add \$5 on all orders. Canada & Puerto Rico add \$7.50 on all orders. Sorry, no other international orders accepted! PA residents add 6% sales tax on the total amount of order including shipping charges. CUSTOMER SERVICE HOURS: Mon.-Fri. 9 AM-5:30 PM Eastern Time. REASONS FOR CALLING CUSTOMER SERVICE--(412)361-5291 (1) Status of order or back order (2) if any merchandise purchased within 60 days from SD of A is defective, please call for a return authorization number. We will not process a return without a return auth. #! Defective merchandise will be replaced with the same merchandise only. Other returns subject to a 20% restocking charge! After 60 days from your purchase date, please refer to the warranty included with the product purchased & return directly to the manufacturer. Customer service will not accept collect calls or calls on SD of A's. 800 # order lines! Prices & availability are subject to change! New titles are arriving daily! Please call for more information.

MODEM OWNERS: You can order on-line from our IBM shop via the CompuServe, GENIE and Q-Link electronic malls.

Circle Reader Service Number 106

best-looking game in the series. There are several cinematic touches, such as dramatic close-ups of the Terminator as he stalks Roger Wilco on Phleebut, and a rat's-eye view from the rafters of the garbage ship as Roger searches for the reactor below. The garbage ship's interior and the exterior shots of the Aluminum Mallard are particularly stunning when the game is running in VGA or EGA mode. The game also sounds as good as it looks, thanks to a 30-minute musical score that can be heard through the Ad Lib and Roland MT-32 sound boards.

As with all Sierra adventures, *Space Quest III's* gameplay is enhanced by several options available through pull-down menus and keyboard shortcuts. You can adjust Roger Wilco's movement speed, repeat the last text command, toggle sound on or off, or check Roger's inventory with a single keypress. You can also pause the game so that you can answer the doorbell or so you can take your time planning your next move without something dreadful happening to Roger. Be forewarned, however, that when you pause, the Two Guys will appear onscreen complaining, "Fine. Pause. Just don't be taking too long, OK? We don't want any babies playing this game!"

BOB GUERRA

Atari ST—\$59.95
IBM PC and compatibles with 512K and CGA, EGA, VGA, MCGA, Hercules, or Tandy graphics—\$59.95

SIERRA
P.O. Box 485
Coarsegold, CA 93614
(209) 683-6858

BARBARIAN

There's nothing like a session of slaying evil creatures and avoiding deadly traps to keep the day interesting. Melbourne House's *Barbarian* lets you do it the hard way: learn by dying. You, Hero the Barbarian, must descend into the bowels of the underworld to find your father's killer and avenge his death. Naturally, along the way you encounter every evil creature imaginable, from overzealous bulldogs and axe-wielding soldiers to an ornery, fire-breathing dragon.

Barbarian's two icon-based control panels make negotiating ladders and stairs easy. You're given a sword at the start of your quest. Along the

way you can pick up a bow and other weapons to add to your arsenal.

If you're not in a fighting mood, you can bypass some of the bad guys by jumping, defending, or fleeing.

Your three lives give you a little breathing room as you encounter deadly trap doors, collapsing bridges, and falling ceilings. Memorizing the pitfalls and learning by death will lead you farther into the caverns each time.

Barbarian offers only one path to the game's end. But the challenge of mastering all the traps along the way makes it an enticing path to take.

JEFF SLOAN

Apple IIgs—\$34.99
Commodore 64/128—\$29.99
IBM PC and compatibles—\$39.99

MELBOURNE HOUSE
18001 Cowan St.
Suites A,B
Irvine, CA 92714
(714) 833-8710

ULTRAVISION

Staying state of the art in the MS-DOS world isn't easy. Not long ago, you were showing off your incredible EGA graphics card to your jealous CGA-using friends. Now they have VGA systems, and it's your turn to cry. You'd like to upgrade to the more advanced VGA standard, but you don't have the \$1,000-\$1,500 to do it.

Luckily, there's another option. UltraVision, from Personics, tweaks your EGA system into an almost-VGA-quality display. Even more amazing, UltraVision performs its video magic for a mere \$120, making it a very attractive alternative to a VGA upgrade.

The UltraVision package includes the Personics Booster Card, which attaches to your current EGA board, and software to access the card's advanced video features. To set up UltraVision, you plug the card into an unused feature connector included on most EGA cards. On some graphics cards, you must flip a few dip switches or reset some jumper pins on the EGA adapter itself. The UltraVision hardware guide has instructions and illustrations outlining the correct procedure for attaching the Booster Card to most EGA boards. It took about ten minutes to install it on my old ATI EGA Wonder board. Once the hardware upgrade has been

completed, run a program to install the UltraVision software and you're ready to go.

How well UltraVision enhances your display depends on the type of monitor you use. On a standard EGA monitor, UltraVision adds a number of new display modes in addition to the default 80 column X 24 row display. You can expand your display vertically to 43 rows or stretch it horizontally to either 120 or 132 columns, ideal for working with large spreadsheets.

Installing UltraVision on an EGA system with a multisync monitor produces even more impressive results. With this configuration you can run *Windows* on a 640 X 480 pixel screen, using Microsoft's standard VGA driver. Other graphics-based programs show similar improvement in display resolution on multisyncs. Ultravision includes 17 custom screen fonts designed for better readability in high-resolution screen modes. Some of these custom fonts seem to be provided more for fun than for functionality; you probably won't use Old English, Script or Broadway fonts for your day-to-day PC operations. But you should be able to create a legible screen display using one of the remaining 14 typefaces.



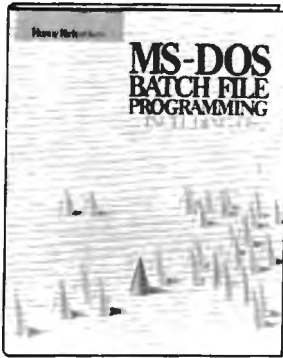
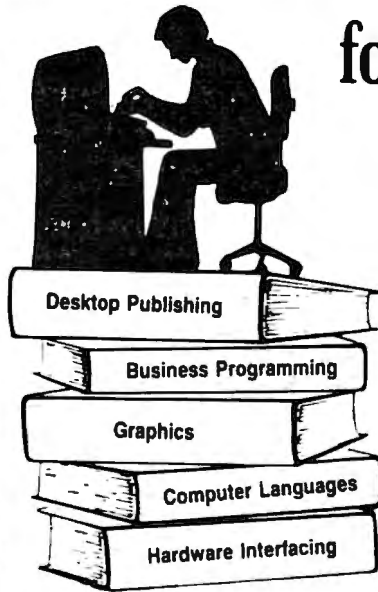
See all 64 EGA colors at once using the UltraVision disk/card combo.

UltraVision also enhances the color capabilities of your EGA display. You can replace the default 16 EGA colors used by your applications with any of the 64 colors in the EGA palette using a simple menu-driven program. You can create and save up to six custom color sets, which can be loaded along with your application programs. Using some of the brighter colors supported by UltraVision will help reduce the eyestrain associated with working in a room illuminated by fluorescent lighting.

The most impressive feature of UltraVision is that it accomplishes all its tricks using only 7-17K of RAM, depending on your hardware configuration. Not only is UltraVision frugal,

SELECT 5 BOOKS for only \$4.95

(values to \$118.75)



3028P \$19.95



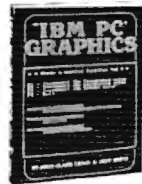
1540P \$17.95



3040 \$27.95
Counts as 2



3236P \$17.95



1860P \$16.95



2654P \$12.95



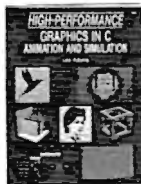
3161P \$24.95



2807P \$14.95



2682P \$16.95



3048 \$36.95
Counts as 2



2997P \$17.95



3146P \$17.95



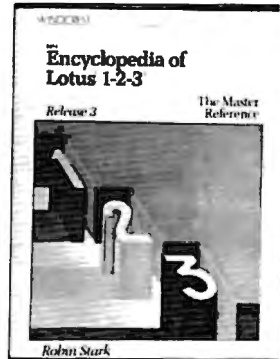
3254P \$22.95



3026 \$22.95



3223P \$21.95



3211 \$34.95
Counts as 2



1848P \$16.95



2943P \$16.95



3178P \$22.95



3030P \$17.95



3113P \$16.95



2948 \$27.95
Counts as 2



2859P \$20.95



3131P \$24.95

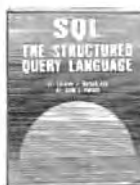
When it's new and important in business or personal computing, The Computer Book Club[®] has the information you need . . . at savings of up to 50% off publishers' prices!



2688P \$16.95



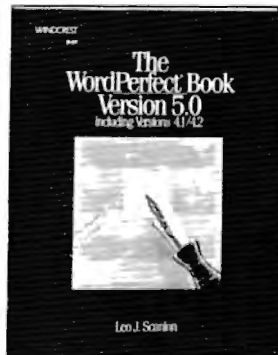
3109 \$26.95
Counts as 2



3016P \$17.95



2877P \$16.95



3127P \$16.95

Membership Benefits • Big Savings. In addition to this introductory offer, you keep saving substantially with members' prices of up to 50% off the publishers' prices. • **Bonus Books.** Starting immediately, you will be eligible for our Bonus Book Plan, with savings of up to 80% off publishers' prices. • **Club News Bulletins.** 14 times per year you will receive the Book Club News, describing all the current selections—mains, alternates, extras—plus bonus offers and special sales, with scores of titles to choose from. • **Automatic Order.** If you want the Main Selection, do nothing and it will be sent to you automatically. If you prefer another selection, or no book at all, simply indicate your choice on the reply form provided. As a member, you agree to purchase at least 3 books within the next 2 years and may resign at any time thereafter. • **Ironclad No-Risk Guarantee.** If not satisfied with your books, return them within 10 days without obligation! • **Exceptional Quality.** All books are quality publishers' editions especially selected by our Editorial Board.

1989 THE COMPUTER BOOK CLUB[®] Blue Ridge Summit, PA 17294-0820
All books are hardcover unless number is followed by "P" for paperback. (Publishers' Prices Shown)



The Computer Book Club[®]

Blue Ridge Summit, PA 17294-0820

Please accept my membership in The Computer Book Club[®] and send the 5 volumes listed below, billing me \$4.95 plus shipping and handling charges. If not satisfied, I may return the books within ten days without obligation and have my membership cancelled. I agree to purchase at least 3 books at regular Club prices (plus shipping/handling) during the next 2 years and may resign any time thereafter.

_____	_____	_____
_____	_____	_____

Name _____

Address _____

City _____

State _____ Zip _____ Phone _____

Signature _____

Valid for new members only. Foreign applicants will receive special ordering instructions. Canada must remit in U.S. currency. This order subject to acceptance by The Computer Book Club[®] PCC1189



2852P \$17.95



3232P \$17.95



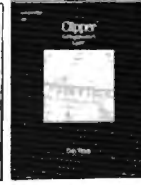
2968P \$19.95



2809 \$27.95
Counts as 2



3066 \$39.95
Counts as 2



3207P \$19.95

it's also well behaved. I tested UltraVision with several programs, including graphics heavyweights like *Ventura Publisher* and *Windows*, and I had no problems with any of them. If you encounter a problem, you can disable UltraVision from the DOS prompt and return to standard EGA mode.

Even if you plan on upgrading to VGA sometime in the future, UltraVision is a good investment for now. For \$120, it greatly enhances your current EGA system. UltraVision allows you to upgrade in logical increments as your budget permits. For instance, you could purchase a multisync monitor, giving you access to the advanced features of UltraVision, and that monitor could later be used with a VGA card.

Adding UltraVision results in a big improvement in your EGA display quality. My old EGA monitor will never look the same again.

JACK NIMERSHEIM

IBM PC and compatibles with EGA and compatible monitor—\$119.95

PERSONICS
83 Great Rd.
Maynard, MA 01754
(800) 445-3311
(508) 897-1575 in Massachusetts

CHILDREN'S WRITING & PUBLISHING CENTER

**FAST
LOOKS**

Getting kids interested in writing is no easy task in the Nintendo era. Luckily, The Learning Company has come to the rescue with *The Children's Writing & Publishing Center*, a desktop-publishing program geared toward kids. Children can complete letters or reports in a one-column design or a newspaper-style two-column design. They can add headings and pictures to the text.

Operating the program is easy. Arrow keys make moving around during the word processing and editing processes easy, and the function keys let you select items from the menu bar. You can print your finished document (which can be up to four pages long) in black-and-white or in color.

Planning, organizing, and prob-

lem solving are only a few of the skills practiced in the operation of this program. *The Children's Writing & Publishing Center* can help prepare today's kids for a future of success.

NANCY RENTSCHLER

Apple II—\$59.95
IBM PC and compatibles—\$69.95

THE LEARNING COMPANY
6493 Kaiser Dr.
Fremont, CA 94555
(415) 792-2101

MASTERING THE LSAT

The first rite of passage to becoming a lawyer is the Law School Admissions Test (LSAT). While grades document your track record and personal academic accomplishment, the five-hour LSAT targets the skills necessary to succeed in law school.

The test poses some 180 questions, designed to test reading comprehension, reasoning, percep-

continued on page 137 ▶

M O R E T H A N

LOGIC



286 SupersPort Laptop by Heathkit®

Your logical source for quality computer and electronic product needs, the **FREE Heathkit Catalog** is your key to a fun and exciting hobby. The Heathkit Catalog contains powerful kit laptop and desktop computers, test instruments, weather equipment, and home theater components, plus self-study electronics courses. Order your **FREE Heathkit Catalog** today! It's the logical thing to do!

1-800-44-HEATH
(1-800-444-3284)

Send to: Heath Company, Dept. 124-834
Benton Harbor, Michigan 49022

Name _____

Address _____

City _____ State _____ Zip _____

A subsidiary of Zenith Electronics Corporation

MAIL TO:

COMPUTE! SUBSCRIBER SERVICE

P.O. Box 3245, Harlan, IA 51537

Change of Address: Please advise as early as possible. Attach label with your old address and write in new address below.

New Subscriber: Fill in your name and address below. Use separate sheet for gift orders

PLACE LABEL HERE

Renewal: Attach label.

_____ One year \$19.94 _____ Two years \$34.95
(Foreign subscribers please add \$6.00 per year for postage)

NAME _____

STREET _____

CITY/STATE/ZIP _____

_____ Please bill me _____ Payment enclosed

For other subscription questions or problems, please write a note and send entire form to the above address. OR CALL TOLL-FREE:

1-(800) 727-6937

Sensational IBM Software SALE

Great Public Domain and Shareware Programs • Best Selections • Latest Updates
Fully Tested - Virus Free • Free Technical Support • Fast, Fast Delivery

\$2.39
Per Disk
10 or More

\$2.89
Per Disk
Less than 10

Featuring: MORE...MORE...MORE.....PROGRAMS PER DISK

PRINTING

- LETTERHEADS PLUS (132)** Design/print custom letterheads, envelopes, labels to Epson/IBM compatible printers.
- EZ-FORMS (119)** Create custom forms. Easy, powerful.
- ON-SIDE (121)** New! Print sideways with custom fonts. Menu-driven.
- CITYDESK (123)** Desktop publishing for 2 column newsletters.
- MR. LABEL (124)** Most versatile & powerful label printing program.
- ADDRESS-O-MATIC (127)** Grabs names and addresses from letters and automatically prints envelopes.
- IMAGEPRINT (128)** Remarkable letter quality printing on a 9 pin dot matrix printer.
- BANNER MAKER (130)** Create signs and banners with multiple fonts & styles.
- COLUMNAR PRINTING UTILITY (133)** Prints proportionally justified text files in 1 to 3 columns.

GAMES

- CRIME LAB (279)** Great, unique graphic murder mystery game. CGA or EGA.
- CAPTAIN COMIC (260)** Commercial quality arcade game. Excellent! EGA or VGA.
- DRACULA IN LONDON (271)** Super graphics adventure game. Great fun. CGA or EGA.
- NINJA (201)** Commercial quality karate arcade game. Neat graphics. CGA, EGA.
- PGA GOLF (202)** 18 hole course. Great graphics. CGA or EGA required.
- 3-D CHESS (205)** Superb 3-D game. Loaded with options. Use wany graphics card.
- PC-RAILROAD (210)** Trains run on ready-made routes or design your own. You have total control. CGA required.
- CARD GAMES (214)** Draw Poker, Hearts, Canasta and Bridge.
- ARCADE GAMES #5 (220)** Rockets, Snake, Xenix, Nemon, Spacewar. Needs CGA.
- FAVORITE GAMES (221)** Pango, Obert, Frogger, Packman, 3-Demon. CGA.
- CLASSIC GAMES (222)** Pinball, Breakout, Flightmare, Ratmaze, Space Commander. Needs CGA.
- ADVENTURE GAMES #1 (228)** Sam Spade, Castle Adventure, Pleasure Dome.
- GAMBLING GAMES (229)** Blackjack, Poker, Roulette, Craps. CGA required.
- BOARD GAMES #1 (230)** Monopoly and Risk. Requires CGA.
- MONOCHROME ARCADE GAMES (243)** Horseshoe, Beast, Skiing, Fire Fighter.
- EGA ARCADE GAMES #1 (251)** Aldo, EgaBreakout, Egaroids. Needs EGA.
- EGA ARCADE GAMES #2 (252)** Snarfs and Ega-Star Trek. Requires EGA.
- BOARD GAMES #3 (245)** Scrabble, Concentration, Boris, Seek & Sink. Needs color monitor.
- MAJOR LEAGUE BASEBALL (203)** Super baseball game. Neat graphics. CGA.
- FORD SIMULATOR (211)** New, exciting driving simulator from Ford. Test your skills on 4 tracks. Needs CGA or EGA.
- EGA GOLF (250)** 18 holes of the best scenery available. Requires EGA.
- BASS TOUR (258)** New! Feature-packed fishing game. Select rod, reel, ball, everything. Needs CGA or EGA.
- BOARD GAMES #2 (231)** Checkers, Chess, Dominoes, Backgammon. Needs CGA.
- ADVENTURE GAMES #2 (246)** Empire & McMurphy's Mansion.
- STRATEGIC WAR GAMES (226)** War on the Sea, Tank & African Desert Campaign.
- KINGDOM OF KROZ (244)** Unique arcade-adventure game. National prize winner.
- ARCADE SPORTS GAMES (223)** PC-Pool, PC-Bowl & Archery. CGA or EGA.
- ARCADE GAMES #1 (216)** Spiders, Tank Wars & Disk Crash. Requires CGA.
- PINBALL GAMES (225)** 10 pinball games for 1-4 players. Requires CGA or EGA.
- EGA FOOTBALL (257)** New! You control all the great action. Plays like a real football game. Needs EGA.

UTILITIES

- POINT-SHOOT BACKUP/RESTORE (401)** Superior hard disk backup. CGA or EGA.
- QUICKCACHE (443, 444)** (2 disks) Disk caching speeds up your PC. Best we've seen!
- BAKER'S DOZEN (406)** Powerful package of 14 utilities from Jim Button. Top rated.
- FLU-SHOT+ (411)** New! Effective protection against virus programs.
- CGA SIMULATOR (433)** Run most CGA programs on Hercules compatible monochrome cards.
- HARD DISK UTILITIES (437)** Very useful set of hard disk utilities.
- EGA FONTS (441)** More than 50 fonts to make your EGA shine.
- CATDISK (452)** Easy, menu-driven disk cataloging system.
- SPACE MAKER (467)** Data compression package to save disk space.
- BEST BATCH UTILITIES (473)** 25 programs put power in your batch files.

MENUS and DESKTOP

- POWER MENU (702)** Excellent, easy menuing program. Needs hard disk.
- HOMEBASE (601-602)** (2 disks) Desktop organizer puts Sidekick to shame.
- TREEVIEW (706)** New! Our favorite DOS command shell with pull down menus.

WORD PROCESSING

- WORDPERFECT 5.0 TOOLS (841)** ASCII to WPS format converter plus other super utilities to improve performance.
- PC-WRITE 3.02 (809-811)** (3 disks) New! Top rated wspell checker.
- WORDPERFECT CLIPART (843, 844)** (2 disks) Over 180 great graphics.
- PRO-SCRIBE (822)** New! Really improves impact and clarity of your writing.
- WORDPERFECT MACROS (831)** for 5.0, (837) for 4.2. Over 70 great macros & templates.

GRAPHICS

- GRASP (1605)** Create and run fabulous graphic demos. Any graphics card.
- PC-KEY DRAW (1607-1609)** (3 disks) Powerful drawing/CAD program with clip art. CGA, EGA, or HERC w/CGA emulation.
- OPTIKS (1619)** Edit, merge, convert files from over 24 different graphic formats.
- FINGER PAINT (1620)** Like PC-Paint brush. Requires graphics card.
- VGA PAINT (1622)** New! Graphics/drawing in 248 colors. Requires VGA, 450K.
- PRINTMASTER GRAPHICS (1602, 1603)** (2 disks) New! Over 1,000 great Printmaster graphics. Requires Printmaster.
- PRINT SHOP GRAPHICS (1663, 1664)** (2 disks) New! 1,060 graphics for Print Shop.

DATABASE

- dLITE (1031)** Amazing dBASE multi-utility Incl. cut & paste, and much more.
- FILE EXPRESS 4.xx (1002-1003)** (2 disks) Easy, powerful database. PC-Magazine said it "performs like a thoroughbred."
- dPROG (1022)** Fantastic dBASE III auto-programmer writes all codes for you.
- WAMPUM (1006, 1007)** (2 disks) Superb, full-featured dBASE III clone. Requires 512K, hard disk.
- dFLIPPER (1025)** New! Directly edit dBASE & compatible files from DOS.
- PC-FILE + 2.0 (1009-1011)** (3 disks) New version. Jim Button's relational database masterpiece.

CREATIVITY

- CREATIVITY PACKAGE (3000-3002)** (3 disks) Unique, 3-phase pkg. Computer brainstorming unleashes your creativity.
- IDEA TREE (3003)** Unique thinking tool & info manager. Gain control of thoughts with graphic display of ideas. Top honors.

PROGRAMMING

- AS6 and D86 (1403-1404)** (2 disks) Finest macro assembler & debugger. Lightening fast. Have reviews.
- EBL & OPAL (1407)** Two fantastic batch language processors. Super-charge your batch files.
- SCREEN DESIGNER (1431)** New! Exciting feature-packed screen designer for batch files & most programming languages. Needs 384K.

SPREADSHEET

- AS EASY AS (902)** Great Lotus 123 clone. Latest with 256x1024 grid. Does almost every Lotus function.
- QUBECALC (903)** Unique, powerful 3-D spreadsheet. View data as never before.
- LOTUS TEMPLATES (907)** Ready to run. Requires Lotus 123.
- LOTUS MACROS (908)** Saves loads of time. Requires Lotus 123.
- 123 POWER WORKSHEETS (911-912)** (2 disks) 13 great worksheets for Lotus

HOUSEHOLD

- PC-BARTENDER (823)** Professionally mix almost any drink.
- GARDENER'S ASSISTANT (1809)** Plan your garden in every detail.
- VIDEO LIBRARIAN (1812)** Catalogs your video tape library. Menu-driven.
- SHOPPER'S ASSISTANT (1816)** Easy grocery shopping and coupon filer.
- COMPUTER CHEF (1817-1818)** (2 disks) Complete cooking program. Loaded with recipes.

COMMUNICATIONS

- PROCComm (1700, 1701)** (2 disks) Newest. All features, menu-driven. Top rated.
- TELEDISK (1713) NEW!** Converts entire diskette into a compressed file for faster transmission.

EDUCATION & TUTORIALS

- WORDPERFECT LEARNING SYSTEM (363, 354)** for 4.2. (355, 356) for 5.0.
- BASIC PRIMER (330)** Great Basic tutor. Requires CGA, color monitor.
- TUTOR (302)** Complete interactive DOS and computer tutorial.
- EASY DOS (305)** Two great programs make using DOS very easy.
- PC-FASTYPE (311)** The very best interactive typing instructor. Needs CGA or EGA.
- THE PRESIDENTS (341-342)** (2 disks) Super biography & quiz on all U.S. presidents.
- SPANISH TUTOR (351)** 3 powerful programs to help you learn Spanish.

BUSINESS & FINANCE

- LABEL MASTER (1974)** Mail list manager. PC-MAG Editor's Choice.
- YEAR PLANNER (500)** Powerful organizer prints wall calendars. Needs 520K.
- AREA CODE FINDER (1962)** Quickly finds US & foreign area codes.
- RENTALS (1951)** Fast, powerful property management. Menu-driven, easy to use. Requires 420K, 2 floppies or hard disk.
- BUSINESS ACCOUNTING (1902)** Complete A/P, A/R, G/L, Payroll.
- ZIP CODE FINDER (1900)** New! Computerized zip code book. Ultra fast search.
- UPS RATE MASTER (1955)** Complete UPS shipping program. A real time saver.
- FASTBUCKS (1903)** Fast, easy, complete home finance package. Requires graphics card.
- FLOORWALK (1904-1905)** (2 disks) Total flow-charting system. CGA or EGA, 320K.
- SOLVE-IT! (1919)** 29 menu-driven financial calculations.
- EXPRESS CHECK (1922)** New! Great check book mgr. Menu-driven, prints checks and reports.
- TICKLEX (1926)** Most powerful Tickler-Calendar-Scheduler for one person or entire office. Needs 512K, hard disk.
- EASY PROJECT (1932)** Total project manager. Gantt charts, reports.
- ASC IN-CONTROL (1952, 1953)** (2 Disks) New! Sales prospecting/tracking, billing & activity scheduling, auto-dial, mail labels, much more.
- FONE (1954)** New! Price your phone calls while you're on the line & save money.
- BUSINESS FORM LETTERS (1936)** 100 common business letters. Fill in blanks.

MISCELLANEOUS

- HANDWRITING ANALYST (2132)** Produces detailed, accurate personality analysis.
- MICRO WORLD DATA BANK (2606-2612)** (5 disks) Ultra detailed world mapping. Produced by the CIA. Needs CGA or EGA. Features 2 types of mapping.
- PIANOMAN 4.0 (2202)** Play and compose music. New update is better than ever.
- SCICALC (2304)** 250 menu-driven math & physics tools with unit conversions. Need CGA or EGA.
- WORLD (2600)** Stunning! Feature-packed world map w/zoom. Needs CGA or EGA.
- ASTROLOGY 9.5 (2701)** Complete, accurate chart calculation.
- LOTTO BUSTER (2130)** Lottery program really works on any pick-6/pick-7 lottery.
- WISDOM OF THE AGES (1216-1218)** (3 disks) New! 6500 quotes on 81 subjects from history's greatest minds.
- ELECTRON (2321)** Electrical/electronics tables, drawings, performs calculations & designs. For hobbyist, student, technician, etc. Needs CGA.

Call Toll Free for 800-359-9998
SAME DAY SHIPPING Orders Only & Free Catalog

CIRCLE DISK NOS. OR SEND ORDER ON SEPARATE SHEET OF PAPER

Name _____

Address _____

City/State/Zip _____

No. of disks _____ x \$2.89 ea (Pay for ea disk in multiple disk sets) = _____
(\$2.39 each 10 or more disks)

3.5" disks - add \$1 ea = _____

Checks, Money Orders, VISA/MC, COD Accepted (Add \$4 for COD) CA residents add 6.5% sales tax = _____

Shipping and handling = \$3.50

Check disk size 5 1/4" _____ 3 1/2" _____ Total = _____

VISA/MC # _____ EXP DATE _____

The Software Labs

3767 Overland Ave. #112 Los Angeles, CA 90034 (213) 559-5456

Immediate pick-up for WALK-IN customers

CPU1189

Why Buy Gemini Shareware?

Easy!

- Largest Selection
- Latest Programs
- Fastest Delivery
- Lowest Prices

- No Minimum Order
- Toll-Free Ordering
- No M/C Visa fee
- 5 1/4" or 3 1/2" Format

BUSINESS & ACCOUNTING

GL, Forms, Flow Charts, Investments...

MR BILL	BU 102	(2 disks) Ideal for general billing invoices. Reports, audit trail, etc.
FORM LETTERS	BU 103	Standard business letters. May be modified one to suit most common situations.
PC PAYROLL	BU 106	The 1989 Edition! Complete menu-driven system with reporting package. Computerize NOW!
EZ EMPLOYEE MANAGEMENT SYSTEM	BU 110	Now V4.0! Highly accurate personality analyzer designed to help you reduce employee turnover.
LASER FONTS	BU 111	(2 disks) Add these superb fonts to your collection!
POS INVENTORY	BU 117	Maintain inventory effectively at point of sale.
ACS IN CONTROL 12 PACK	BU 118	(2 disks) New V2.7 of the ULTIMATE in prospect/client/customer tracking. In use worldwide now!
MEDICAL ACCOUNTING SHAREWARE	BU 123	Super 4 packages for the small-med business. GL, Accrual Rec, 1989 Payroll, Activity, GOOD!
EZ FORMS EXECUTIVE	BU 125	The ULTIMATE forms generator and manager. Save a fortune on printing costs.
SHARING	BU 131	A decision support system for assigning tasks equitably amongst groups of workers, allowing maximum choice/freedom.
THE OFFICE PRO	BU 133	(2 disks) Excellent order entry package with windows and custom invoices, reports, labels, desktop, etc. Good!
PC YELLOW PAGES	BU 135	(3 disks) One of the most effective marketing tools we've seen. Address merge, labels, fax mail, built-in database routines!
PAINTLESS ACCOUNTING 1.1	BU 140	(3 disks) Latest version. Another excellent GL, AR, AP complete with billing and inventory. Sophisticated software from Kendall Pierce.
*BILLING MANAGER 1	BU 141	A powerful, well-written time & billing program for professionals (architects, attorneys, CPAs, engineers, consultants, financial planners, etc.) Menu-driven, bill by hour, both or flat rate.
*BILLPOWER	BU 142	This is a nice employee tracker for a small or large business. Keep track of your employees' money and overtime with this nice finance manager.
*TICKLEX	BU 143	A powerful calendar/scheduler for home office and hard disk.
*LIPS MASTER	BU 144	If you shop by LIPS then you need this complete shopping program. Indispensable.
*SOLVE IT!	BU 145	A new program to time your phone calls while you're on the line and save you money.
*PHONE	BU 146	Use this in the business section because it's really a completely computerized desk-top calculator similar to those seen in most offices - complete with paper tape output. With this, you can know just the calculator and keep up more desk space!
*SMARTCALC 2.0	BU 147	An easy to use billing program for small business applications comes with accounts receivable functions also. Job costing at its best and most efficient. Designed to be the favorite for everyone whose profits depend upon staying within budget.
*PCBILLING	BU 148	An ethical calculation program for electricians, engineers, architects, and lighting system designers.
*JOB COST 1.08	BU 149	Another good billing program. Direct amounts or hourly rates. Blank paper or forms. 1000 clients per file. HD or floppy. Input data for mailmerge.
*ELECTROS	BU 150	Software for dentists and busy practices!
*BILLER 1.3	BU 151	More really useful Buttons!
*DENTAL OFFICE MANAGER	BU 152	Excellent checkbook management software from E-pressware.
*PC TICKLE	BU 153	Investment analyzer and manager. Maintains important personal financial records for taxes, loan applications, etc.
*EXPRESS CHECK 3.07	BU 154	(2 disks) Another great payroll program from Armistice Systems.
*OWL PORTFOLIO MANAGER 2.0	BU 155	recommended.
*PAYROLL USA 2.11	BU 156	

SPREADSHEET & UTILITIES

Templates, Macros, Utilities...

PC CALC+	SP 101	(3 disks) Superb 123 clone. Interacts with PC FILE+. Fantastic value & quality!
EZ SPREADSHEET V5.01	SP 102	Simple to use but powerful system. Ideal for beginners. One of the best we carry.
AS EASY AS	SP 103	Now V3.01 of this superb Trus spreadsheet loaded with features and compatible with 1-2-3 files. Highly recommended.
LOTUS MACROS	SP 104	Save tedious work with these short cuts for use with 1-2-3. A must!
LOTUS TEMPLATES INSTACALC	SP 106	If you use Lotus, you'll love these ready-made applications!
PHOT!	SP 107	The one special, a fully-powered spreadsheet MEMORY RESIDENT! TRY!
*QUBECALC	SP 108	Subversive great routine for SP 103.
*123 POWER WORKSHEETS	SP 109	This powerful 3-dimensional spreadsheet lets you view data in a new light. Ideal for consolidating from several sheets into one.
*MPCALC PLUS	SP 110	(2 disks) More powerful worksheets. These 2 disks are worth having if you use Lotus!
*WHITING WORKSHEETS	SP 111	(3 disks) A wonderful spreadsheet running under the GEM environment. Reads writes Lotus files. Needs GEM recommended.
*LOTUS GOLF LEAGUE SCORING	SP 112	(2 disks) Excellent budgeting tools for Lotus 123 comprising CHECKEX & BIGPCXX. Routines that budget and plan your finances.
*EXPRESSCALC 4.0?	SP 113	Worksheet for Lotus for golfers.
	SP 114	Superb spreadsheet from Expressware. Interacts with their ExpressGraph and Fine Express programs. Recommended.

So easy to use! Type GEMINI to get started on any of our disks!

EDUCATIONAL

History, Geography, Languages

AMY'S FIRST PRIMER	ED 301	Latest version 1.7. A collection of routines for pre-schoolers with graphics, counting, shapes and color.
PC TOUCH	ED 107	Super typing tutor with on-screen performance data as you progress. Towards max 150 wpm goal! Most of us need this one!
FLAGS PHYSICS	ED 110	115 in all, displayed on screen for recognition and learning. High score game. Excellent.
SPANISH ALGOBRA	ED 112	(2 disks) Quality language tutor. Beginner to advanced.
TEEN ED 1	ED 113	Both integer and real computations. 1st class.
HIGH SCHOOL VOCABULARY	ED 124	Higher Math: Trigonometry, Geometry, Boole's, Calculus. Multiple choice quizzes with re-testing and clear definitions recommended.
WISDOM OF THE AGES	ED 128	4 disks. A major work. Worldwide classical data, quotes, thoughts, proverbs, programs.
*VIDEO CHEMISTRY	ED 136	By very popular demand we present a perfect program for assisting in chemistry. Valency and molecular combinations.
*PC FASTTYPE 3.0?	ED 139	Another excellent menu-driven typing tutor.
*FACTS	ED 140	A kid's tutor for capitals, states and presidents.
*COMPUTER TUTOR	ED 141	If you're new to computers, then this is a must for you. It teaches you the basic necessities in a fun environment.
*THE PRESIDENTS	ED 142	(2 disks) Biographical and quiz system on all the US Presidents. Recommended.
*MICRO WORLD DATA BANK	ED 143	(5 disks) Very highly detailed word mapping database produced by the CIA.
*LIFE 2.1	ED 144	An important educational tool. LIFE is a simulation game created by mathematician John Conway in the 60's. It is a type of cellular automaton game often used to illustrate certain math functions. Well documented.
*NIMONK 1.1	ED 145	A smart, menu-driven program that helps you memorize many different subjects/languages.
*EDICOM 1.2	ED 146	A DOS assistance program which works as a tutor for new PC users.
*ST	ED 147	A stimulating artificial intelligence neural network demo for EGA and mouse.
*WORDS TALK	ED 148	(2 disks) A really interesting word game for all ages, with ability to solve crossword and cryptograms, etc. Essential for those with an interest in words and word puzzles.

WORD PROCESSING

Style, Speller, Macros, Thesaurus...

PC WRITE	WO 101	(3 disks) Latest version 3.02 of this powerful package. A main menu and spell checking.
GALAXY 2.43	WO 106	Easy to use WP with menus and quick keyboard commands. Fully featured and now latest version!
BRADFORD 2.04	WO 107	Under quality output from dot matrix to over 35 fonts recommended.
WORDPERFECT MACROS MINDREADER	WO 108	Over 80 macros for WordPerfect v. 5.0.
EZX WRITE 2.0	WO 109	Uses artificial intelligence to complete words and phrases. Claims your own style.
THE SAUR V3.5	WO 110	Recommended VALUEWARE tm - these people are VERY professional and this package is equal for a first, highly functional word processor. Includes pull-down menus.
ENVELOPE MAKER 2.0	WO 111	Shareware's 1st thesaurus? Very useful for a variety of applications.
MAXI MAX	WO 112	A useful envelope printing utility for Epson MX, FX, LX or compatibles. Excellent!
*WORDPERFECT 5.0 TOOLKIT	WO 113	A set of useful macros for WordPerfect 4.2 - 6 dozen macros and templates. Get it!
*PRO SCRIBE	WO 114	ASCII to WPS format converter plus lots of other useful utilities. Improve the impact and clarity of your writing with this new program!
*WRITER'S HEAVEN 4.0	WO 115	New in a line of accessories for PC Write versions 2.6 and up. Adds a complete new set of ingenious command keys, and comes with a cursor speed up program.
*PC WRITE MACROS 1.2	WO 117	A set of 100 macros for this popular word processor automates tasks with a single keypress including video reversal, envelope addressing and overtyping instead of scrolling screens for document review. Requires PC Write 3.0 or later (see WO 101).
*WORDPERFECT 5.0 POPUP	WO 118	Forget your classic templates showing keypresses. This handy little "pop" puts all the information up on the screen as soon as you touch the ALT, SHIFT or CTRL keys.
*SPLIT APPEND 1.0	WO 119	This excellent utility will split any file into multiple files, and will append any file to any other file. Really useful!
*WORDPERFECT MENUS	WO 120	Pull down menus for both 4.2 and 5.0.
*PHOENIX WP 1.0	WO 121	Good, robust and simple word processor with power as required. Works in EGA mode also. Recommended.

Readability Guaranteed!

MUSIC

Compose, Save, Play

PIANOMAN 3.0	MU 101	Turn your computer keyboard into a piano keyboard. Lots of fun!
PC MUSICIAN	MU 102	Compose, save and play your own music. Inspirational and educational.
*MUSIC LIBRARY SYSTEM	MU 105	Here's a really nifty music database for cataloging all your CDs, tapes and records.

DATABASE MANAGEMENT

dBase, Files, Routines...

PC FILE+	DA 101	(3 disks) The dBase killer. Full featured and state of the art. dBASE's highly recommended.
dBASE III ROUTINES	DA 103	Over 60 helpful routines for the dBase III user. A must!
NEWBASE II 4A	DA 104	New version! Excellent user supported (DBMS with full menu package). Try for power and simplicity.
WAMPUM 3.3S	DA 105	Latest version of this legendary dBase III TV compatible clone. Powerful but ludicrously inexpensive!
FILE EXPRESS 4.0	DA 106	(2 disks) Another powerful package from Expressware. Interacts with their ExpressCalc and ExpressGraph recommended.
WHITE 1.0	DA 107	Ward Mundy's Wampum-tamer. Free peek up dBase master! Background access to 10 dBase compatible applications!
*dPROG	DA 108	This super dBASE III programmer does all the code writing for you.
*EZ dBASE TRAIN II	DA 109	A really nice tutorial for dBASE III.
*WYNDYIELDS 1.0	DA 110	Here's a REALLY nice database that's 3 disks squeezed into one. Mouse supported and nifty window menus. MOST HIGHLY RECOMMENDED.
*JAGER MANAGER 1.4A	DA 111	A comprehensive information manager with database, dialing and calendar.
*dBASE AUTO PROGRAMMER	DA 112	This dBase III utility writes the code for you!

GAMES

Chess, Planes, Adventures...

JET FLIGHT SIMULATOR	GA 101	Stimulating and fast paced fun!
3-D CHESS	GA 103	Fantastic 2D and 3D play with many levels
ARCADE QUALITY GAMBLER'S DISK	GA 112	Classic King, 3D Premier, Rango & Books
FLIGHTMARE	GA 124	All the casino thrills - blackjack, slots, baccarat, roulette. Be a fighter pilot from the future!
MONOPOLY WITH GRAPHICS	GA 127	An old favorite cleverly programmed for absorbing fun!
ADVENTURE TOOLKIT	GA 138	2 disks. Create and play your own text adventure games
PC PRO GOLF	GA 139	2 disks! A must for the golfing fraternity - good graphics
EGA TREK	GA 140	Super Star Trek game for EGA. Fight Klingons and Romulans - great graphics
MAZE	GA 142	Wotfgang Stiller's mind boggler - get this one for a LENGTHY mental challenge!
SOLITAIRE	GA 147	A collection of absorbing card games for one player - nice CGA EGA graphics
EGA SCORRY GAMESCAPE	GA 150	Remainderly popular version 2.0 of this classic game, for EGA card only
PINBALL ART GAMES	GA 152	The incredible adventure game designing system that lets you write and distribute your own games!
LOVE FIRE	GA 156	Good pinball action - circus, money maze, par 3 golf, spooky and runny
CAPTAIN COAC	GA 157	You fashion the structure of this love adventure as you go! Includes Red Planet & Castle Orlogany
BARD'S TALE CHAR ED	GA 159	The best we've seen - Requires EGA, and programmed in stunning color. A Nintendo Mario Bros. style game with multi events of play
ED'S CHESS	GA 160	Screening screens, lobeatful sound effects. Sure to please the most discerning of game players - an essential to your collection
CYRUS EGA CHESS	GA 161	Allows modification of characters from Bard's Tale I and II
ARMCHAIR QUARTERBACK	GA 162	A truly fine chess game with the power to beat Chessmaster 2000!
ED'S CHESS	GA 160	Here's another challenging opponent for chess if you have an EGA card to show the fine detail - a program of pure breathtaking quality
MASTER THE MARKET	GA 164	Set the scene and call plays in this football strategy game
FRID SIMULATOR	GA 165	An all-time classic favorite arcade game
DRACULA IN LONDON	GA 166	Realistic and challenging stock market simulation - better than the famous "Missionary" game in our opinion
EGA GOLF	GA 167	A new exciting driving simulator from Ford
PC RAILROAD	GA 168	A really good graphics and adventure game
NINJA	GA 169	Play 18 holes with scenery in finer detail on your EGA!
CRIME LAB	GA 170	Control your train on supplied routes or design your own
PCBINGO	GA 171	A commercial quality arcade game with karate action
MORFAS'S EGA VGA PINBALL	GA 172	A superb graphic, murder mystery game for all the family
		Play bingo at home with all the family with this realistic simulation of the commercial game - each prints out the cards for you!
		Here's a high class pinball for high resolution!

GRAPHICS

Design, Draw, Animate, Clip...

PC KEY DRAW	GR 101	(4 disks) New version 3.5.3 with hypertext of this magical drawing program with tutorial, library and many demo files - recommended
SIMCOA	GR 102	Run CGA programs with Hercules type cards
FRONTPRINT	GR 103	Here's CGA painting program - simple but effective
ANIMATOR	GR 105	Create animated graphics on your PC for a variety of uses
DANCADDO	GR 106	(2 disks) The best for 3-D wireframe with all conceivable options
ICONVERT	GR 107	Transfer graphic icons from PrintMaster, PrintSnap, MacPaint, BLOAD
PRINTSHOP GRAPHICS	GR 108	3 additional libraries, over 200 additional pics - needs PrintSnap
PRU TMASTER GRAPHICS	GR 109	3 additional libraries for PrintMaster
PRINTSHOP GRAPHICS II	GR 111	Another 500+ images for the PrintSnap program
PRINTMASTER GRAPHICS II	GR 112	(2 disks) Another 500+ images for PrintMaster
VENTURA CLIP ART	GR 113	(5 disks) Office business subjects for Ventura Publisher
MEGADRAW 1.3 EGA	GR 117	Create icons and animation sequences for CGA EGA with DBasic source generated!
VENTURA PUBLISHER TUTOR	GR 118	Packed with utilities and instruction for VP - recommended for all users
WPM-PCG CLIP ART	GR 119	(11 disks) An absolute wealth of art for Pagemaker and WordPerfect 5.0 in PCG format, in 330 dpi res
DRAFT CHOICE	GR 120	Super object based drafting program from Trius with 160 commands! Output to HGLP, pen plotters, HP Laserjet and dot matrix printers
FIRST PUBLISHER GRAPHICS	GR 121	(3 disks) Full of pictures and symbols for First Publisher in PCG format
VGA PAINT	GR 122	At last! A superb graphics and painting program just for VGA owners
EGA FONTS	GR 123	Here are more than 50 fonts to liven up your EGA display
HERCBIGS	GR 124	New 43 lines by 90 columns on Hercules mono!
PRINTSHOP GRAPHICS II	GR 125	(2 disks) More superb art from Jim Cooper and his wife
PRINTMASTER GRAPHICS III	GR 126	(2 disks) And the same for PrintMaster!

GENERAL APPLICATIONS

Astronomy, Finance, Travel...

MAIL MASTER	GE 101	Good and dedicated mailing list manager for form letters and labels
CITY DESK	GE 102	Desktop publishing - simple but effective for smaller applications
GENEALOGY ON DISPLAY	GE 105	(2 disks): A complete package - ideal for beginners
HOME INVENTORY	GE 106	Keep track of what you own - ideal for insurance records etc.
PERSONAL FINANCE MANAGER	GE 107	Household budgeting, savings, investments, checking, etc.
MOVIE DATABASE	GE 118	Show and retrieve info about your favorites - comes with existing collection
MEMOIRS	GA 119	A private diary to keep your special thoughts hidden from others - full
STRESS & SHRINK	GE 122	Stress test and personality analysis
HOME BARTENDER GUIDE	GE 128	(2 disks) If you like a drink, you'll love this computer recipe!
LITTLE BLACK BOOK	GE 134	Creates social card address books, prints nice alphabetical pages
TMESTAR 2.06	GE 143	Time management system and desktop for Windows 2.0 or greater. Must have MS Windows to run!
PCLOTTO 2.41	GE 152	Latest version of this popular and all-embracing program for use with wordwide data bases
NEW AGE NOTES 1.1	GE 153	Over 200 metaphysical companions for the Open Minded Individual. Discusses Manand's Endeavours on this Earth. Plane and explains the Purpose of Human Existence. A beautiful collection of Modern Pseudo-physics
GOLF MANAGEMENT	GE 154	Assisting and in-to-bogging in its implications. Golf handicapping and league secretary programs for golf clubs and golfing fanatics from Sports League Management Association
KACI SERIES CALCULATOR'S	GE 155	Every now and then you come across a really neat and clever package with an appeal of presentation and inspiration that matches its usefulness. Here's 3 Hewlett Packard calculators - careful simulations of the HP 11C Scientific, the HP 12C Financial and the awesome HP 16C Programmer's model
CREATIVITY PACKAGE	GE 156	(3 disks) Unleash the power of your brain with this creative thinking tool - a complete and unique three phase package
IDEA TREE	GE 157	Organize your thoughts with a graphic display of ideas
LOTTO CAL 1.01	GE 158	(2 disks) A powerful and scientifically oriented lotto predictor - should improve your chances in the race of the inevitable 'odds' against you!
PROTAG 1.1	GE 159	A statistical calculator for fast qualitative analysis of small data sets
AMCORT 1.67	GE 160	Paul Tucker's excellent loan amortization program - easy to use and has powerful features
FAMILY TREE & D	GE 161	Latest version of successful genealogical package - comes with full documentation and good presentation - Family history and family fun
LOTTO 3.0	GE 162	Simply one of the best lotto programs we've ever seen with every conceivable extra feature - excellent material from Mike Water!
THE CODE MACHINE	GE 163	A program designed to key Ham Radio transmitters and provide Morse Code practice sessions
COMIC BOOK COLLECTOR 1.4	GE 164	A dedicated database for comic book fanatics
BASEBALL CARD COLLECTOR 1.4	GE 165	A dedicated database for baseball card collectors!
COUCH FOOTBALL	GE 166	Fantasy football drafter from Pirates League Sports
PRO-DOCK LINE MARKER	GE 167	Calculates and prints the boat spread and expected statistics of any professional football game

UTILITIES

Disk & Program Management...

LACOMATIC BANNER	UT 125	Design and print large banners - hundreds of uses at home and work!
LASER UTILITIES	UT 126	An assortment of utilities and fonts for lucky laser owners - great value!
DOS TUTORIAL	UT 127	Master DOS with this able mentor
BATCH FILE TUTORIAL	UT 109	Learn and utilize batch / batch file processing. Time saving, very useful!
DOS TIPS	UT 110	(2 disks) Advanced DOS tutorial
ON SIDE 1.02	UT 111	Sidekick printing software from Expressions
ED COPY LIFE	UT 120	GREAT floppy duplicator - SUPERB for mass copying - reads disk to memory
MAX MENU	UT 121	Flexible menu system for both beginner and advanced - used by Fortune 100 company - extensive options etc. LAN
DESKU7	UT 122	A good desktop with all the useful features - won't bog up memory with things you don't use!
KARCTHEXPAND 0.6	UT 125	Latest version of a great file compression/extension tool. A must for hard disk users.
DBS-RAT	UT 131	A well documented utility for hard disk owners, provides a feature-rich database system for making a complete diskette library catalogue without typing data - with lots of additional utilities
MYF2 DESKTOP MANAGER	UT 132	Desktop manager for Microsoft Windows 2.0 or greater - provides menuing, file and windows management. Also includes screen-blank, window arrangement functions, directory tree display, file finder, point and shoot file managers, and an automatic menu generator
BEST UTILITIES	UT 133	Some of the greatest general utilities including a RAM disk and print spooler to free your computer while the printer's working. Persistent monitor burn-in. This disk provides many screen savers for mono, CGA, and EGA/SAVE and EGA/BLANK
SCREEN SAVERS BLANKERS	UT 134	Monitors laptop battery and lets you know when to recharge
LAPTOP GASGAGE	UT 135	A far better hard disk backup/restore utility than DOS provides
POINT & SHOOT QUICKCHECK	UT 137	(2 disks) One of the best disk cache programs ever - speeds up your computer by optimizing disk accesses
BAKER'S DOZEN	UT 138	A collection of valuable utilities for general use that everyone wants
NO UTILITIES	UT 139	A useful set of hard disk utilities
BEST BATCH UTILITIES	UT 142	Put some punch into your batch files with the aid of these 25 programs
YEAR PLANNER	UT 141	This powerful organizer prints wall calendars!
ARCHIVER 1.3	UT 140	Here's a REALLY USEFUL program - an archiving shell. Makes archiving and unarchiving a breeze with pull down menus and professional interface
SWITCHER	UT 143	This useful program will allow you to design your own 65501-HELP screens and call them up with hot keys while running any application
HOW IN 1.0	UT 144	Another professional DOS menu shell from Jim Hoss - see UT 124. This one follows the disk and GUI guidelines from IBM
MENUX 3.1	UT 145	Excellent HD menu with multiple windows - use batch files to run your programs - used by federal government

Entrepreneurs! Call (206) 746-7671 for details of our dealer/franchise operations.

Can't Decide?
 Take what you want and
 get a price break by buying
 disk certificates — good in the
 future for any new disks.
 Great Gifts Too!



Gemini™


Marketing, Incorporated

P.O. Box 640, Duvall, WA 98019-0640

Toll Free 24-Hour Orders Only



1-800-346-0139



Other Inquiries & Foreign Orders: (206) 788-4295 Fax: (206) 788-0717

CANADIAN ORDERS TO — Gemini Software Ltd., 5 Montgomery Cres., Roxboro, Quebec, H8Y 1H3 — Toll Free: 800-363-0950 or 514-684-3522. Please add 33% exchange conversion.

Buy	Pay (Ea.)
1-4	\$3.00
5+	2.75
10+	2.50
20+	2.25
30+	2.00
50+	1.75
100+	1.50
300+	1.25

Refer to price table at left to calculate cost per disk (note some programs comprise multiple disks). Shipping and handling please add \$3.00 per order. COD welcome, additional \$3.50. Foreign orders additional \$4.00 air mail US funds only please, drawn on US bank. WA residents please add 8.1% sales tax. We ship by UPS and US Mail depending on weight. UPS blue available for rush orders at extra charge.

For 3.5" disks please add \$1 per disk. Allow 10 days for check clearance. All disks warranted readable. No returns without prior approval number. Discover Card now accepted.

Call NOW to be placed on our free catalogue mailing list!
 Our sales hours are Mon-Fri 6:00 am to 7:00 pm, Sat 9:00-5:00 pm, PST.
 An answering device will be available at all other times — please leave your name and number and we'll call you back.

IBM SOFTWARE \$2.49

**HIGH QUALITY PUBLIC DOMAIN/SHAREWARE PROGRAMS • LOW PRICES
FAST DELIVERY • TOLL FREE ORDER LINES • COURTEOUS SERVICE
FREE TECH SUPPORT • FREE CUSTOMER SERVICE • SATISFACTION GUARANTEED**

ACCOUNTING/FINANCE

- BILLPOWER+** (2 Disks) Bill clients for time & materials, advanced, retainers, etc. Computes taxes, past due interest, etc. Has full G/L
- CPA LEDGER** (2 Disks) Complete general ledger for corporations, partnerships or sole proprietors.
- EXPRESS CHECK** Check account with running balance, monthly reports, etc. Prints checks.
- FINANCE MANAGER I** (2 Disks) For personal or small business financial management.
- MARKET CGA** Performs sophisticated analysis on stocks, funds, etc. (EGA version is BUS16.)
- PAYROLL USA** (2 Disks) Up to 2,000 employees in any state. dBase III and Lotus compatible. Complete P/R system.
- PERSONAL FINANCE MANAGER** Household budget manager. Keep track of checking, savings, investments.

- PC-FILE dB** (3 Disks) Newest version! Rates better than dBase III+.
- PC-GRAPH** Create graphics from PC FILE.

DOS

- BATCH FILE TUTORIAL** Utilize batch file processing.
- DOS TUTORIAL** Teaches you to use DOS.
- HELP DOS** On line DOS help with menus. Includes DOS dictionary of terms and a hints menu.
- MORE DOS TIPS** (2 disks) More about DOS.
- STILL RIVER SHELL** Run DOS commands from a menu. Makes DOS easy.

EDUCATION

- AMY'S FIRST PRIMER** Children's learning game that teaches letters, numbers and keyboard.
- BEGINNING SPANISH** Tutorial.
- FACTS 50** Geography lessons for U.S. Nice graphics.
- FUNNELS AND BUCKETS** A fun way to learn math.
- MATHPAK** Tutorial with lessons in higher math.
- PC-TOUCH** Learn typing.

GAMES

- ARCADE GAMES** Has Kong, 3-D Pacman, Bricks, Pango. (Requires color.)
- BASIC GAMES** Pacman, Lunar Lander, Star-trek, Meteor, Breakout, and others.
- BRIDGE PAL** Complete game of contract bridge, with tutorial.
- CARD GAMES** Canasta, hearts, draw poker & bridge.
- CHESS** Incredible. 2D and 3D. Many levels. Play back moves, store games.
- DND** Like Dungeon and Dragons.
- EGA RISK** World domination in great color. Includes EGA Asteroids.
- FENIX** Just like the famous arcade game.
- FLIGHTMARE** Futuristic fighter pilot game. (Requires color graphics adapter.)
- FORD SIMULATOR** Great driving simulation. (CGA)
- GAMES IN BASIC** Lander, biorhythms, desert, Phoenix, Star Wars, others.
- KID-GAMES** Animals math, clock game, alphabet, etc.
- NINJA** New! Commercial quality karate arcade game. Superb graphics. CGA, EGA.
- PAC MAN & MORE!** Several arcade hits including two Pacman games. (CGA)
- PC PRO-GOLF** (2 Disks) Great graphics. Complete 18 hole, 72 par course. (CGA)
- PEARL HARBOR** Shoot down Zeros before they destroy U.S. Fleet. (CGA)
- PINBALL GAMES** Pinball, Rain, Twilight Zone, Wizard, etc.

- Q-BERT** Play the famous arcade hit on your computer. (CGA)
- QUEST** Role playing adventure fantasy game. (Requires CGA)
- ROUND 42** Better than Space Invaders. 42 levels.
- SLEUTH** Who done it?
- SPACE WAR** Dogfight in outer space, using phasers, photon torpedoes, etc.
- STAR TREK** You are the captain as you lead the Enterprise into space battle.
- STRIKER** Arcade helicopter attack game. Bomb and shoot enemy targets. (CGA)
- ULTIMA 21 DELUXE** Best Blackjack game around. Includes Video Poker.
- WHEEL OF MISFORTUNE** A really fun version of the classic TV gameshow.

GRAPHICS

- CITY DESK** Desktop publishing—simple but effective for smaller applications.
- GRASP** Create and run fabulous graphic demos. Any graphics card.
- IMAGE 3-D** Create and edit 3-D objects. Move, scale, rotate and flip image.
- KEYDRAW CAD SYSTEM** (4 Disks) Popular. Also uses mouse. (Requires color graphics — CGA)
- PC-KEY DRAW** (2 Disks) Great CAD for beginners with many demo files — recommended.
- SIDEWAYS** Prints text sideways. Useful for spreadsheets
- SIMCGA/HGCIBM** (2 Disks) Use with Hercules graphics card/compatibles to run programs requiring CGA on your monochrome PC.

MUSIC

- PC-MUSICIAN** Compose, save, and play music.
- PIANOMAN 4.0** Turn your keyboard into a piano.

RELIGION

- THE BIBLE** (6 Disks) Old Testament, King James version.
- THE BIBLE** (2 Disks) New Testament, King James version.
- BIBLE Q** Learn the Bible with this Q-A tutorial.
- BIBLEMEN** Excellent Bible quiz program.
- WORD WORKER** (2 Disks) Bible search program. New Testament, King James version

SECURITY/HACKING

- COPY PROTECTION I** Instructions for unprotecting commercial software.
- COPY PROTECTION II** More software unprotect.
- FLUSHOT** Checks software for viruses.

SPREADSHEETS

- 123 POWER WORKSHEETS** (2 Disks) 13 powerful worksheets for Lotus 123.
- AS-EASY-AS** Great. Includes screen help menus. Utilizes function keys. A Lotus clone that read Lotus files.
- EZ-SPREADSHEET** New! Easy! Become a spreadsheet pro in less than 20 minutes. 64 columns x 512 rows.
- GOAL-SEEKER V3.5** Achieve objectives by changing spreadsheet and seeing result. (Requires Lotus.)
- LOTUS MACROS** Save hours of work. (Requires Lotus.)
- LOTUS SPREADSHEET TEMPLATES** Ready-made. (Requires Lotus 1-2-3.)
- LOTUS TUTORIAL** Learn Lotus (Requires Lotus.)
- PC-CALC+** (3 Disks) Jim Button's famous Lotus clone.

TELECOMMUNICATIONS

- PROCOM 2.42** (2 Disks) Hacker's delight. Redial capability. Latest version.
- Q-MODEM 3.1** (5 Disks) Powerful but easy to use. Fast.
- RBBS V16.1A** (4 Disks) Multi-user bulletin board system.

UTILITIES

- AUTOMENU** Make PC menu driven. Includes passwords.
- BAKER'S DOZEN** 13 utilities from Buttonware
- DOT MATRIX FONTS** (2 Disks) Print your text in different fonts. Works with most printers.
- HOMEBASE** (3 Disks) Complete desktop organizer. Great!
- PROFESSIONAL MASTERKEY** Like Norton's. Retrieve deleted files. A lifesaver.
- SCREEN** Save your monitor from screen burn-in.

WORD PROCESSING

- PC-TYPE+** (3 Disks) Excellent. Includes mail merge, 100,000 word spelling checker. Interfaces with PC File+, PC-Style.
- PC-WRITE 2.1** (3 Disks) Newest version! Very popular and complete. Includes spelling checker.
- WORDPERFECT 4.2 MACROS** 72 terrific macros & templates. Needs Wordperfect 4.2.
- WORDPERFECT 5.0 MACROS** 90 great macros. Requires Wordperfect 5.0.

APPLICATIONS

- BIORHYTHM** Display the 3 biological cycles: physical, emotional, intellectual.
- CHECKBOOK** Complete checkbook manager for home/business with online help — recommended
- EZ-FORMS** Make forms to meet different needs.
- FAMILY HISTORY** (2 disks) Create files & genealogical reports.
- FORM LETTERS** Commonly used form letters & business applications
- HOME INVENTORY** Track all your possessions.
- LOTTO MASTER** Use the power of math and stats to improve your lottery winnings. Proven principles!
- LOTTO PROPHET** Best Lotto program we've seen.
- MAIL MASTER** Good and dedicated mailing list manager for form letters and labels etc.
- MANAGER'S PLANNER** Daily planner. Prints out.

BASIC

- B-WINDOW** Give windowing capabilities to your Basic program.
- BASIC PROGRAM GENERATOR** The menu driven way to write programs.
- BASIC TUTORIAL** Learn programming with BASIC.
- PC-PROFESSOR BASIC** tutorial. Good
- SWISS ARMY KNIFE** If you write in BASIC, you'll LOVE these tools—recommended!

DATABASE PROGRAMS

- dBASE III+ ROUTINES** (2 Disks) Latest utilities to help you utilize dBase III+
- FILE EXPRESS 4.0** (2 Disks) Powerful system. Allows 32,000 records. Sorts up to 10 key fields.



1-9 \$2.99 Each
10+ \$2.49 Each



HOURS: Monday - Saturday 8:00 a.m. - 5:00 p.m., Pacific Time

TERMS: We accept VISA, MasterCard, Money Orders, Checks (allow 10 days to clear), and C.O.D. (add \$4.00).

3 1/2" DISKS: 3 1/2" format add \$1/disk.

SHIPPING & HANDLING: \$3.00 (Total per order).

MAIL-IN ORDERS: Check boxes. Includes name & address.

CompuWare Inc.

2141 Palomar Airport Rd., Ste. 125
Carlsbad, CA 92009

CALL NOW TO PLACE ORDER OR RECEIVE FREE CATALOG

800-999-2661

FOREIGN: 619-431-8433

NAME _____
 ADDRESS _____
 CITY/STATE _____
 ZIP _____ DAY PHONE NO _____
 CREDIT CARD # _____
 VISA MASTERCARD EXP DATE _____

continued from page 134

tion, logic, and common-sense abilities under severe time constraints. Luckily Mindscape's *Mastering the LSAT* is there to help you make it through.

This program teaches you strategies for mastering the four broad question categories included on the LSAT. When you feel comfortable with the questions, you can take two full-length practice tests. The package includes a workbook containing rules, diagrams, and exam questions, plus printed versions of some introductory lessons, reading materials, practice questions, and on-disk examinations.

The reading comprehension section measures logical thinking skills. You are shown how to classify questions according to type and are given tips on answering each type successfully. Practice questions illustrate various question types. The feedback you receive will strengthen your problem-solving skills.

In the section on Conceptual Structures and Relationships, you encounter questions similar to brain teasers. These become easier to answer if you design logic diagrams to show relations of fact. You'll practice drawing several different diagrams in order to feel more comfortable with

various question categories.

The Relevance and Logic section measures your ability to evaluate a question's relevance in relation to facts, a dispute, or rules. *Mastering the LSAT* teaches you how to interpret questions and choose the right answer.

Argument Analysis tests your ability to evaluate the structure of arguments. For some questions, you must read a passage to determine its flaws or basic assumptions. For others, you must select a statement that would weaken or strengthen the argument, identify a statement whose truth is implied by the argument, or recognize a proposition that resembles the argument. *Mastering the LSAT* reviews each question type, offering techniques that help determine an argument's assumptions.

The Practice Examination Submenu presents several options. You can choose to take the test, see answers and explanations for each section on the exam, check scores, or return to the Main Menu.

The program will keep progress records for up to three people. There is a password option to prevent unauthorized people from viewing personal performance files or using the program.

Surprisingly, Mindscape doesn't

offer a 3½-inch disk version of the package. However, the program isn't copy-protected, so you can install it on a hard disk or copy it over to the smaller-size disk.

Mastering the LSAT isn't a substitute for rigorous courses offered by LSAT preparation centers. These facilities provide multifaceted training that hone the skills required for high test scores.

Mastering the LSAT provides you with the strategies and techniques needed to answer questions correctly at a fraction of the cost charged by professional training centers. The program teaches you how to manage limited exam time efficiently and how to answer questions with greater confidence. To improve test-taking skills and maximize LSAT scores, you should register for a course at a local test-preparation center and practice with *Mastering the LSAT*.

CAROL HOLZBERG

IBM PC and compatibles with 5¼-inch drive—\$79.95

MINDSCAPE
3444 Dundee Rd.
Northbrook, IL 60062
(312) 480-1948

Advertisers Index

Reader Service Number/Advertiser	Page	Reader Service Number/Advertiser	Page	Reader Service Number/Advertiser	Page
178 Accolade	47	122 Gold Hill Software	17	154 Prof. Jones, Inc.	119
179 Accolade	53	171 Gosselin Computer Consultants	142	108 Radio Shack	19
180 Accolade	101	153 Heath/Zenith	132	158 Ramco Computer Supplies	140
118 Activision	49	159 Indus-Tool	140	147 Reasonable Solutions	125
126 Air Force Brøderbund	45, 61	124 Interstel	95	119 SEGA/Mindscape	40-41
172 California Freeware	142	141 Jay Gold Software, Inc.	8	164 Sierra On-Line	BC
125 CAPCOM USA	111	165 Konami/Ultra	57	144 Silicon Express	151
128 CAPCOM USA	113	184 The Learning Company	5	106 Software Discounters of America	129
131 CAPCOM USA	115	103 Lucasfilm Games	27	145 Software Excitement	138-139
117 COMMAND Simulations	96	102 Lyco Computer	14-15	121 The Software Labs	133
173 Compsult	142	155 Mainstream America	119	163 Spectrum HoloByte	117
162 The Computer Book Club	131	152 Mainstream America	121	139 Spinnaker	105
134 Computer Direct	126-127	137 Maxis	89	123 Springboard Strategic Simulations, Inc.	54
150 Computer Learning Foundation	122-123	114 Mibro Co.	147	127 SubLOGIC	87
115 CompuWare Inc.	136	140 Micro Illusions	80	129 Taito	IFC-1
151 COVOX Inc.	121	107 MicroProse	37	161 TITUS	118
136 Damark International, Inc.	10	130 MicroProse	63	182 United Computer Express	149
135 Data East	39	132 Micro Star	141	168 Virgin Games	120
169 Davidson Associates, Inc.	51	177 Miles Computing	97	116 XOR CORPORATION	94
174 DCS Industries, Inc.	142	120 Mindscape	22		
181 Delphi	99	156 Mindscape	59		
183 DTG	13	160 MINDWARE	140		
148 The Easton Press/MBI	20-21	Montgomery Grant	146		
111 Electronic Arts	65	NRI Schools	9		
110 Electronic Arts	IBC	149 Online Search	56		
176 Encore! Software Publishers	124	104 ORIGIN	31		
143 Family Jewels	150	138 ORIGIN	33		
112 Fanfare/Britannica	35	157 Parsons Technology	66-67		
113 Fanfare/Britannica	71	166 Parsons Technology	81		
142 GE Information Services	79	167 Parsons Technology	73		
105 Gemini Marketing, Incorporated	134-135	146 Parsons Technology	107		
		170 Precision Images	142		
		109 Prodigy	28-29		

COMPUTE! Subscription	145
COMPUTE!'s Demo Disk Directory	90-91
COMPUTE!'s PC Software Demo Video Cassette	74-75
COMPUTE!'s SHAREPAK Disk	62
Classifieds	144

\$1.95
Per Disk
Ten or More

\$2.50
Per Disk
Less Than Ten

TOP 88 DISKS

The World's Best Shareware and Public Domain
For all IBM-PC Compatible Computers

BUSINESS

Stock Charting (3121)—A very comprehensive stock charting, analysis, and portfolio management package.

PC-Calc+ (3130-3132)—The most powerful spreadsheet package around. (3 disks)

As-Easy-As (3138)—A fantastic, easy to use Lotus 1-2-3 spreadsheet clone.

Small Business Accounting (3141)—A must for all small business owners!

Solve-It! (3143)—A complete financial formulas package. Great for bond, mortgage, and investment calculations.

Your Financial Consultant (3146)—An effective money management system for individuals and small businesses.

Medlin Accounting (3150)—Complete accounting package with modules for AR, AP, GL, Inventory, and Payroll.

Manager's Planner (3162)—Become a more effective manager. This excellent package helps you with planning, organization, and time management.

Mr. Bill (3171, 3172)—Complete billing system. Keeps track of accounts receivable and payments. Prints invoices and statements. (2 disks)

Form Master (3177)—Design and create any business form quickly and easily.

PC-Payroll (3178, 3179)—A complete and powerful payroll system. (2 disks)

HOME MANAGEMENT

Fast Bucks (3099, 3100)—Tracks all your personal and family finances. (2 disks)

Home Budget Manager (3103)—Helps you to design and stick to a budget.

Checkmate (3101)—A fantastic check-book program with reconciliation features.

Home Inventory (3180)—Keeps a permanent record of all your property.

Edna's Cookbook (3217, 3218)—A handy electronic cookbook with several great recipes—add your own. (2 disks)

WORD PROCESSING

PC-Write 3.02 (3610-3612)—All the features you need including spell-checking. The BEST word processor under \$200! (3 disks)

Galaxy (3614)—A powerful, easy to use, and feature-filled word processor.

Form Letters (3176)—A collection of 100 form letters for all purposes.

DATABASE

Mail List (3205)—Keeps track of your mailing list and prints mailing labels.

Doctor Data Labels (3209, 3910)—Has the features otherwise found in only the most expensive mail list managers. Very powerful and complete. (2 disks)

PC-File:dB (3213-3215)—Complete, powerful, and dBASE compatible! You must have at least 512K and hard disk. (3 disks)

WAMPUM (3220)—An excellent dBASE compatible package which can be used as a development tool or end-user dBASE manager. (Requires hard disk!)

EDUCATION

French I & II (3500, 3501)—French vocabulary for students. (2 disks)

Spanish I & II (3505, 3506)—Spanish vocabulary and verb drills for beginning-intermediate students. (2 disks)

Japanese (3510)—Designed for the business traveler and language student.

German I & II (3512, 3513)—German vocabulary instruction. (2 disks)

AlgebraX (3524)—Excellent algebra tutor which has different levels for the basic to advanced student. (CGA)

Facts (3525)—Teaches kids the capitals, states, and presidents. (CGA)

Geography (3526)—Make learning fun with this geography trivia game.

Math Tutor (3529)—A fun approach to learning math for kids, ages 5-13.

Are You Ready for Calculus? (3534)—This is an excellent pre-calc tutor which reviews algebra and trigonometry.

Funnels & Buckets (3535)—A fun and effective way to teach kids math. It's a fun math learning game.

World (3537)—A fascinating electronic globe/database at your fingertips! (CGA)

Typing Tutor (3550)—Quickly improve your typing skills and speed with this friendly typing teacher! (CGA)

Lotus Learning System (3556, 3557)—A very complete package that makes Lotus 1-2-3 easier to use. (2 disks)

Computer Tutor (3562)—If you are a new user or computer novice, THIS IS WHAT YOU NEED! Learn in a fun, pressure-free environment. Highly recommended.

UTILITIES

Masterkeys (3300)—Like the popular Norton disk utilities, only better!

SimCGA (3305)—Utilities which allow you to run many programs that require a CGA card on your monochrome system.

Vaccines (3307)—Ten virus checker, eliminator, and protection utilities.

PC-DeskTeam (3375)—Large collection of Sidekick-Like desktop accessories (clock, calendar, phone book, etc.).

HDMenu (3379)—Puts all the programs on your hard disk onto an auto-booting, selection menu. (Easy to Install.)

On-Side (3387)—Prints your spreadsheets (or anything) sideways!

Q-Modem SST (3715-3717)—A professional modem telecommunications package which is powerful and versatile. (3 disks)

RELIGION/BIBLE

BIBLE-Q (3552)—Test your Biblical IQ.

BIBLE Men (3565)—Choose Old or New Testament and prepare to be quizzed on the people mentioned in the BIBLE.

Church dBASE (3812)—Automates membership record keeping for church congregations and other organizations.

SeedMaster (3837-3849)—The complete King James BIBLE on disk! Allows quick access to any word, phrase, topic. Requires hard disk. (13 disks)

MISC. APPLICATIONS

Banner Maker (3801)—Make banners of various styles and sizes. Requires an Epson or compatible printer.

Fast Food (3802)—Know the nutritional values of most national chains' fast food items that your family eats.

ELISA (3805)—Let the famous computer psychiatrist analyze you. It's fun!

Lotto! (3823)—Complete system for most states' lotteries. (Requires printer)

The Diet Disk (3827)—Provides you with many tools for successful weight loss.

Astrology (3831)—Let the computer tell you what lies ahead in your stars!

Insta-Calendar (3835)—This calendar design tool and printer is easy to use.

Family History System (3852, 3853)—Helps you track your family roots and prints genealogical reports. (2 disks)

Piano Man (3902)—Record, edit, and then play back your favorite tunes. Also lets you turn your computer's keyboard into a musical instrument!

EDraw (3954)—Helps in the design of schematics and printed circuits.

GAMES

Striker (3400)—Arcade helicopter attack game. Bomb and shoot enemy targets. (CGA—Will not work with EGA)

Q-Bert (3403)—Play the famous arcade hit on your computer. (CGA)

Backgammon (3404)—Play against a challenging computer opponent. (CGA)

Monopoly (3405)—Really fun! Great color and sound. (CGA)

JetSet (3407)—A great jet flight simulator. Teaches navigation!

18-Hole Miniature Golf (3414)—Kids really love this one! (CGA)

D & D (3418)—Immerse yourself in the ultimate adventure, anytime!

AdventureWare (3420)—Five challenging text adventure games sure to keep you intrigued for several enjoyable hours.

PAC-MAN & More! (3421)—Several arcade hits including two PAC-MAN games. (CGA)

Master the Market (3425)—A challenging stock market simulation game. More realistic and all-around better play than the popular "Millionaire" game.

Kid Games (3426)—A set of educational games for kids 2-7 years. (CGA)

Ed's Chess (3427)—Challenge a tough computer opponent. Beats the expensive games like ChessMaster 2000.

SUPER Pinball (3429)—A collection of five great video pinball games. (CGA)

Tommy's Trivia (3431)—Have hours of fun testing your trivia IQ.

Defender (3432)—Arcade hit! You're the sole defender during a massive alien attack against your planet. (CGA)

Video Poker/Ultima 21 (3435)—The BEST poker and blackjack games available!

RISK! (3436)—For all of us who love this great board game. Conquer the world! (CGA—Will not work with EGA/VGA)

Star Trek (3439)—You are the captain as you lead the Enterprise into space.

PC-Pro Golf (3440, 3441)—Choose your club and swing away in this excellent golf game. A two-floppy or hard disk system required. (2 disks) (CGA)

NINJA (3445)—Use your fists, feet, sword, and throwing stars as you battle the evil Ninja warriors. (CGA)

Round42 (3446)—A great arcade game—better than "Space Invaders." (CGA)

Sam Spade (3448)—Play detective and solve the case in this adventure game.

FightMare (3450)—You're an ace 21st-century fighter pilot in this great fast-action arcade game. (CGA)

(CGA)=requires color graphics card

EGA GAMES

Requires EGA graphics card!

Bass Tour (3447)—An amazing game with excellent graphics. Fish your choice of lakes. Very realistic. (EGA)

EGA Football (3480)—You call the plays and control the key players. (EGA)

EGA TREK (3481)—You command the Starship Enterprise in this, the ULTIMATE Star Trek adventure. (EGA)

EGA Golf (3482)—A challenging golf game with beautiful graphics! (EGA)

EGA Arcade Hits (3483)—EGA versions of Breakout and Asteroids. (EGA)

EGA Risk (3484)—Enjoy the great color graphics as you settle for nothing less than total world domination! (EGA)

Why Software Excitement?

For **BEST** selection, **HIGHEST** quality, and **LOWEST** prices.

While others boast "The World's Biggest Selection," or "1000s of Disks," Software Excitement's more modest approach gives you an exhilarating selection of over 200 of the **BEST**, *proven* programs for IBM PCs and compatibles—covering every conceivable personal or business need.

Because we spread our excitement on the **HIGHEST**-quality disks, and use state-of-the-art duplicating equipment, you get trouble-free enjoyment. And even though we continue setting industry standards for quality, we also offer the **LOWEST PRICES**. Giving you every reason to believe that the excitement may be more than just contagious!

HOW DO WE DO IT?

We carry only the best, easiest-to-use software at the lowest prices, and we support all of it properly. To us, that means we're simply doing things right the first time. To our thousands of repeat customers, it means we're doing things right the rest of the time, too! Now that's Software Excitement!

FREE

Disk Drive Care Kit (a 9.95 Value)

Receive this vital maintenance accessory **FREE** with your order of 5 or more disks from this ad. A dirty disk drive can damage your disks! Disk drive manufacturers recommend regular cleaning to prolong the life of your disk drives and disks. Available for 5.25" and 3.5" drives.

This is a special, limited-time introductory offer. (Limit 1 per customer)



For **EASY-TO-USE**, **SUPPORTED** software.

Only Software Excitement! disks are menu-driven, giving you single-key access to all programs and instructions. And if you need help, a phone call to our friendly support team gets you answers immediately, while the competition's "mail only" support takes weeks. Finally, if that isn't enough, Software Excitement! backs everything up with a full money-back guarantee.

For **24-HOUR** **ORDERING**, and **SAME-DAY SHIPPING**

You can catch the excitement right away by calling 1-800-444-5457, 24 hours a day, Monday through Saturday. Call by 4 p.m. (Pac. Time, Mon. to Fri.), and we'll ship the same day; call later, and we'll do it the very next day. And if you need it "right away," our "extras" (\$5 for Fed-Ex Next Day Air, \$3 for UPS Second Day Air) offer you premium shipping at about the rates that others charge for regular shipping!

CMP10

ORDER FORM

Complete and clip for mail orders. Please list Disk Numbers Below: (list all disks in multi-disk sets.)

Name _____	_____	_____	_____	_____	_____
Address _____	_____	_____	_____	_____	_____
City _____	State _____	Zip _____	_____	_____	_____
Phone () _____	_____	_____	_____	_____	_____
Best Time (if nec.) _____	_____	_____	_____	_____	_____
Payment Method:	<input type="checkbox"/> Check/Money Order	<input type="checkbox"/> COD	_____	_____	_____
<input type="checkbox"/> Visa/MC	Exp. _____	_____	_____	_____	_____
# _____	_____	_____	_____	_____	_____
Signature _____	_____	_____	_____	_____	_____

Disks Ordered: _____ x \$2.50 or \$1.95 \$ _____
Need 3 1/2" disks? _____ \$ 3.00
Add \$1 ea. per disk \$ _____
Shipping \$ _____
Foreign add \$2 \$ _____
COD add \$4, US only \$ _____

Premium Shipping:
Fed-Ex next day service
(Continental US only
—No COD) add \$5 \$ _____
UPS 2nd Day Air
(US only) Add \$3 \$ _____
Total \$ _____

1-800-444-5457
Free Catalog with Order or Request
Call for FREE IBM, MAC, Amiga, C64 or Apple Catalog
Send to: Software Excitement
P.O. Box 3072, Central Point, OR 97502

To give our Continental U.S. customers the best possible service, Software Excitement! and Federal Express have teamed up to speed your order to you. We highly recommend Federal Express—no other company offers a finer standard of service!



Order Today
CALL 1-800-444-5457



IBM Software as low as \$249

Thousands of IBM/Compatible Public Domain and Shareware Programs Are Available with the Latest Versions to Meet Your Every Computing Need! Our Software is Guaranteed with FREE Technical Support! Call for FREE CATALOG!



Limited Offer! Receive **3 FREE DISKS** when you pay for 5 or more disks.

INCREDIBLY LOW PRICES

1-9 disks \$2.99 ea
10 or more \$2.49 ea

GAMES

ARCADE GAMES (106) Has Kong, 3-D Pacman, Bricks, Pango. (Requires color)

BASIC GAMES (107) Pacman, Lunar Lander, Star Trek, Meteor, Breakout, and others

CARD GAMES (109) Canasta, hearts, draw poker & bridge

STRIKER (110) Defender-like game "Top Gun" in space

FLIGHTMARE (112) Futuristic fighter pilot game. (Requires color graphics adapter.)

SLEUTH (117) Who done it?

DND (119) Like Dungeons and Dragons

ROUND 42 (120) Better than Space Invaders 42 levels

GAMES IN BASIC (124) Lander, biorhythms, desert, Phoenix, Star Wars, others

QUEST (152) Role playing adventure fantasy game. (Requires CGA)

SPACE WAR (158) Dogfight in outer space, using phasers, photon torpedoes, etc.

BRIDGE PAL (171) Complete game of contract bridge, with tutorial

FENIX (193) Just like the famous arcade game

PINBALL GAMES (197) Pinball, Rain, Twilight Zone, Wizard, etc.

KID-GAMES (GAM8) Animals math, clock game, alpha-beta, etc.

CHESS (GAM9) Incredible 2D and 3D. Many levels. Play back moves, store games



EGA RISK (GAM11) World domination in great color. Includes EGA Asteroids.

PC PRO-GOLF (GAM27-28) Great graphics. Complete 18 hole, 72 par course. (CGA)

PEARL HARBOR (GAM32) Shoot down Jap Zeros before they destroy U.S. Fleet. (CGA)

ULTIMA 21 DELUXE (GAM34) Best Blackjack game around. Includes Video Poker.

FORD SIMULATOR (GAM37) Great driving simulation. (Requires CGA)



MUSIC

PIANOMAN 4.0 (301) Turn your keyboard into a piano

PC-MUSICIAN (302) Compose, save, and play music.

WORD PROCESSING

PC-Write 3.0 (434, 435, 436) (3 disks) Newest version! Very popular and complete! Includes spelling checker

PC-TYPE+ (421-423) (3 disks) Excellent. Includes mail merge, 100,000 word spelling checker. Interfaces with PC-File+, PC-Style

MAXI-MAX (432) 59 macros to use with Word Perfect 4.2 or later. 11 templates for forms, border designs, etc.

GRAPHICS

KEYDRAW CAD SYSTEM (1001, 1002, 1065, 1066) (4 disks) Popular. Also uses mouse. (Requires color graphics)



SIDEWAYS (1007) Prints text sideways. Useful for Lotus

SIMCGA/HGCIBM (1027, 1062) (2 disks) Use with Hercules graphics card/compatible to run programs requiring CGA on your monochrome PC.

IMAGE 3-D (1048) Create and edit 3-D objects. Move, scale, rotate and tip image

FINGERPAINT (1050) Use keyboard or mouse to draw. Like MacPaint. (Requires CGA or EGA)

DANCAD 3-D (1051, 1052) (2 disks) Create 3-D graphics. Rotate, magnify, etc. Runs on CGA, EGA, or Hercules

FANTASY (1057) Create flowing graphic images with mouse or keyboard. (CGA)

FLOWCHARTING (1078-1079) Complete system for flow charts, organizational, electrical, etc., with symbols

SPREADSHEETS

AS-EASY-AS (505) Great. Includes screen help menus. Utilizes function keys. A Lotus clone that reads Lotus files.

PC-CALC+ (512-514) (3 disks) Jim Button's famous Lotus clone

BASIC

PC-PROFESSOR (1401) BASIC tutorial. Good.

BASIC PROGRAM GENERATOR (1402) The menu driven way to write programs.

B-WINDOW (1407) Give windowing capabilities to your Basic program.

UTILITIES

HOMEBASE (2608, 2612, 2613) (3 disks) Complete desktop organizer. Great

PROFESSIONAL MASTERKEY (2805) Like Norton's Retrieve deleted files. A lifesaver.

BAKER'S DOZEN (2821) 13 utilities from Buttonware

AUTOMENU (3003) Make PC menu driven. Incl. passwords

SCREEN (3006) Save your monitor from screen burn-in

DOT MATRIX FONTS (3061-3062) (2 disks) Print your text in different fonts.

ACCOUNTING/FINANCE

MARKET CGA (BUS17) Performs sophisticated analysis on stocks, funds, etc. (EGA version is BUS16)

BILLPOWER+ (BUS 40, 41) (2 disks) Bill clients for time and materials, advances, retainers, etc. Computes, taxes, past due interest, etc. Has full G/L

CPA LEDGER (706-708) (3 disks) Complete general ledger for corporations, partnerships or sole proprietors

PERSONAL FINANCE MANAGER (715) Household budget manager. Track checking, savings, investments

PAYROLL USA (725-726) Up to 2,000 employees in any state. dBaseIII and Lotus compatible. Complete P/R system

EXPRESS CHECK (786) Check account with running balance, monthly reports, etc. Prints checks

FINANCE MANAGER II (774-775) (2 disks) For personal or small business financial management

DOS

DOS TUTORIAL (1301) Teaches you to use DOS.

STILL RIVER SHELL (1304) Run DOS commands from a menu. Makes DOS easy.

BATCH FILE TUTORIAL (1305) Utilize batch file processing.

MORE DOS TIPS (1316, 1323) (2 disks) More about DOS.

HELP DOS (1326) On line DOS help with menus. Includes DOS dictionary of terms and a hints menu.

RELIGION

THE BIBLE (3301-3306) (6 disks) Old Testament, King James version

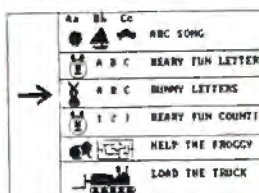
THE BIBLE (3307-3308) (2 disks) New Testament, King James version

WORD WORKER (3309-3310) (2 disks) Bible search program. New Testament, King James version

BIBLEMAN (3330) Excellent Bible quiz program.

EDUCATION

AMY'S FIRST PRIMER (248) Child's learning game teaches letters, numbers, keyboard



AMY'S FIRST PRIMER

FUNNELS AND BUCKETS (201) A fun way to learn math.

MATHPAK (202) Tutorial with lessons in higher math.

PC-TOUCH (204) Learn typing

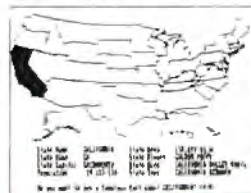
BASIC TUTORIAL (208) Learn programming with BASIC.

BEGINNING SPANISH (211) Tutorial.

SPANISH II (232) Sequel

BIBLEQ (214) Learn the Bible with this Q-A tutorial.

FACTS 50 (239) Geography lessons for U.S. Nice graphics



SPREADSHEET TEMPLATES

LOTUS MACROS (601) Save hours of work. (Req. Lotus)

LOTUS SPREADSHEET TEMPLATES (602) Ready-made. (Requires Lotus 1-2-3)

GOAL-SEEKER V3.5 (624) Achieve objectives by changing spreadsheet and seeing result. (Requires Lotus)

LOTUS TUTORIAL (630) Learn Lotus (requires Lotus)

APPLICATIONS

FORM LETTERS (1907) Commonly used form letters and business applications

E-Z FORMS (1908) Make forms to meet different needs.

MANAGER'S PLANNER (1920) Daily planner. Prints out.

HOME INVENTORY (1966) Track all your possessions.

BIORHYTHM (1990) Display the 3 biological cycles: physical, emotional, intellectual.

FAMILY HISTORY (2203-2204) (2 disks) Create files and genealogical reports.

LOTTO PROPHECY (2364) Best Lotto program we've seen.

CITY DESK (2513) Simple desktop publisher.

TELECOMMUNICATIONS

Q-MODEM 3.1 (1101, 1102, 1144) (3 disks) Powerful but easy to use. Fast.

RBBS V16.1A (1107-1109, 1150) (4 disks) Multi-user bulletin board system.

PROCAM 2.43 (1156) Outstanding modem software.

SECURITY/HACKING

COPY PROTECTION I (1219) Instructions for unprotecting commercial software.

COPY PROTECTION II (1220) More software unprotect.

COPY PROTECTION III (1221) More software to unprotect.

FLUSHOT (1225) Checks software for viruses

DATABASE PROGRAMS

PC-FILE dB (853, 854, 855) (3 disks) Newest version! Rated better than dBase III+.

FILE EXPRESS 4.0 (803-804) Powerful system. Allows 32,000 records. Sorts to 10 fields.

DBASE III+ ROUTINES (851-852) (2 disks) Latest utilities to help you utilize dBase III+.

MICRO STAR

ORDER FORM

PLEASE PRINT DISK NUMBERS

NAME _____
ADDRESS _____
CITY _____ STATE _____ ZIP _____
PHONE (____) _____

NUMBER OF DISKS _____ X (PRICE) _____
(\$2.99 PER DISK FOR 1-9, \$2.69 FOR 10-19,
\$2.49 FOR 20 OR MORE. NOTE 2 DISK SETS ARE 2 X (PRICE).
SOFTWARE ON 3.5" DISKS ADD \$1.00 EACH)

CALIF. RESIDENTS ADD 7% TAX = _____
SHIPPING AND HANDLING = \$3.50
(FOREIGN ORDERS ADD \$5/CANADA \$2) = _____

MAIL CHECK OR MONEY ORDER TO **TOTAL = \$ _____**
MICRO STAR • 1105 SECOND ST. • ENCINITAS CA 92024
IF PAYING BY VISA OR MASTERCARD, PLEASE GIVE

NUMBER _____
EXP. DATE _____ SIGNATURE _____
We also accept COD orders (add \$4.00). Call or write for free catalog

Call TOLL FREE for SAME DAY SHIPPING

800-444-1343 Foreign Orders & Customer Service (619) 436-0493

7 am to 5 pm PST Monday - Saturday



**Looking for a Widget
for your Printer
and need it now?
Call Precision!**

Precision Images stocks a complete selection of parts, supplies, and manuals for these printers:

**C. ITOH, GUME, CITIZEN,
OKIDATA, FUJITSU, EPSON
AND OTHERS**

For Visa/MC/Amex Call
1-800-524-8338

Precision Images
P.O. Box 573
Chester, NY 10918

Circle Reader Service Number 170

SOFTWARE CLOSEOUT!

**IBM, MAC, APPLE II,
COMMODORE, ATARI,
AMIGA, CPM and MORE!!**

**ALL NAME BRANDS
NOT PUBLIC DOMAIN.**

ALL ITEMS ARE NEW IN ORIGINAL PACKAGING!
SUPPLIES LIMITED & CHANGE DAILY.

DON'T WAIT, CALL NOW!!!

FREE PRICE LIST!!!

OUR PRICES ARE THE LOWEST!!!
MOST ITEMS PRICED UNDER \$10
MANY NAME BRANDS UNDER \$5

COMPSULT

P.O. BOX 3233
SAN LUIS OBISPO, CA 93403-3233
(805) 544-6616

Circle Reader Service Number 173

ATTENTION ROLE PLAYERS
 HELP IS ON THE WAY!
 BUILD UP CHARACTERS WITH OUR
 EDITORS OR SOLVE RIDDLES WITH OUR
 HINT BOOKS.
 * **CHARACTER EDITORS - \$19.95 each**
 Might and Magic, Ultima 3, Ultima 4,
 Ultima 5, Bard's Tale 1, Phantasie 1,
 Phantasie 3, Sentinel Worlds 1
 Might and Magic 2, Pool of Radiance,
 Bard's Tale 2, Wizardry (Edits 1-3),
 Wizardry 4, Wizardry 5, Magic Candle,
 Curse of the Azure Bonds.
 * **HINT BOOKS - \$9.95**
 Might and Magic, Legacy of Ancients,
 Wizardry (1, 2, 3, 4 or 5).
 * **OTHER MIGHT AND MAGIC PRODUCTS**
 Monster Editor - \$12.95
 Apple & Commodore versions also available.
 Add \$3.00 for shipping and handling.
GOSELIN COMPUTER CONSULTANTS
 P.O. Box 1083
 Brighton, MI 48116
 (313) 229-2453

Circle Reader Service Number 171

**The California Freeware
Home Software Club**
Join Now!
 a \$72.00 value,
 for the Introductory Price
 of **\$29.95** 

As a member you'll receive...

- **Discounted Software** - \$1.00 off every disk. Good for any PC system. Mix or Match. No Limit!
- **Public Domain Software - Untapped Resources:** This book contains valuable information, plus a \$15.00 CompuServe usage credit. (\$34.95 value)
- **Quarterly Bonus Disk**
- **Monthly Catalogs A GREAT GIFT IDEA!**

The finest in Shareware and Public Domain Software for IBM® / Compatibles, Mac®, Amiga®, Apple II® & Commodore®

  **(800) 359-2189** Ext. 24
 "An ASP Approved Vendor"
 1747 E. Ave. Q, # C-1, Palmdale, CA 93550
 (805) 273-0300
*Offer Expires 12/31/89, not valid with other offers. USA only!

Circle Reader Service Number 172

**Enhance Your
Tandy!**

1000 EX/HX Hard disks - Complete Kits!
 20 meg 30 meg 40 meg 64 meg
 \$389.00 \$439.00 \$489.00 \$599.00

Hard Cards for your 1000, A, SX, TX, SL, TL and 3000
 20 meg 30 meg 40 meg 64 meg
 \$329.00 \$349.00 \$389.00 \$599.00
 15 month Warranty

LT-1400 20 megabyte hard drive \$789.00 installed!

Above 640k EMS boards for 1000, A, SX, TX, SL, TL
 with / no memory 512k 1 megabyte
 \$139.00 \$289.00 \$389.00

Chip Sets - EX / HX / SX from 384k to 640k \$99.00
 SL from 384k to 640k \$109.00
 TX / TL to 768k \$59.00

CALL NOW! 1-800-537-3539
 DCS Industries, Inc. FAX 1-614-592-1527
 141 Columbus Rd. Call for catalog . . .
 Athens, Ohio 45701
 Tandy is a registered trademark of Tandy Corp.

Circle Reader Service Number 174

Use the handy
Reader Service Card
 provided with the
 advertisers index
 in this issue
 to receive additional
 information on
 our advertisers.

**DON'T FORGET
 COMPUTE!'S VIDEO DEMO BONANZA!!
 SEE PAGES 74 & 75 IN THIS ISSUE
 PREVIEW THE LATEST SOFTWARE—BEFORE YOU BUY!!**



OFF LINE

D A N G O O K I N

After years of hesitation, Apple Computer has finally announced that it's going into the small kitchen-appliance business. Big Red plans to bring high tech to the home with its AppleKitchen product line, based on the company's Macintosh technology. Apple has coined the slogan *Cooking for the rest of us* to launch its new venture.

Planned for the AppleKitchen product line are the AstuteCoffeeMaker, the CleverMicrowaveOven, the CannyCanOpener, the Ingenious-CheeseGrater, and the ShrewdGarbage-Disposer. Consumers can hook all the devices together using standard KitchenTalk connectors to make their own SmartKitchen. In addition, the entire setup can run off of a Mac II, which can also be programmed to monitor the family VCR and, using the MacSifter peripheral, clean the cat's litter box.

The only part of AppleKitchen currently available is the IntelligenToaster, which Apple is billing as the basic unit in the SmartKitchen environment. "Without it, you might as well use a club to make bread," goes Apple's advertising.

The IntelligenToaster is truly a work of art. It looks similar to a modern toaster—except for the nine-inch monitor. In fact, if the slots on top weren't so wide, you might think it a Macintosh with top-mounted disk drives. It has a keyboard (the keypad is extra), mouse, connectors on the back (one for the KitchenTalk network, one for a universal power supply), a BreadScanner port, and a modem connector so you can phone in toast while you're away from home or dial up large bakeries.

According to an article in *KitchenWorld*, a new PCW Communications magazine catering to Apple-Kitchen users, the original design of the IntelligenToaster incorporated only one large orifice for inserting an entire loaf of bread. As originally de-

signed, the machine would then slice and toast the entire loaf—it could even sense if the loaf was already sliced (apparently an early version mangled presliced loaves).

But soon, according to the *KitchenWorld* editors, a creeping sophistication oozed its way through the design team. The single knob on the toaster was replaced with a push-button keypad, which then evolved into a full-size keyboard. The fun-to-watch digital display blossomed into a hi-res monochrome screen. Apple claimed the improvements would make the IntelligenToaster easier to use and more versatile.

I secured an early evaluation unit for inspection and can offer my own insight into this mechanized marvel. Setup is simple, with just three options for system startup: Press the On button, give it a Start command via the KitchenTalk network, or clap your hands and say "Toast!"

After a few minutes for a RAM check, the screen comes to life and presents a smiling toast icon. The digitized "Good Morning," "Good Afternoon," or "Good Evening" greeting is governed by the time of day as sensed by the internal clock. (I love these smart appliances.) The system then asks you if you want to make toast. Just move the mouse, which is shaped like a stick of butter, to the Yes! icon on the screen and click.

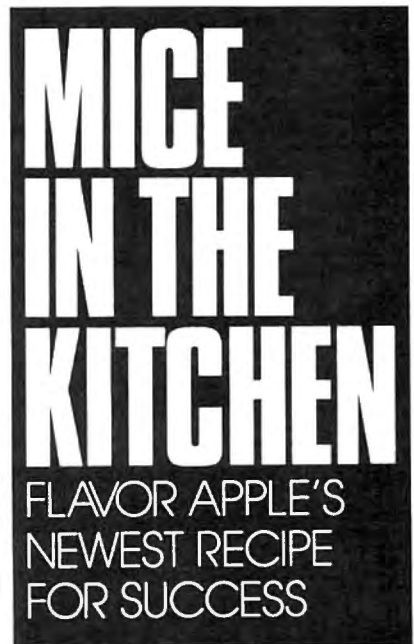
Next, the IntelligenToaster asks how many slices of toast you'll be making. An image of a slice of bread appears, and you can press buttons 1 through 9, move the mouse, or whistle at varying pitches to determine how dark or light you want your toast to be. The toast graphic darkens or lightens with your selection.

If you've selected to toast special bread, such as raisin bread or special fiber bread made from wood chips, then you can make additional selections, using the mouse to shade those parts of the bread you want toasted. The optional BreadScanner, in conjunction with the ToastScript bread-description language, lets you get

very specific with your toasting.

Finally, click on the big Toast! icon, place your bread into the slots, then click the down-arrow button. The bread lowers into the machine, then minutes later pops up, toasted to your specifications. If you want to toast the other side of the bread, simply flip it and repeat the process. (Apple says a later version of the IntelligenToaster will toast on both sides of the bread at once.)

I was positively delighted with the results of this handy little appliance. It takes longer than traditional toasting equipment, but the results are delicious. I liked the fact that I could



preset and program in specific times and darknesses for my toast. And, with the planned KitchenTalk network, I'll be able to have toast, coffee, and microzapped sausage links ready when I wake up.

The base price of the IntelligenToaster is \$2,495. The two-sided IntelligenToaster E with mixing bowl option will be available next quarter for \$2,995. Apple upgrades for traditional toasters are \$1,095 each. Start planning your SmartKitchen today! ☐

CLASSIFIED

HARDWARE

TONER CARTRIDGE RECONDITIONING for Laser Printers/Copiers. 300 Models serviced \$39.95. MaxiTone 3581 South Apopka Ave. Inverness, FL 32652-7009 (904-344-1362)

MARYMAC INDUSTRIES, INC.

Our 13th year of DISCOUNTS
COMPUTERS FAX CELLULAR PHONES

Tandy Radio Shack SCO
Fgt. Prepaid. Save Tax
Toll Free 800-231-3680

22511 Katy Fwy, Katy (Houston) TX 77450
1-713-392-0747 FAX: (713)574-4567

DISKS

DS/DD Full Guarantee USA Made Diskettes w/sleeves/labels/tabs. 5 1/4" Box of 25 \$12+\$1 S/H. 3 1/2" Box of 25 \$34+\$1 S/H MO/Check: ECS, 380 5th Ave, NY NY 10018

BUSINESS OPPORTUNITIES

EARN \$500 TO \$1000 A WEEK duplicating programs on your home computer. All supplies furnished. First come, first serve. IBM, Apple, and C64 owners. Send \$5 for complete info to: Thompson Publishing, 5114 Trail Lake, Houston TX 77045

READ BOOKS for pay!
\$100 a title. Write:
PASE - HE3, 161 Lincolnway,
North Aurora, IL 60542

HOW TO MOONLIGHT WITH COMPUTER
Free information. Must reading for everyone wanting their own business.
AICTC, Box 2615, Pasadena, CA 91102

GET PAID for mailing letters!
\$200.00 daily. Write:
PAASE - SK1, 161 Lincolnway,
North Aurora, IL 60542

MAKE \$ MONEY \$ WITH YOUR COMPUTER. 111 proven ways. Choose your own. Full or part time. Send \$2 to: Thomas, 6045 W. Chandler Blvd., Box 204-C, Chandler, AZ 85226

\$97,500 'HIDDEN' IN YOUR COMPUTER? YES!
(Free) Report. Write: Simpson, Dept. CP
Battle Ground, WA 98604-0771

BOOKS

DISCOUNT COMPUTER BOOKS. Thousands of titles available. Please call or write for your free catalog today. BOOKWARE 147 Campville Rd, Northfield CT 06778 (203) 283-6973 (800) 288-5662

SOFTWARE

YOUR IBM & COMP SHAREWARE DISTRIBUTOR. Over 700 in library-5 1/4" & 3 1/2". Send 50¢ U.S. stamp for full catlg. T&Z Software, PO Box 780217-C, Sebastian, FL 32978-0217. Approved vendor by the Assoc. of Shareware Professionals.

FREE PUBLIC DOMAIN SOFTWARE—Request free catalog or send \$2 for sample disk & catalog (refundable). APPLE, C64-128 (specify) CALOKE IND., Box 18477, K.C., MO 64133

FREE PD & SHAREWARE. IBM OR C-64 (SPECIFY). Send 1 stamp for catalog or \$1 for Sample disk & Catalog. RVH Publications, 4291 Holland Rd., Suite 562-A, VA Beach VA 23452. Approved Vendor ASP.

TRY BEFORE YOU BUY: C64, 128, AMIGA. Games utilities, educn'l, classics, new releases, 100's of titles. Free brochure. Specify computer. RENT-A-DISC, Frederick Bldg. #221, Hunt'n, WV 25701 (304) 529-3232

Quality IBM SOFTWARE from \$2 per disk. Games/WProc/DBases/Educ/Sprst/Util/More. PD/Shareware-Latest Versions! Free Catalog. SOFSOURCE, Box 828, East Lansing, MI 48826 (517) 349-3560 CALL OR WRITE TODAY!

Break the Law of Probability

Allow your PC to make money for you. Eliminate chance with the scientific edge. Play to win with the finest lottery winning software available

Enclose \$1000 plus \$200 For Handling (Add \$500 for a 3.5" Disk)

Send Cash, Check or Money Order to:
AIDA SYSTEMS INC.
P.O. Box 66-C, Parlin, New Jersey 08859

LINCAD, CALCAD, CONVOLV, FFT SPECTRA. Design, analyze analog & logic circuits. Call (614) 488-3400 or send for info. SOFCAD, 1609 Essex Rd, Columbus, OH 43221

FREE CATALOG—OVER 1000 PUBLIC DOMAIN Programs of IBM PC and Compatibles. Buy or Rent. Low as \$1.00/disk. Write to Softshoppe, POB 709, Ann Arbor, MI 48106

Computer Training on Disk \$9.95. FREE CATALOG on Games, MIDI Interfaces & more. Princeton Software, 2973 Harbor Blvd. Costa Mesa, CA 92626. 714-754-1684 Ext. 77

FREE IBM SOFTWARE *FREE* 5 1/4" AND 3 1/2" FORMATS
FREE CATALOG: AP-JP, INC.
BOX 399, DEPT C, ISLIP, NY 11751-0399

FREE DISCOUNT SOFTWARE CATALOG. Amiga Apple, Comm., IBM & Mac. Disk-Count Software, P.O. Box 3, Carteret, NJ 07008 Call: (800) 448-6658



BEAT LOTTERY BIASES!
NEW DOS RELEASE!
YOUR LOTTERY IS BIASES!
Unintentionally certain number patterns will be selected with a greater frequency than others. **LOTTO PICKER 3** will uncover & exploit these biases & tell you which numbers to play—no guesswork required! **GUARANTEED** to work for all lotteries worldwide or your **MONEY BACK!** **WHEELING** now included in DOS version! **BEAT THE LOTTERY TODAY! \$39.95** (+2.55 s/h). 3.5" add \$5. Ver. 2.1 for Apple II & C64/128. NY add tax.
ORDER TODAY! 1-800-634-5463 ext 293 (M-F 8-5)
GE RIDGE SERVICES, INC., 170 Broadway, Suite 201-CP, New York, NY 10038
Info/Dealers 718-317-1961

FREE CATALOG OF DISCOUNT SOFTWARE. Apple, Atari, Commodore and IBM. WMJ Data Systems-C, 4 Butterfly Drive, Hauppauge, NY 11788.800-962-1988 ext. 122

IBM - COMMODORE 64 & 128 - AMIGA. 1000's of PD/Shareware programs on 100's of disks. Free listing or \$1 for large descriptive catalog (specify computer). DISKS O'PLENTY INC., 7958 Pines Blvd., Suite 270B, Pembroke Pines, FL 33024

18 DISKS OF PD/SW SOFTWARE FOR \$29.95. IBM: Games 1, 2 or 3. Business Utility, Programming, V/M card ACT NOW 312-657-1160 SAVEWARE, Box 274N, Glenview, IL 60025

Numerology - Get a 10 page report about your strengths, weaknesses, and destiny. Send your full name at birth, birthdate, current name, and \$9.95 to The Network, P.O. Box 1102, Westboro, MA 01581.

TRI-TECH

NEW AND INNOVATIVE APPLE II SOFTWARE!
Productivity, Education, Entertainment.
Complete catalog only \$1 (REFUNDABLE).
All software available on 5 1/4" disks.
Demo Disk with FREE Fantasy game just \$2.95! Checks/M.O. c/o Kenneth J. Uy.
((Program designed to your needs!))
Home management, business, recreation.
For a complete brochure, send \$1.50.

TRI-TECH INDUSTRIES
P.O. Box 22026
Des Moines, Iowa 50322

GET RICH QUICK. The ultimate stock market game. Challenging. Anyone can play. \$39.95. Mountaintop Enterprises 1307 Pine Street, Silver City NM 88061

IBM SOFTWARE. 170 programs on 5.25 disks \$15.75. On 3.5 disks \$14. Free catalog. Circuit Software Co., Box 40604, Memphis TN 38174, or call (901) 278-8931 ext 25.

DISCOUNT COMPUTER PRODUCTS Software, books, diskettes, labels, training cassettes, and much more!! For FREE information, write to: DOYLE SYSTEMS, 12178 Greenspoint Dr. No. 318, Houston, TX 77060

COMPUTE! Classified is a low-cost way to tell over 250,000 microcomputer owners about your product or service.

Rates: \$25 per line, minimum of four lines. Any or all of the first line set in capital letters at no charge. Add \$15 per line for boldface words, or \$50 for the entire ad set in boldface (any number of lines.) Inquire about display rates.

Terms: Prepayment is required. Check, money order, American Express, Visa, or MasterCard is accepted. Make checks payable to COMPUTE! Publications.

Form: Ads are subject to publisher's approval and must be either typed or legibly printed. One line equals 40 letters and spaces between words. Please underline words to be set in boldface.

General Information: Advertisers using post office box numbers in their ads must supply permanent address and telephone numbers. Ad will appear in next available issue after receipt.

Closing: 10th of the third month preceding cover date (e.g., June issue closes March 10th). Send order and remittance to: Kathleen Ingram, Classified Manager, COMPUTE!, P.O. Box 5406, Greensboro, NC 27403. To place an ad by phone, call Kathleen Ingram at (919) 275-9809.

Notice: COMPUTE! Publications cannot be responsible for offers or claims of advertisers, but will attempt to screen out misleading or questionable copy.

Classified Display Rates: Classified display ads measure 2 1/4" wide and are priced according to height: 1" = \$250; 1 1/2" = \$375; 2" = \$500; 3" = \$600; (\$100 for each additional inch, e.g. 4" = \$700, etc.) Preferred supplied material is Velox or PMT.

ANNOUNCING A BIGGER, BETTER, BOLDER NEW COMPUTE!

Subscribe today—and save 72%



**NOW WITH
GREATER
EMPHASIS ON
MS-DOS HOME
COMPUTING**

The all-new COMPUTE! just may be the biggest breakthrough in home computing this year. There's even an optional disk available that includes 3-D spread sheets to DOS utilities. The optional disk comes complete with games, utilities, data bases and more. It's a great way to explore home computing at an inexpensive price.

So don't delay. Subscribe today to the all-new COMPUTE! and get 12 big issues, yours for just \$9.97. You save 72% off the cover price. Complete and mail the card or coupon—and start saving now.

JSC66

REPLY COUPON

MAIL TODAY TO: COMPUTE! P.O. BOX 3244, HARLAN, IA 51593-2424

YES! I want to subscribe to the all-new, all-better COMPUTE! Send me 12 big issues for just \$9.97. I save 72% off the cover price.

Payment enclosed

Bill me

Mr./Mrs./Ms. (circle one) (please print) _____
 Address _____ Apt. No. _____
 City _____
 State _____ Zip _____
Outside U.S., add \$6 per year for postage. Excluding Canada, all foreign orders must be in U.S. currency. Price subject to change.

FOR FASTER SERVICE, CALL TOLL-FREE 1-800-727-6937
 COMPUTE!'s basic subscription price is \$19.94

Introducing a new era in home computing!

Now there's the new COMPUTE!—with an all-new look and a fresh new editorial emphasis. Bigger, better, bolder and with an entirely new focus on MS-DOS home computing, the exciting new COMPUTE! is your key to getting the most fun, most productivity, most power from your PC.

Subscribe today and guarantee yourself regular coverage in every area of home computing: unique and valuable word processing ideas and insights, the 10 best-selling software packages each month, programming tips, new and more detailed hardware and software reviews, exciting new ways to involve the whole family in home computing, and much, much more.

Look to the all-new COMPUTE! to bring home a wealth of new programming, entertainment and education news, insights and tips. COMPUTE!'s features include special looks at how to increase home computing productivity...our fun-filled News and Notes section...Letters (your chance to share your problems and solutions with other users)...our Computer Specific department... Hints and Tips . . . and much more.

MONTGOMERY GRANT

COMPUTE
11/89

ESTABLISHED 1968

OUTSIDE USA...CALL
(718)692-0790

FOR CUSTOMER SERVICE
Call: Monday-Friday :9:30am-4:30pm (718)692-1148

Retail Outlet: Penn Station, Main Concourse
(Beneath Madison Square Garden) NYC, NY 10001
Store Hours: Mon-Thurs 8:30-8/Fri 8:30-4:00/Sat-Closed/Sun 9:30-7
FOR ORDERS & INFORMATION CALL TOLL FREE

1-800-759-6565

OR WRITE TO:
Montgomery Grant Mail Order
Department, P.O. Box 58
Brooklyn, NY 11230

FAX NO. 7186923372
TELEX 422132 MGRANT

Order Hours: Monday-Thursday, 9:00am-7:00pm / Friday, 9:00am-5:00pm / Saturday-Closed / Sunday 9:30am-6pm
NO SURCHARGE FOR CREDIT CARD ORDERS/WE INVITE CORPORATE & EDUCATIONAL CUSTOMERS/CORPORATE LEASING & PERSONAL FINANCING AVAILABLE
DISCOUNTS FOR QUANTITY ORDERS / RUSH SERVICE AVAILABLE / TOLL FREE TECHNICAL SUPPORT

AMIGA



AMIGA 500
Amiga 500 w/512K
Built-in 3.5" Disk Drive

\$549

**AMIGA 500
RGB COLOR PACKAGE**
Amiga 500 w/512K Built-in 3.5" Disk Drive Mouse
RGB Color Monitor Free Software

\$749

AMIGA 500 With 1084\$829
AMIGA 500 With 1084
& 1010 3.5" Drive.....\$999

AMIGA 2500.....\$3299

AMIGA 1010 Disk Drive.....\$179
A-2088D Bridge Card.....\$499
A-2286D Bridge Board.....\$1149
A-501 Memory Expansion.....\$149

**ALL OTHER AMIGA
PERIPHERALS IN STOCK**



AMIGA 2000
A 2000 Computer w/Keyboard
1MB Expandable to 9MB
Built-in 3.5" Disk Drive

\$1459

**AMIGA 2000
RGB COLOR PACKAGE**
A 2000 Computer w/Keyboard 3.5" Disk Drive Mouse RGB Color
Monitor Free Mouse & Software

\$1659

AMIGA 2000 w/1084 Monitor.....\$1739
AMIGA 2000 w/40MB H.D.....\$1949

AMIGA 2000 H.D....\$2099

HYUNDAI Model 286e
IBM AT COMPATIBLE
640K RAM Expandable to 1MB
60286 Microprocessor 12MHz
1.2MB Floppy Drive Serial/
Parallel Ports MS/DOS 3.3
GW Basic

w/SEAGATE 20MB.....\$1149
w/SEAGATE 30MB.....\$1179
w/SEAGATE 40MB.....\$1249

\$899

Apple

APPLE IIGS COMPUTER \$1299
512K Upgrade 3.5" Disk
Drive RGB Color Monitor

IMAGEWRITER II PRINTER.....\$439

ALL OTHER APPLE MODELS...CALL

Commodore

C=64C
COMPUTER
w/GEOS PROGRAM

\$11995



**COMMODORE C 64-C
COMPLETE PACKAGE**
Commodore C-64-C Computer
Commodore 1541-C Disk Drive
Commodore Color Printer
12" Monitor
GEOS, Quantum Link Software

\$319

**COMMODORE C 64-C
COLOR PACKAGE**
Commodore C-64/C Computer
Commodore 1541/C Disk Drive
Commodore Color Printer
Color Monitor
GEOS, Quantum Link Software

\$429

Commodore
1525 Dot Matrix Printer

\$9995

MPS-1000.....\$169
MPS-1250.....\$219
DPS-1101 Daisy Wheel
Letter Quality Printer.....\$169

C=128-D
NEW C-128D with
Built-In Disk Drive

\$409



1571 Disk Drive

CALL

1581 Disk Drive

\$19995

1541II Disk Drive

\$15995

**1750 RAM
Expansion**

CALL



1084 Monitor

\$28995

1802 Monitor

\$18995



**COMMODORE 128D
COMPLETE PACKAGE**
C/128-D Computer w/Built-In Disk
Drive
Commodore Color Printer
12" Monitor

\$469

**COMMODORE 128D
DELUXE PACKAGE**
C/128-D Comp. w/Built-In Disk Drive
Commodore 1902 RGB Color Mon.
Commodore Color Printer

\$629

C/128-D w/1084 Monitor. \$699

PERIPHERALS

1350 RAM Expansion.....\$39.95
1700 RAM Expansion.....\$69.95
#1764 Expansion Module.....\$114.95
XETEC S. Graphix Jr. Interface.....\$29.95
XETEC S. Graphix Sr. Interface.....\$49.95
XETEC Supergraphix Gold.....\$79.95
C-164C-64C Power Supply.....\$39.95
C-1680 Modem.....\$59.95
C-1670 Modem.....\$69.95
COMMODORE 1350 Mouse.....\$26.95
COMMODORE 1351 Mouse.....\$38.95
XETEC Lt Keypad 20MB Drives for:
C-64C.....\$799.95
C-128 and 128D.....\$849.95
XETEC 40MB Hard Drive for:
C-64, C-128 & C-128D.....\$1199

We can reconfigure any of our computer packages to fit your specifications. Call for information. All Computer systems support MDA, CGA, EGA, VGA & Multisync. We carry modems, drives, cards, monitors, memory upgrades & all other accessories for your computer.

ALL SEAGATE HARD DRIVES IN STOCK

PRINTERS

STAR

NX-1000.....\$164.95
NX-1000C.....\$164.95
NX-1000 Rainbow.....\$214.95
NX-1000C Rainbow.....\$224.95
NX-2400.....\$284.95
XR-1000.....\$339.95
XR-1500.....\$429.95
XR-2410.....\$429.95
XR-2415.....\$549.95

EPSON

LX-810.....\$179.95
LQ-510.....\$329.95
FX-850.....\$334.95
FX-1050.....\$429.95
LQ-850.....\$519.95
LQ-950.....\$569.95
LQ-1050.....\$719.95
LQ-2550.....\$899.95

SANYO



PR-3000

Daisy Wheel
Letter Quality
Printer

\$59

HEWLETT-PACKARD

DESKJET.....\$699.95
DESKJET+.....\$689.95
LASERJET II.....\$1629
LASERJET IID.....\$2799
PAINTJET.....\$1029

CITIZEN

180-D.....\$149.95

NEC

P2200.....\$319.95
P5200.....\$489.95
P5300.....\$649.95

OKIMATE 20

180.....\$219.95
183.....\$249.95
320.....\$329.95
390.....\$454.95
321.....\$459.95
391.....\$629.95

PANASONIC

KXP-1180.....\$177.95
KXP-1191.....\$229.95
KXP-1092I.....\$289.95
KXP-3131.....\$269.95
KXP-1124.....\$309.95
KXP-1595.....\$409.95
KXP-1524.....\$519.95
KXP-4450 Laser.....\$1349.95

MAGNAVOX MONITORS

EGA Monitor.....\$319.95
EGA Monitor.....\$439.95
& EGA Card.....\$439.95
VGA Monitor.....\$349.95
VGA Monitor
& VGA Card.....\$539.95

NEC POWERMATE 1
IBM AT Compatible
80286 Microprocessor 10MHz 640K RAM
Expandable to 10.6MB 1.2MB Floppy Drive
Serial & Parallel Ports MS DOS 3.3 & GW
Basic

\$999

w/SEAGATE 20MB HARD DRIVE.....\$1249
w/SEAGATE 30MB HARD DRIVE.....\$1279
w/SEAGATE 40MB HARD DRIVE.....\$1349

EPSON EQUITY I+
IBM XT COMPATIBLE PKG.
640K RAM w/Clock Calendar
4.77-10MHz One 360K Drive
Keyboard Serial & Parallel Ports
12" Monitor Box of 10 Diskettes
MS DOS GW Basic

\$569

Same Pkg. w/Seagate 20MB Hard Drive.....\$619
Same Pkg. w/Seagate 30MB Hard Drive.....\$849
Same Pkg. w/Seagate 40MB Hard Drive.....\$919
Same Pkg. w/2 360K Drives.....\$629




EPSON EQUITY II+
IBM AT COMPATIBLE
Keyboard 640K RAM 80286 Microprocessor 1.2MB
Floppy Drive Mono Monitor MS DOS 3.3 & GW Basic

\$1029

Same with Seagate 20MB Hard Drive.....\$1279
Same with Seagate 30MB Hard Drive.....\$1319
Same with Seagate 40MB.....\$1379

EQUITY 1e.....\$729



AST AST 286
IBM AT Compatible
512K RAM Expandable to 4MB 10MHz
80286 Microprocessor Serial/Parallel Ports
1.2 MB Floppy

\$799

AST 286 w/SEAGATE 20MB HARD DRIVE.....\$1049
AST 286 w/SEAGATE 30MB HARD DRIVE.....\$1079
AST 286 w/SEAGATE 40MB HARD DRIVE.....\$1149

**LEADING EDGE
MODEL D**
IBM XT Compatible Pkg.
512K RAM Expandable to 768MB
8088-2 Microprocessor 360K Floppy
Drive 4.77-16MHz; MS/DOS 3.2 & GW
Basic 12" Monitor

\$569

w/SEAGATE 20MB HARD DRIVE.....\$829
w/SEAGATE 30MB HARD DRIVE.....\$859
w/SEAGATE 40MB HARD DRIVE.....\$929

IBM XT
256K RAM expandable to 640K
Two 360K Disk Drives

\$669

IBM XT w/one 360K Floppy & Seagate 20MB H.D. \$919
IBM Personal System II, All Models In Stock



RUSH SERVICE AVAILABLE..CALL FOR DETAILS

Certified Check, Bank Check, Money Order, Mastercard, Visa, Amex, Diner's Club, Carte Blanche, C.O.D.'s accepted. Please call before submitting P.O.'s. No additional surcharge for credit card orders. Non-certified checks must wait 14-5 weeks for clearance. Please add 5% shipping & handling. Volume orders over \$2000 are discounted to 3% shipping & handling. Minimum shipping & handling charge is \$5.00. APO/FPO addresses add 10% for shipping and handling. All APO/FPO are shipped first class priority air. N.Y. residents add applicable sales tax. Prices subject to change without notice. Not responsible for typographical errors. Return of defective merchandise must have prior return authorization number or return will not be accepted. IBM XT AT are registered trademarks of International Business Machines Corp. All orders can be shipped Air Express. Call for details. For your protection we check for credit card theft. D.C.A. #000233

COMPUTER DISCOUNTS ON ALL YOUR COMPUTER NEEDS

MIBRO CO.

EST. SINCE 1950

64 WEST 36th STREET, NEW YORK CITY, N.Y. 10018

ORDERS ONLY **1-800-451-9780** N.Y. RESIDENTS (212) 695-7133

Commodore



COMMODORE 64-C 25 PC. DELUXE OUTFIT

OUTFIT INCLUDES: Commodore 64-C Keyboard
•1541 Disc Drive •Commodore Printer
•12" Monochrome Monitor
•10 Diskettes

\$298



COMMODORE 64-C 25 PC. PROFESSIONAL OUTFIT

OUTFIT INCLUDES: Commodore 64-C Keyboard
•1541 Disc Drive •Commodore Printer
•13" Color Monitor
•10 Diskettes

\$398

LEADING EDGE



MODEL D 25 PC. PACKAGE IBM XT COMPATIBLE

PACKAGE INCLUDES: Model D CPU & Keyboard •12" Computer Monitor •10 Diskettes •Word Processor •Spread Sheet •Data Base

\$548

SAME PACKAGE AVAILABLE WITH:
20 MEGABYTE HARD DRIVE \$798
30 MEGABYTE HARD DRIVE \$848
40 MEGABYTE HARD DRIVE \$898



MODEL D2 25 PC. PACKAGE IBM AT COMPATIBLE

PACKAGE INCLUDES: Model D2 CPU & Keyboard •12" Computer Monitor •10 Diskettes •Word Processor •Spread Sheet •Data Base

\$898

SAME PACKAGE AVAILABLE WITH:
20 MEGABYTE HARD DRIVE \$1098
30 MEGABYTE HARD DRIVE \$1148
40 MEGABYTE HARD DRIVE \$1198

AMIGA



AMIGA 500 25 PIECE PROFESSIONAL OUTFIT

OUTFIT INCLUDES: Amiga 500
•12" RGB Color Monitor
•Printer for Amiga
•10 Diskettes

\$848



AMIGA 2000

ALSO AVAILABLE: AMIGA 1084 MONITOR •3.5" INTERNAL DRIVE •BRIDGE CARD HARD DRIVE CONTROLLER •2 MB RAM EXPANDER •PACKAGE DEALS AVAILABLE!
AMIGA 2000 HD / AMIGA 2500 NOW IN STOCK!!

EPSON



EQUITY II + 25 PC. PACKAGE IBM AT COMPATIBLE

PACKAGE INCLUDES: Equity II + CPU & Keyboard •12" Computer Monitor •10 Diskettes •Word Processor •Spread Sheet •Data Base

\$998

SAME PACKAGE AVAILABLE WITH:
20 MEGABYTE HARD DRIVE \$1198
30 MEGABYTE HARD DRIVE \$1248
40 MEGABYTE HARD DRIVE \$1298



EQUITY III + 25 PC. PACKAGE IBM AT COMPATIBLE

PACKAGE INCLUDES: Equity III + CPU & Keyboard •12" Computer Monitor •10 Diskettes •Word Processor •Spread Sheet •Data Base

\$1198

SAME PACKAGE AVAILABLE WITH:
20 MEGABYTE HARD DRIVE \$1398
30 MEGABYTE HARD DRIVE \$1448
40 MEGABYTE HARD DRIVE \$1498

VENDEX



VENDEX HEADSTART II

FEATURES INCLUDE: 640K Ram •4.77/10 Megahertz •5 1/4" 360K Floppy Drive •3 1/2" 720K Floppy Drive

CALL FOR NEW LOW PRICE AVAILABLE WITH: 20/30/40MB HARD DRIVE



VENDEX HEADSTART III

FEATURES INCLUDE: 286 Processor •8/12 Megahertz •5 1/4" Floppy Drive •3 1/2" Floppy Drive •30 MB Hard Drive •VGA System •SOFTWARE BUNDLE

CALL FOR NEW LOW PRICE

NEC



POWERMATE I 25 PC. PACKAGE IBM AT COMPATIBLE

PACKAGE INCLUDES: Powermate I CPU & Keyboard •12" Computer Monitor •10 Diskettes •Word Processor •Spread Sheet •Data Base

\$998

SAME PACKAGE AVAILABLE WITH:
20 MEGABYTE HARD DRIVE \$1198
30 MEGABYTE HARD DRIVE \$1248
40 MEGABYTE HARD DRIVE \$1298



POWERMATE 2 25 PC. PACKAGE IBM AT COMPATIBLE

PACKAGE INCLUDES: Powermate 2 CPU & Keyboard •12" Computer Monitor •10 Diskettes •Word Processor •Spread Sheet •Data Base

\$1198

SAME PACKAGE AVAILABLE WITH:
20 MEGABYTE HARD DRIVE \$1398
30 MEGABYTE HARD DRIVE \$1448
40 MEGABYTE HARD DRIVE \$1498

Commodore



COMMODORE COLT IBM XT COMPATIBLE

FEATURES INCLUDE: 640K Ram •Dual Drive •4.77/8 Megahertz

COMMODORE PC-10111 IBM XT COMPATIBLE

FEATURES INCLUDE: 640K Ram •4.77/8/10 Megahertz •101 Keyboard

CALL FOR NEW LOW PRICES



COMMODORE PC-40 IBM AT COMPATIBLE

FEATURES INCLUDE: •286 Processor •12 Megahertz •1 MB Memory •40 MB Hard Drive •VGA Graphics

CALL FOR NEW LOW PRICE PACKAGE DEALS AVAILABLE

IBM



ORIGINAL IBM IBM XT 25 PC. PACKAGE

PACKAGE INCLUDES: IBM XT CPU & Keyboard •12" Computer Monitor •10 Diskettes •Word Processor •Spread Sheet •Data Base

\$748

SAME PACKAGE AVAILABLE WITH:
20 MEGABYTE HARD DRIVE \$998
30 MEGABYTE HARD DRIVE \$1048
40 MEGABYTE HARD DRIVE \$1098



ORIGINAL IBM IBM AT 25 PC. PACKAGE

PACKAGE INCLUDES: IBM AT CPU & Keyboard •12" Computer Monitor •10 Diskettes •Word Processor •Spread Sheet •Data Base

\$1198

SAME PACKAGE AVAILABLE WITH:
20 MEGABYTE HARD DRIVE \$1398
30 MEGABYTE HARD DRIVE \$1448
40 MEGABYTE HARD DRIVE \$1498

EPSON



EQUITY I + 25 PC. PACKAGE IBM XT COMPATIBLE

PACKAGE INCLUDES: Equity I + CPU & Keyboard •12" Computer Monitor •10 Diskettes •Word Processor •Spread Sheet •Data Base

\$548

SAME PACKAGE AVAILABLE WITH:
20 MEGABYTE HARD DRIVE \$798
30 MEGABYTE HARD DRIVE \$848
40 MEGABYTE HARD DRIVE \$898



EQUITY IE 25 PC. PACKAGE IBM XT COMPATIBLE

PACKAGE INCLUDES: Equity IE CPU & Keyboard •12" Computer Monitor •10 Diskettes •Word Processor •Spread Sheet •Data Base

\$598

SAME PACKAGE AVAILABLE WITH:
20 MEGABYTE HARD DRIVE \$848
30 MEGABYTE HARD DRIVE \$898
40 MEGABYTE HARD DRIVE \$948



SAMSUNG S-3000 25 PC. PACKAGE IBM XT COMPATIBLE

PACKAGE INCLUDES: S-3000 CPU & Keyboard •12" Computer Monitor •10 Diskettes •Word Processor •Spread Sheet •Data Base

\$898

SAME PACKAGE AVAILABLE WITH:
20 MEGABYTE HARD DRIVE \$1198
30 MEGABYTE HARD DRIVE \$1298
40 MEGABYTE HARD DRIVE \$1398



SAMSUNG S-286 25 PC. PACKAGE IBM AT COMPATIBLE

PACKAGE INCLUDES: S-286 CPU & Keyboard •12" Computer Monitor •10 Diskettes •Word Processor •Spread Sheet •Data Base

\$1498

SAME PACKAGE AVAILABLE WITH:
20 MEGABYTE HARD DRIVE \$1798
30 MEGABYTE HARD DRIVE \$1898
40 MEGABYTE HARD DRIVE \$1998



PANASONIC PRINTERS

- KXP-1180i
- KXP-1124
- KXP-119i
- KXP-1524
- KXP-1002i
- KXP-1592

FULL LINE OF PANASONIC PRINTERS GREATLY DISCOUNTED



EPSON PRINTERS

- LX-810
- LQ-850
- LQ-510
- LQ-950
- FX-1050
- LQ-1050

FULL LINE OF EPSON PRINTERS GREATLY DISCOUNTED



LASER PRINTERS

- HEWLETT PACKARD HP Laser Series II
- HEWLETT PACKARD Desk Jet
- PANASONIC KXP-4450 Laser
- STAR Laser Printer B

FULL LINE OF LASER PRINTERS GREATLY DISCOUNTED



LAPTOP COMPUTERS

- Toshiba 1000
- NEC Multispeed
- Toshiba 1200
- NEC Ultra Lite
- Toshiba 1600
- Zenith Supersport
- Toshiba 3200

COMMODORE HARDWARE SOFTWARE

- 64 C COMPUTER
- 1280 COMPUTER
- 1541 DISC DRIVE
- 1581 DISC DRIVE
- 1700 EXPANDER
- 1660 MODEM
- 1670 MODEM
- 1084 MONITOR
- 1084-S MONITOR

SOFTWARE FOR IBM

- WordPerfect
- Q & A
- LOTUS 1-2-3
- DAC Easy
- QUATTRO
- WINDOWS
- WordStar
- D BASE III
- Ventura
- BUSINESS WORKS PC

CALL TOLL FREE **1-800-451-9780**

NEW YORK STATE RESIDENTS CALL (212) 695-7133

CUSTOMER SERVICE CALL (212) 967-2353 FAX (212) 695-0982
MON. - SAT. 9:30 AM - 7:00 PM SUNDAYS 10:00 AM - 6:00 PM
ALL SYSTEMS AVAILABLE WITH: 20/30/40/60/80 HARD DRIVES

•ALL SYSTEMS SUPPORT MGA/CGA/VGA/MULTISCAN



Use M.C. Visa, AMEX or send money order, certified checks. All merchandise brand new factory fresh. Shipping charges non-refundable. Minimum shipping and handling \$9.99, maximum \$50.00. Shipping costs reflect individual packaging. Air shipping additional. For mail orders please call before sending in money order. All prices subject to manufacturers increase/decrease. Refunds within 7 days only with original packaging & unfiled guarantee card. No returns accepted without prior verbal authorization. Customer service between 12 pm & 6 pm. Pictures are for illustration purposes only. Not responsible for typographical errors. Consumer Affairs License No. BDD 253



NEW PRODUCTS

M I C K E Y M C L E A N A N D R I C H A R D K E L L E Y

Printer Has Up-Front Intelligence

With 75 functions controlled by Command-Vue and its liquid-crystal display, Citizen's GSX-140 eliminates the need for DIP switches. The 24-pin dot-matrix printer outputs 192 characters per second (cps) in high-speed draft mode and 64 cps in letter-quality mode. The Command-Vue control panel manages all print features, including font, pitch, layout, color, and emulations.



Control 75 functions from the GSX-140 panel.

In addition, the printer features continuous paper tear-off, a top-of-form feature, paper parking and a paper guide for single-sheet printing, and storage for up to 25 print settings. The GSX-140, which comes with an accessory utility disk, retails for \$499 and carries a two-year parts-and-labor warranty.

Citizen America, 2401 Colorado Ave., Suite 190, Santa Monica, CA 90404

Circle Reader Service Number 200.

Cave Games on PCs

Travel back to the age before fire and Olympic flames. Electronic Arts announced the release of an IBM PC and compatibles version of *Caveman Ugh-Lympics*. Choose from six prehistoric competitors, each with their own unique abilities, and battle it out in six somewhat athletic and humorous Olympic-style events.

Master the overhead smash and the knee swing in the Clubbing event.

While Dino-Vaulting, an unsuccessful attempt turns your competitor into tyrannosaurus lunch. Unsportsmanlike conduct abounds in the Sabertooth Tiger Race, and in the Mate Toss, you heave your own partner. Rub your sticks the fastest to win in Firemaking, but beware of your opponent's club. The competition all climaxes with the challenging Dinosaur Race.

The suggested retail price for the IBM PC and compatible version of *Caveman Ugh-Lympics* is \$29.95. The original Commodore 64/128 version also sells for \$29.95.

Electronic Arts, 1820 Gateway Dr., San Mateo, CA 94404

Circle Reader Service Number 201.

Samurai Warrior

Experience the atmosphere, intrigue, and danger of feudal Japan in *Sword of the Samurai*, a fantasy role-playing game from MicroProse.

You attempt to guide an ambitious young samurai up the military and social ladder in pursuit of the all-powerful shogun title. The climb to power isn't an easy one. You must combine political savvy and battle strategy to defend your life and honor—especially important in 16th-century Japan—against like-minded ambitious rivals.

A far cry from John Belushi's samurai antics on "Saturday Night Live," *Sword of the Samurai* is accented with authentic Japanese graphics, music, and art. A combination of text windows and battle screens reveals the action, which features three types of combat: classic army land battles, melee screens where the player takes on opponents, and one-on-one samurai sword fights.

The game requires 384K of RAM and supports CGA, EGA, Tandy 16-color, and Hercules monochrome graphics, as well as the Ad Lib and Innovation sound boards. The program can be installed on a hard disk and uses a key-disk copy-protection routine. A joystick is optional.

Sword of the Samurai has a sug-

gested retail price of \$54.95.

MicroProse, 180 Lakefront Dr., Hunt Valley, MD 21030

Circle Reader Service Number 202.

Birdies, Bogies, and Pars

For aspiring Arnold Palmers or the average weekend duffers who want to improve their game, 1 Step Software has announced the introduction of *Golf Statkeeper* for IBM PCs and compatibles and the Macintosh. The program tracks performance in areas such as driving accuracy, greens in regulation, putting, chip- and trap-save percentages, and birdie conversions.



Track your game with *Golf Statkeeper*.

It stores statistics for as many as eight golfers on 24 courses. You can review your game by performance on each hole, for each course played, or on a yearly basis.

Golf Statkeeper calculates golfers' current U.S.G.A. handicaps and compares their performance with those of other golfers recorded in the program. It also records information about the course and weather conditions and tabulates overall wins and losses by opponents. The program retails for \$49.95.

1 Step Software, 510 Griffith Rd., Charlotte, NC 28217

Circle Reader Service Number 203.

UNITED COMPUTER EXPRESS

724 7 AVE, NEW YORK CITY, NEW YORK 10019

800-448-3738 212-397-1081

ALL UNITS ARE TESTED AND FORMATED BEFORE SHIPPING

IBM

IBM

EPSON

EPSON



ORIGINAL IBM XT 26 PC. PACKAGE
IBM AT CPU + Keyboard 477 MHz-360K Floppy Drive Expandable to 640K 12" Computer Monitor Software bundle 10 Diskettes Disc Drive Head Cleaner

\$718

26 PC. PACKAGE AVAILABLE WITH:	\$918
20 MEGABYTE	\$968
30 MEGABYTE	\$1018
40 MEGABYTE	CALL
60 MEGABYTE	CALL



ORIGINAL IBM AT 26 PC. PACKAGE
IBM AT CPU + Keyboard 1.2mg Floppy Drive 12" Computer Monitor Software bundle 10 Diskettes Disc Drive Head Cleaner

\$1318

26 PC. PACKAGE AVAILABLE WITH:	\$1518
20 MEGABYTE	\$1568
30 MEGABYTE	\$1618
40 MEGABYTE	CALL
60 MEGABYTE	CALL



EQUITY I + IBM XT COMPATIBLE 26 PC. PACKAGE
Equity 1+ CPU + Keyboard 360K Floppy Drive 12" Computer Monitor Software bundle 10 Diskettes Disc Drive Head Cleaner

\$588

26 PC. PACKAGE AVAILABLE WITH:	\$798
20 MEGABYTE	\$848
30 MEGABYTE	\$898
40 MEGABYTE	CALL

EPSON IE 26 pc. Package \$748

EQUITY II + IBM AT COMPATIBLE 26 PC. PACKAGE
Equity 11+ CPU + Keyboard 1.2mg Floppy Drive 12" Computer Monitor Software bundle 10 Diskettes Disc Drive Head Cleaner

\$1028

26 PC. PACKAGE AVAILABLE WITH:	\$1288
20 MEGABYTE	\$1338
30 MEGABYTE	\$1388
40 MEGABYTE	CALL
60 MEGABYTE	CALL



PANASONIC

VENDEX

IBM

NEC



PANASONIC FX-1650 IBM XT, PC, PS-2 Compatible 26 pc. Package
Panasonic CPU + Keyboard 640K RAM • 3 1/2" 720K Floppy Drive • 12" Computer Monitor • Software Bundle • 10 Diskettes • Disc Drive Head Cleaner

\$728

Available with Seagate 20mg Hard Drive \$988

VENDEX Head Start III

- 12 MHz
- 1 mg Ram
- 5 1/4 1.2 mg Floppy Drive
- 3 1/2 1.44 mg Floppy Drive
- 32. mg Hard Drive
- 3 Expansion Slots
- VGA System
- Mouse/Software Bundle

\$2288

VENDEX HEAD START II
FEATURES INCLUDE: 640K Ram 3 1/2" Drive 3 1/2" Drive 8088 Processor 477 10 Megabyte
CALL FOR NEW LOW PRICES!

Original IBM At 26 pc. Pro Package

- 80286 Processor
- 640K Memory
- 5 1/4 1.2 meg Floppy Drive
- 3 1/2 1.4 meg Floppy Drive
- Seagate 40 meg Hard Drive
- 8 Expansion Slots
- VGA Hi Res. Video Card
- VGA Hi Res. Color Monitor
- 3 Button Mouse
- Panasonic KXP-1124
- Cable
- Desk Top Outliner Word Processor
- Spread Sheet, Graphics Data Base, Communicator
- 10 Diskettes/Cleaner
- Disc Holder/70 Disc Storage

\$2948

Available w/20, 30, Hard Drive Systems

EPSON 386 IBM AT Compatible 26 pc Package

- Features:
- 20 MHz • 40 mg Hard Drive
 - 1 mg Ram • 1.2 meg Floppy Drive
 - 12" Computer monitor • Software bundle • 10 Diskettes • Disc Drive Head Cleaner

\$2868



COMMODORE

Commodore PC 40-III IBM At Compatible 26 Pc. Package

- 12 MHz
- 1 mg RAM
- 40 mg Hard Drive (19 ms) High Speed
- VGA Adapter Card
- VGA Color Monitor



Call For Very Low Systems Price

Commodore PC 10-1 IBM XT Compatible 26 pc. Package

Available w/20, 30, 40 mg Hard Drive Systems
2 Floppy \$578

COMPAQ

DeskPro 286 640K-12MHz	\$1628
DeskPro 286E 1MB-12MHz	\$1838
DeskPro 386S 1MB-16MHz	\$2388
DeskPro 386-20e 1MB-20MHz	\$3688
DeskPro 386-33 w/84MB H/D-33MHz	\$7488

NEC

Powermate I	640K-10MHz	\$988
Powermate 1+	640K-12MHz	\$1238
Powermate II	640K-10MHz	\$1188
	2MB Ram-16MHz	
Powermate II 386SX	42mg H.D.	\$2268
Powermate II 386-20M	2MB Ram-20MHz	\$3588

SEAGATE 20, 30, 40 60 80MB HARD DRIVES IN STOCK!

EVEREX CALL

WE CARRY A FULL LINE OF BUSINESS AND PORTABLE FAX MACHINES

PRINTERS

EPSON	LX 810	\$175	1092B	\$285
	LD 510	\$325	KXP 1524	\$499
	LD 500	\$299	KXP 1595	\$405
	FX 850	\$335	KXP 1124	\$319
	FX 1050	\$425	KXP 1180	\$175
	LD 850	\$515	KXP 1191	\$225
	LD 950	\$565	KXP 3131	\$315
	LD 1050	\$725	KXP 4450	\$1399
	LD 2550	\$899		
STAR	NX 1000	\$179	HEWLETT PACKARD	
	NX 1000 Rainbow	\$219	HP Desk Jet Printer	\$395
	NX 2400	\$319	HP Desk Jet Plus	\$695
			HP Paint Jet Printer	\$1075
			HP Laser Jet II D	\$2819
NEC	P 2200	\$335	LASER JET SERIES II	
	P 2500	\$485	HP Laser Jet II D	\$1599
	P 5300	\$645	1MG RAM EXPANDER	\$295
			2MG RAM EXPANDER	Call

AMIGA

Amiga 2000: 1 meg RAM 3.5 Floppy	\$1418
Amiga 2000 HD: 1 meg RAM 40 meg H/D 3.5 Floppy	\$1978
Amiga 2500: 3 meg RAM 40 meg H/D 3.5 Floppy	\$3148
Amiga 500: 512K 3.5 Floppy	\$525
501 RAM ???	Call
IBM Bridge Board	Call
10845 Monitor	Call
Amiga 1010 Drive	Call

COMPUTER ACCESSORIES

Surge + Spike Suppressor	\$30
Disk Storage Box 10-70	\$10
5 1/4 Floppy Drive	Call
3 1/2 Floppy Drive	Call
3 Button Mouse	\$89
Fax Paper	\$10
101 Key Boards	\$99
Portable Cable	Call
Hand Scanner	Call
Page Scanner	Call
Printer Stand	\$19
Monitor Stand	\$19
1200/2400 Internal & External Modem	Call

LEADING EDGE

MODEL D 2 IBM AT COMPATIBLE 26 PC. PACKAGE	\$898
Model D2 CPU + Keyboard 1.2mg Floppy Drive 12" Monitor Software bundle 10 Diskettes Disc Drive Head Cleaner	
Available w/20, 30, 40 mg Hard Drive Systems	
MODEL D IBM XT COMPATIBLE 26 PC. PACKAGE	\$588
Model D CPU + Keyboard 512K 360K Floppy Drive 477713 MHz 12" Monitor Software bundle 10 Diskettes Disc Drive Head Cleaner	

ALL IBM COMPATIBLE COMPUTERS AVAILABLE WITH 20/30/40/60/80 HARD DRIVES ALL SYSTEMS SUPPORT MGA/CGA/VGA/MULTISCAN PACKAGE DEALS AVAILABLE ON ALL SYSTEMS!!

OPEN 7 DAYS A WEEK FROM 9-7
CALL TOLL FREE 1-800-448-3738 NY RESIDENTS/INFO CALL (212) 397-1081

United Computer Express is a New York City based computer store and service center. We carry a full line of IBM compatible computers, monitors, printers, modems, and software. We also offer a wide variety of computer accessories and services. Our staff is trained and experienced in all aspects of computer technology. We are located at 724 7 Ave, New York City, NY 10019. For more information, call 800-448-3738 or 212-397-1081. Shipping and handling charges are extra and are subject to change without notice.

FAX NUMBER (212) 397-3056

Graphic Wars

Bröderbund has announced that *The Ancient Art of War* and *The Ancient Art of War at Sea* now support Tandy-16 color, EGA, and VGA graphics.

To upgrade your old version, send your name, address, and upgrade type to Bröderbund. Free upgrades are available to owners who order an upgrade within 90 days of purchasing the games. Eligible owners must send a copy of their dated sales receipt.

All other owners may obtain upgrades by sending a sales receipt, the proof-of-purchase tab from the manual's warranty page, or the program disk, and a check or money order for \$7.50.

Bröderbund Software—Direct, P.O. Box 12947, San Rafael, CA 94913-2947

Circle Reader Service Number 204.

Advantage Accolade

Accolade has announced the addition of three new games to its budget-priced Advantage line. All three are available on IBM PC and Commodore 64/128 floppy disks.

The new lineup includes *Mental Blocks*, a strategic beat-the-clock collection of brain teasers; *Harrier 7*, an action-arcade air-combat game that

features missions in a Harrier fighter jet; and *Frightmare*, which takes you through 80 different levels of your worst nightmare. All three have suggested retail prices of \$14.95.

Accolade, 550 S. Winchester Blvd., Suite 200, San Jose, CA 95128

Circle Reader Service Number 205.

New Tune from Emerson Radio

Emerson Radio has introduced a new user-interactive personal computer line designed to make computing more personal by instructing users with a simulated human voice.

The Emerson 8000EC, a line of 10-MHz 8088-powered XT compatibles, comes equipped with 768K of RAM and an 8087 math-coprocessor socket. In addition, the 8000EC line offers built-in CGA or Hercules graphics, room for two 3½-inch or two 5¼-inch disk drives, DOS 3.3 in ROM with voice instructions, a parallel and a 9-pin serial interface, a 101-key AT-style keyboard, bundled applications software, and hard disk expansion options up to 40 megabytes.

Joining the Emerson 8000EC will be the 8286EC AT compatibles, which feature a 16-MHz 80286 processor

with a math coprocessor socket along with 1MB of RAM, expandable to 8MB on the motherboard. Other features include DOS 3.3; Borland's *Turbo Pascal 5.0*; a 32-voice/music and male/female voice-synthesizer chip; a built-in floppy controller that supports two devices; and room for one 3½- and three 5¼-inch disk drives. EGA, VGA, and Hercules video graphics and two 9-pin serial ports are available as options.



Emerson's PCs feature instruction by voice.

Emerson's 8386EC model includes all the features of the AT-compatible computer while offering additional power with a 16-MHz 80386-SX processor complete with a socket for an 80387SX math coprocessor and a Phoenix BIOS with disk cache and diagnostics.

The suggested list price for the Emerson XT line is \$999. The AT list price is \$1,599, and the suggested price for the 386EC is \$1,999.

Emerson Radio, One Emerson Ln., N. Bergen, NJ 07047

Circle Reader Service Number 206.

MicroProse Gets Tanked

MicroProse has hit the battlefield running with the release of *M1 Tank Platoon*, a combat simulation that puts you in charge of four tanks and 16 soldiers.

Based on the 63-ton M1 Abrams tank, the simulation allows you to call infantry, helicopters, jets, artillery, and other tanks for assistance in covering a 16,000-acre battlefield. As commander, you have 12 sets of orders to assign your personnel, all of whom have distinct personalities and differing levels of ability.

The rolling terrain resembles West Germany and is presented through filled polygons that create 3-D graphics effects. The hard disk-installable pro-

THE NEW TESTAMENT GAME THE OLD TESTAMENT GAME

GUARANTEED NONDENOMINATIONAL

3 Game Levels make learning Fun for all ages!

EDUCATIONAL FOR KIDS

FUN FOR YOUTH

CHALLENGING FOR ADULTS

Nearly 300 Bible Passages per game

COLORFUL! ENRICHING!

For fastest service, send check or money order for **\$29.95 each** plus \$3.00 shipping/handling to:

The Family Jewels

1800 Robertson Blvd., Suite 335
Los Angeles, California 90035

IBM 3 1/2" disks available for an additional \$2.00 per game.

Latter-day Saints: Please request a copy of our brochure detailing our special LDS product line.

NOT TRIVIA - NO PRIOR KNOWLEDGE NEEDED

Hardware Systems Supported:

100% IBM Compatible

MS-DOS 2.1 or higher
Color monitor preferred,
Monochrome monitor also supported

Commodore 64/128

C64 or C128 with color TV or monitor
C128 with 80 column monitor
1541 or 1571 (5 1/4") disk drive only

To charge your order on Visa or MasterCard, call toll-free
(800) 999-6095 ext. 316, 8am - 8pm Eastern Time
(California and Idaho residents, please add sales tax.)

Circle Reader Service Number 143

gram is available for IBM PCs and compatibles and supports VGA/MCGA, EGA, CGA, Tandy 16-color, and Hercules graphics. The program requires 384K, and a joystick is optional. The suggested retail price is \$69.95.

MicroProse, 180 Lakefront Dr., Hunt Valley, MD 21030

Circle Reader Service Number 207.

How to Survive College

College Bound and *College Life* focus on, respectively, preparation for and adjustment to college life.

These two MCE releases cover many facets of the collegiate experience, though not those of the *Animal House* crowd. *College Life* describes college classes and offers tips on writing papers and taking tests. *College Bound* takes a more social approach, offering advice on how to cope with homesickness, roommates, and finding new friends.

Both packages include a program disk, backup disk, and teacher's manual. Priced at \$82.50 each, they are available for Apple II's and IBM PCs and compatibles.

MCE, Lawrence Productions, 1800 S. 35th St., Galesburg, MI 49053-9687

Circle Reader Service Number 208.

Three Steps to a Complete Home Office

Encore Software has released a line of software designed to provide a complete home office environment.

Home/Office Plus handles eight office tasks: word processing, database management, single-page publishing, drawing, diary entry, mailing-list maintenance, rolabase use, and dictionary access. The program retails for \$59.95.

Home/Office Publisher is a page-layout program that allows you to creatively design and edit single pages or produce long documents with an automatic makeup feature. The program features a WYSIWYG graphics display and supports laser and dot-matrix printers. It retails for \$49.95.

Home/Office P.A.L. is a nine-disk collection of over 500 low- and high-resolution art images. The program's combination of Paintbrush, .PCX, and .PCC formatting makes it compatible with a variety of desktop publishing, presentation, and graphics software. The program retails for \$39.95.

All three programs are available for IBM PCs and compatibles.

Encore Software Publishers, 1237 E. Warner Ave., Santa Ana, CA 92705

Circle Reader Service Number 209.

SILICON EXPRESS DISKS
 SS/IDD 4.95
 DS/IDD 5.95

VERBATIM OR MAXELL
 SS/IDD 9.95
 DS/IDD 10.95

DISK STORAGE
 7.95

DISK NOTCHER
 3.95

YOUR TOLL FREE ACCESS CALL...FOR THE BEST PRICES...BEST DELIVERY
1-800-999-6868
 FAX NUMBER 614-927-0052
 We have hundreds of other programs in stock at Fantastic savings.

SILICON EXPRESS

3D Helicopter Sim	13.95	Gold Rush	27.95	Paradox	483.95	Word Problems	29.95
8-in-1	36.95	Grammar Gremlins	28.95	PC Tools Deluxe	47.95	St. Sport Basketball	13.95
Ability	58.95	Grand Prix Circuit	27.95	Peachtree II	159.95	Street Sport Soccer	13.95
Ability Plus	148.95	Grand Slam Bridge	41.95	PFS: File Prof.	189.95	Summer Games II	12.95
Adv. Flight Trainer	30.95	Gunship	38.95	PFS: Plan Prof.	69.95	Superkey	69.95
Algebra	28.95	Harvard Graphics	299.95	PFS: Write Prof.	158.95	Superstar Soccer	27.95
Alphabet Zoo	20.95	Heroes of Lance	27.95	Pirates	30.95	Tangled Tales	20.95
Ancient Art of War	30.95	Hunt for Red Oct.	34.95	Platoon	27.95	Symphony	489.95
Anc. Art of War/Sea	30.95	Imposs. Mission II	13.95	Police Quest I or II	31.95	Term Paper Writer	34.95
At Liberty	114.95	Imword	58.95	Pool Of Radiance	35.95	Test Drive	23.95
Autoduel	27.95	Jack Nicklaus Golf	34.95	Print Magic	38.95	Test Drive II	29.95
Azure Bonds	34.95	Jeopardy	32.95	Print Master Plus	31.95	The Games Sum. Ed.	34.95
Balance of Power	29.95	Jordan vs Bird	32.95	Print Shop Comp.	30.95	The Games Wint. Ed.	34.95
Bank St. Writer Plus	54.95	Karateka	6.95	P. S. Graph 1, 2 or 4	21.95	Thexder	24.95
Bar's Tale 1 or 2	32.95	Kids on Keys	20.95	Print Shop Party	23.95	Think Quick	34.95
Battle Chess	34.95	Kidwriter Gold	34.95	Print Shop Sampler	23.95	Three Stooges	24.95
Battle Hawks 1942	32.95	Kinderscomp Gold	27.95	Print Shop Organizer	14.95	Turbo Batog	64.95
Battle-Tech	32.95	Kings Quest 1, 2, 3 or 4	29.95	PT 109	34.95	Turbo C	99.95
Beyond Zork	10.95	Labies, Labies, Labies	28.95	Publish It	129.95	Turbo Graph. Tibx	75.95
Black Cauldron	27.95	Leather Goddess	10.95	Publish-It 4 In 1	79.95	Turbo Lighting	64.95
California Games	24.95	Leisure Suit Larry I	24.95	Publish-It Fonts	24.95	Turbo Pascal 5.0	99.95
Carbon Copy	118.95	Leisure Suit Larry II	34.95	Publish-It Font Pak	24.95	Turbo Pscil. Dthc. Tibx	75.95
Card Shark	9.95	Lotus Runner	6.95	Q & A	229.95	Turbo Porlog	109.95
Carman Sndigo Wrid	25.95	Lotus 1-2-3	319.95	Quattro	158.95	Turbo Tutor 4.0	49.95
Carman Sandigo USA	27.95	Mace Utilities	57.95	Quicken	41.95	Twin	64.95
Carman Sandigo Eropo	27.95	Magic Mirror	58.95	R Base For DOS	469.95	Typing Made Easy	34.95
Carman Sandigo Time	29.95	Magic Spells	27.95	Rampage	24.95	Typing Tutor IV	30.95
Certificate Maker	23.95	Man Hunter	34.95	Read 'N' Roll	28.95	Ultima IV or V	39.95
Certificale Lib #1	18.95	Man the Market	88.95	Reader Rabbit	24.95	Uninvited	27.95
Champ. Basketball	27.95	Man. Your Money	124.95	Reading & Me	27.95	Up Periscope	23.95
Chart Master	229.95	Maniac Mansion	31.95	Reading Compre	29.95	V.P. Expert	139.95
Chessmaster 2100	34.95	Master Type	25.95	Reflex: Database	105.95	V.P. Info	54.95
Children's Writing	39.95	Math & Me	20.95	Remote	105.95	V.P. Planner	54.95
Communicator	20.95	Math Blaster +	28.95	Resume Writer Kit	27.95	V.P. Planner Plus	149.95
Concentration	9.95	Math Blast: Mystery	28.95	Right Writer	64.95	Ventura Publisher	529.95
Copy II PC	24.95	Math Rabbit	24.95	Ricky's Boots	34.95	Vocab. Develop	29.95
Crosstalk XVI	107.95	Mathzmaze	27.95	Roger Rabbit	27.95	Webster Baseball	34.95
Crossword Magic	29.95	Mathis Beacon	32.95	Running Start	27.95	Webster Spell. Check	41.95
Cubit	41.95	Mean 18	29.95	Sargon 4	37.95	Wheel of Fortune	10.95
DAC Easy Acct.	60.95	Memory Mate	44.95	SAT	27.95	Will Maker	39.95
DAC Easy Acct. Tutor	18.95	Microsoft C	315.95	Science Tool Kit	55.95	Willow	27.95
DAC Easy Bonus Pk.	122.95	Microsoft Excel	314.95	Scrabble	31.95	Winter Games	12.95
DAC Easy Database	30.95	Microsoft Learn DOS	34.95	Scruples	31.95	Wizardry I	36.95
DAC Easy Grph & Mate	60.95	Micrsoft. Micro Asmblr	96.95	Sidekick	54.95	Wizardry II	32.95
DAC Easy Light	42.95	Microsoft Pageview	34.95	Sidekick Plus	133.95	Wizardry III	32.95
DAC Easy Payroll	60.95	Microsoft Quick C	67.95	Sideways	41.95	Wizardry IV	32.95
DAC Easy Payroll Tutor	18.95	Micro. Quick Basic	67.95	Sign Master	154.95	Word Attack Plus	27.95
DAC Easy Word II	30.95	Micro. Windows 286	66.95	Silent Service	13.95	Word Perfect	238.95
DBASE III +	419.95	Micro. Windows 386	130.95	Silpheed	24.95	Word Publisher	41.95
DBASE IV	509.95	Microsoft Word	233.95	Skate or Die	27.95	Wordstar Pro	238.95
DB. of the Crown	27.95	Microsoft Works	119.95	Software Carousel	49.95	World Class Ldr. Bd.	35.95
Deluxe Paint II	49.95	Might & Magic I or II	32.95	Space Quest 1 or 2	31.95	World Games	12.95
Design CAD	168.95	Millionaire II	39.95	Space Quest 3	38.95	Writer Rabbit	31.95
Design CAD 3D	219.95	Mini Putt	25.95	Speed Reader II	41.95	X-Tree Pro	38.95
Designasaurus	23.95	Multimate Advntg. II	299.95	Speed Reading IV	27.95	X-Tree Trilogy	68.95
Desktop	20.95	News Master II	47.95	Spell It	27.95	Y-Zak	34.95
Desoview	78.95	Newsroom	13.95	Spin Rite	54.95	Clock Pro	41.95
Diagram Master	198.95	Newsroom Profes.	27.95	Splash	69.95	Copy II Opt. Bd. Dlx	129.95
Disk Optimizer	41.95	Norton Commander	55.95	Spring Board Pub.	94.95	Epyx Joystick 500XJ	27.95
Dollars & Sense	98.95	Norton Utilities	64.95	Starfleet II	41.95	Flightstick	54.95
Double Dragon	27.95	Norton Utilities Adv.	89.95	Starflight	34.95	Gamecard Plus	36.95
Double DOS	41.95	Noteworthy	55.95	Stickybear Alphabet	29.95	Gmcd. Plus w/Y-Cbl	48.95
Downhill Challenge	20.95	One Minute Mgr.	69.95	Math 1 or II	24.95	Kraft Joystick 3 But.	33.95
Early Games	20.95	Page Perfect	258.95	Numbers	24.95	Kraft KCIII Joystick	20.95
Easy as ABC	27.95	Paperboy	27.95	Parts of Speech	29.95	Logi Tech Mouse	75.95
EGA Paint	69.95			Reading	24.95	Mach III Joystick	34.95
EGA Paint 2005-F	62.95			Reading Comp.	29.95	Microsoft Mouse	114.95
Empire	34.95			Spellgrabber	29.95	No Slot Clock	36.95
Eureka: The Solver	119.95			Typing	29.95	Scanman	255.95
F-15 Strike Eagle	13.95						
F-16 Combat Pilot	34.95						
F-15 Strike Eagle II	37.95						
F-19 Stealth Fighter	48.95						
Facemaker Gold	27.95						
Falcon or Falcon AT	32.95						
Family Roots	169.95						
Fantavision	41.95						
Fastback	99.95						
Fastback Plus	109.95						
First Choice	109.95						
First Publisher	89.95						
Flight Simulator	34.95						
Fontasy	84.95						
Form Tool	58.95						
Fox Base Devel.	209.95						
Fraction Factory	20.95						
Fraction Fever	7.95						
Gauntlet I or II	27.95						
Gem Desktop. Pub.	199.95						
Gem Draw - Bundle	184.95						
Gen. Auto Converter	34.95						
Gen. Auto Dimen.	34.95						
Gen. CADD (Lev. 1)	34.95						
Gen. CADD (Lev. 2)	99.95						
Gen. CADD (Lev. 3)	197.95						
Generic Dot Plot	34.95						
Gertrude's Secret	27.95						

SILICON EXPRESS 1-614-927-9555
 50 E. Mill, Pataskala, OH 43062 OR TOLL FREE
 1-800-999-6868

Name _____
 Address _____
 City _____ State _____ Zip _____

Charge # _____ Exp. Date _____

QTY.	DESCRIPTION	PRICE

Computer Type _____ SHIPPING _____
 Phone No. _____ TOTAL _____

Add \$3.95 min. U.S. shipping. C.O.D. \$5 extra. Hawaii and Alaska \$7.00 min. Orders outside U.S. are not insured. Canada & Mexico 10% min. \$10.00. All other countries 30% min. \$30.00 MasterCard, Visa and school purchase orders accepted. Personal checks allow 3 weeks 6% sales tax for Ohio residents. Defective replaced within 20 days. Compatibility not guaranteed. Prices subject to change without notice.



HOTWARE

SOFTWARE BESTSELLERS FROM AROUND THE COUNTRY

HOME LEARNING

- 1. Mavis Beacon Teaches Typing**
Learn to touch-type.
Electronic Arts
Apple II, Apple IIgs, Commodore 64/128, IBM, Macintosh
- 2. Where in the World Is Carmen Sandiego?**
Chase Carmen around the world.
Broderbund
Amiga, Apple II, Apple IIgs, Commodore 64/128, IBM, Macintosh
- 3. Where in the USA Is Carmen Sandiego?**
The chase moves to the USA.
Broderbund
Amiga, Apple II, Commodore 64/128, IBM, Macintosh
- 4. Math Blaster Plus!**
Teaches basic math concepts.
Davidson & Associates
Apple II, Apple IIgs, IBM
- 5. Learning DOS**
Learn the ins and outs of DOS.
Microsoft
IBM
- 6. Reader Rabbit**
Helps children learn to read.
The Learning Company
Apple II, Commodore 64/128, IBM, Macintosh
- 7. Think Quick**
Children learn problem solving.
The Learning Company
Apple II, Apple IIgs, IBM
- 8. Children's Writing and Publishing Center**
A desktop publisher for kids.
The Learning Company
Apple II, Apple IIgs, IBM
- 9. Math Rabbit**
Builds children's early math skills.
The Learning Company
Apple II, Commodore 64/128, IBM, Macintosh
- 10. Mixed-Up Mother Goose**
Kids fix jumbled rhymes.
Sierra
Amiga, Apple II, Apple IIgs, IBM, Macintosh

HOME ENTERTAINMENT

- 1. Flight Simulator**
Head for the wild blue yonder.
Microsoft
IBM, Macintosh
- 2. The Duel: Test Drive II**
Fast-paced car racing.
Accolade
Amiga, Apple IIgs, Commodore 64/128, IBM, Macintosh
- 3. 688 Attack Sub**
Command a prowling sub.
Electronic Arts
IBM
- 4. Hardball!**
Major-league action.
Accolade
Amiga, Apple II, Apple IIgs, Commodore 64/128, IBM, Macintosh
- 5. Space Quest III**
Help Roger Wilco in space.
Sierra
Amiga, Apple IIgs, IBM, Macintosh
- 6. Falcon**
Fly your own F-16.
Spectrum HoloByte
Amiga, IBM, Macintosh
- 7. King's Quest IV**
Rosella must save her father.
Sierra
Amiga, Apple II, Apple IIgs, IBM
- 8. Indy—the Graphic Adventure**
Indiana Jones' last crusade.
Lucasfilm Games
Amiga, Commodore 64, IBM
- 9. TV Game Shows**
Compete in some of your favorites.
Share Data
Apple II, Commodore 64/128, IBM
- 10. ChessMaster 2100**
Board strategy that isn't boring.
Electronic Arts
Apple II, Apple IIgs, Commodore 64/128, IBM

HOME PRODUCTIVITY

- 1. The Print Shop**
Make banners and more.
Broderbund
Apple II, Apple IIgs, IBM; old version—Commodore 64/128, Macintosh
- 2. Calendar Creator Plus**
Create many different calendars.
Power Up
IBM, Macintosh
- 3. Managing Your Money**
Manage your checkbook and more.
MECA
Apple II, IBM, Macintosh
- 4. WillMaker**
Get help in writing a will.
Nolo Press
Apple II, IBM, Macintosh
- 5. PC PaintBrush IV**
Paint in every graphics mode.
Mediagenic
IBM
- 6. Art Gallery**
Tons of add-ons for PFS:First Publisher.
Software Publishing
IBM
- 7. Print Magic**
Design and print small documents.
Epyx
Apple II, IBM
- 8. Resume Kit**
Help for landing the right job.
Spinnaker
IBM
- 9. PC Globe +**
Explore world demographics.
Cornwell Systems
IBM
- 10. PrintMaster Plus**
Print posters, stationery, and more.
Unison World
Amiga, Apple II, Commodore 64/128, IBM



COMPUTE!'s Hotware lists were prepared by Egghead Discount Software and are based on sales from July 23 through August 19, 1989, at 204 Egghead stores in the United States and Canada.

COMPUTE!

THE CHOICE OF HOME
PC ENTHUSIASTS SINCE 1979

Subscribe now and save up to 66%
OFF the \$2.95 cover price.

NOW WITH
MORE
EMPHASIS
ON MS-DOS!

Term	Cover Price	Your Price	You Save
24 MONTHS	\$70.80	\$24.00	\$46.80
12 MONTHS	\$35.40	\$12.97	\$22.43

AS LOW AS
\$1.00
PER ISSUE

Check one: 2 Years (24 issues—\$24.00) 1 Year (12 issues—\$12.97)

FOR FASTER
SERVICE CALL:
1-800-727-6937
TOLL FREE

Mr /Mrs./Ms. (circle one) _____ (please print)

Street _____ Apt. No. _____

City _____ State _____ Zip _____

Basic rate \$19.94. Outside U.S., add \$6 per year for postage. Excluding Canada, all foreign orders must be in U.S. currency. Prices subject to change.

Check one:
 Payment enclosed
 Please bill me later

JNCS39



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

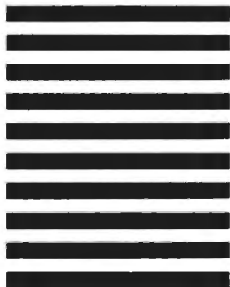
BUSINESS REPLY MAIL

FIRST CLASS MAIL PERMIT NO. 112 HARLAN, IA

POSTAGE WILL BE PAID BY ADDRESSEE

COMPUTE!

P.O. BOX 3244
HARLAN, IA 51593-2424



NEW

IN THIS ISSUE LOOK FOR COMPUTE!'s DEMO DISK DIRECTORY

NEW

Demo Disk Order List

ACTIVISION

- A1 Tongue of the Fatman MS-DOS 5 1/4
- A2 Tongue of the Fatman MS-DOS 3 1/2

BRITANNICA SOFTWARE

- B1 Archipelagos MS-DOS 5 1/4
- B2 Archipelagos MS-DOS 3 1/2
- B3 Desighasaurus MS-DOS 5 1/4
- B4 Desighasaurus MS-DOS 3 1/2
- B5 Jigsaw! (MCGA/EGA only) MS-DOS 5 1/4
- B6 Jigsaw! (MCGA/EGA only) MS-DOS 3 1/2

DATA EAST

- D1 Heavy Barrel MS-DOS 5 1/4
- D2 Heavy Barrel MS-DOS 3 1/2
- D3 Super Hang-On MS-DOS 5 1/4
- D4 Super Hang-On MS-DOS 3 1/2

ELECTRONIC ARTS

- E1 Abrams Battle Tank MS-DOS 5 1/4
- E2 Abrams Battle Tank MS-DOS 3 1/2
- E3 Chuck Yeager 2.0 MS-DOS 5 1/4
- E4 Chuck Yeager 2.0 MS-DOS 3 1/2
- E5 F-16 Combat Pilot MS-DOS 5 1/4
- E6 F-16 Combat Pilot MS-DOS 3 1/2
- E7 Keep the Thief MS-DOS 5 1/4
- E8 Keep the Thief MS-DOS 3 1/2

LUCAS FILM

- L1 Indy—The Graphic Adventure MS-DOS 5 1/4

MICROPROSE

- M1 Airborne Ranger MS-DOS 5 1/4
- M2 Airborne Ranger MS-DOS 3 1/2
- M3 Airborne Ranger Commodore 64
- M4 Dr. Doom's Revenge MS-DOS 5 1/4
- M5 Dr. Doom's Revenge MS-DOS 3 1/2
- M6 F-19 MS-DOS 5 1/4
- M7 F-19 MS-DOS 3 1/2
- M8 Gunship MS-DOS 5 1/4
- M9 Gunship MS-DOS 3 1/2
- M10 Gunship Commodore 64
- M11 Pirates! MS-DOS 5 1/4
- M12 Pirates! MS-DOS 3 1/2
- M13 Pirates! Commodore 64
- M14 Red Storm Rising MS-DOS 5 1/4
- M15 Red Storm Rising MS-DOS 3 1/2
- M16 Red Storm Rising Commodore 64

ORIGIN

- O1 Times of Lore MS-DOS 5 1/4
- O2 Times of Lore Apple 5 1/4
- O3 Times of Lore Commodore 64/128

RADIO SHACK

- R1 DeskMate MS-DOS 5 1/4 CGA
- R2 DeskMate MS-DOS 5 1/4 VGA
- R3 DeskMate MS-DOS 3 1/2

SIERRA ON-LINE

- S1 Colonel's Bequest MS-DOS 5 1/4
- S2 Colonel's Bequest MS-DOS 3 1/2

STRATEGIC SIMULATIONS

- S3 Curse of the Azure Bonds MS-DOS 5 1/4
- S4 Curse of the Azure Bonds MS-DOS 3 1/2

How to Order Your Demo Disks

Select the demo disks you wish to receive and check them off on the attached order list. Be sure to order the correct disk format. Enclose \$3.95 (\$4.95 for 3 1/2-inch disks) for each disk ordered and return your payment in this postage-paid envelope.

- 5-Disk Discount: Take \$3.00 off for every 5 disks you order.
- MasterCard or VISA accepted for orders over \$20.00.
- We'll pay the postage and handling.

Name _____

Address _____

City _____ State _____ ZIP _____

Disks ordered _____ Amount _____

Subtotal \$3.00 for every 5 disks _____

Subtotal _____

Sales Tax* _____

Delivery Outside U.S. or Canada _____

Total _____

MasterCard or VISA accepted for orders over \$20.00.

Credit Card #: _____

Expiration Date: _____

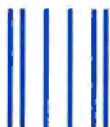
Signature: _____

*Residents of New York, Pennsylvania, and North Carolina add appropriate sales tax for your state. All orders must be paid in U.S. funds drawn on a U.S. bank. MasterCard or VISA accepted for orders over \$20.00. Please allow 4-6 weeks for delivery. For delivery outside the U.S. or Canada, add \$1.00 for surface mail or \$3.00 for airmail. Offer expires January 31, 1990.

NEW

**IN THIS
ISSUE
LOOK FOR
COMPUTE!'S
DEMO DISK
DIRECTORY**

NEW



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 2312 GREENSBORO, NC

POSTAGE WILL BE PAID BY ADDRESSEE

COMPUTE!'s Demo Disk Pack
P.O. Box 5188
Greensboro, NC 27499-2524



COMPUTE!'s FREE Reader Information Service

Use these cards to request FREE information about the products advertised in this issue. Clearly print or type your full name and address. Only one card should be used per person. Circle the numbers that correspond to the key number appearing in the advertisers index.

Send in the card and the advertisers will receive your inquiry. Although every effort is made to insure that only advertisers wishing to provide product information have reader service numbers, COMPUTE! cannot be responsible if advertisers do not provide literature to readers.

Please use these cards *only* for subscribing or for requesting product information. Editorial and customer service inquiries should be addressed to: COMPUTE!, P.O. Box 5406, Greensboro, NC 27403. Check the expiration date on the card to insure proper handling.

Use these cards and this address only for COMPUTE!'s Reader Information Service. Do not send with payment in any form.

COMPUTE!

Name _____

Address _____

State/Province _____ Zip _____

Country _____ Phone _____

1 What kind of computer do you own? IBM PC or compatible Tandy Amiga
261 262 263

Macintosh Apple II Commodore 64/128
264 265 266

2 How long have you owned your computer? _____ years _____ months
267 268

3 Do you use your computer mostly for playing games working at home
269 270

school work/learning?
271

4 What part of COMPUTE! do you read first? _____
272

5 Do you find COMPUTE!'s new design helpful in finding information you need? Yes No
273 274

6 How would you rate the quality of information in this issue of COMPUTE!? Average
275

Good Excellent
276 277

7 What one topic would you like to see covered in COMPUTE! during the coming year?
278

8 What other computer magazines do you read? PC Computing COMPUTE!'s Gazette
279 280

PC Resource Home Office Computing COMPUTE!'s PC Magazine
281 282 283

Personal Computing Other _____
284 285

9 What is your total household income? >\$30,000 \$5-30,000 \$1-5,000 <\$1,000
286 287 288 289

101	102	103	104	105	106
107	108	109	110	111	112
113	114	115	116	117	118
119	120	121	122	123	124
125	126	127	128	129	130
131	312	133	134	135	136
137	138	139	140	141	142
143	144	145	146	147	148
149	150	151	152	153	154
155	156	157	158	159	160
161	162	163	164	165	166
167	168	169	170	171	172
173	174	175	176	177	178
179	180	181	182	183	184
185	186	187	188	189	190
191	192	193	194	195	196
197	198	199	200	201	202
203	204	205	206	207	208
209	210	211	212	213	214
215	216	217	218	219	220
221	222	223	224	225	226
227	228	229	230	231	232
233	234	235	236	237	238
239	240	241	242	243	244
245	246	247	248	249	250
251	252	253	254	255	256
257	258	259	260		

Expiration Date 12/31/89

GA1189

Circle 101 for a one-year new subscription to COMPUTE! You will be billed for \$12.97.

SUBSCRIBE TO COMPUTE!

For Fastest Service,
Call Our Toll-Free
US Order Line
800-727-6937

- \$12.97 One Year US Subscription
 \$24.00 Two Year US Subscription

Name _____

Address _____

City _____ State _____ Zip _____

Payment Enclosed Bill me

Your subscription will begin with the next available issue. Please allow 4-6 weeks for delivery of first issue. Subscription price subject to change at any time. Outside U.S.A. please add \$6 for each subscription. Basic Rate \$19.94. Excluding Canada, all foreign orders must be in U.S. currency.

JNCS21

Place
Stamp
Here

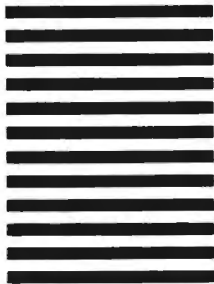
COMPUTE! Reader Service
P.O. Box 2141
Radnor, PA 19089



NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL
FIRST CLASS MAIL PERMIT NO. 112 HARLAN, IA

POSTAGE WILL BE PAID BY ADDRESSEE



COMPUTE!

P.O. BOX 3244
HARLAN, IA 51593-2424



The Stars Come Out in the NBA Playoffs...



LAKERS VERSUS CELTICS

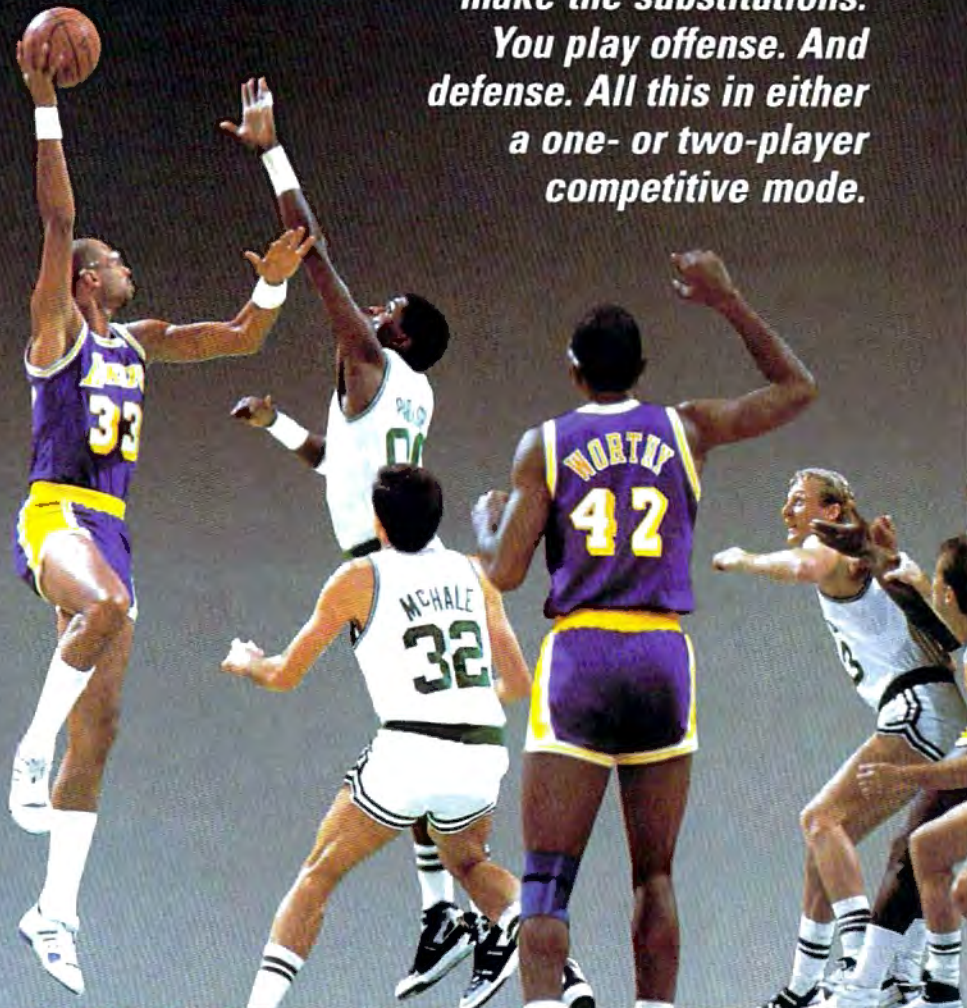
AND THE NBA PLAYOFFS™

By Robert Weatherby

... With All Their Signature Moves

- Kareem's patented skyhook
- Jordan's air show
- The Mailman delivers the jam
- Isiah drives the lane
- Bird hits the 3-pointer

And you control all the action.



Match up the "Teams of the Decade". Full court 5-on-5 with ten 1989 teams, including the East and West All-Stars.



Play single games or enter the playoff tournament. Real players. The top teams. Hope for an "easy" first round matchup.

How to Order:

1. Visit your local retailer.
 2. Phone with VISA/MC: USA or Canada 800-245-4525, Mon.-Fri. 8AM-5PM Pacific time.
 3. Send check or money order (US \$, US Bank) to Electronic Arts Direct Sales, P.O. Box 7530, San Mateo CA 94403. Add \$3.00 shipping and handling. CA orders add 7% sales tax. Allow 2-4 weeks when ordering by mail.
- IBM version \$49.95 (5 1/4" or 3 1/2" disks available). All screen shots represent actual IBM version. IBM is a registered trademark of International Business Machines, Corp.



THIS GAME COULD KILL YOU.



THE COLONEL'S BEQUEST

Roberta Williams, who brought you the King's Quest series, now takes you back to the 1920's for a spine-tingling murder mystery adventure deep in the bayous of Southern Louisiana! As Laura Bow, young college student, you've been invited to visit the isolated estate of Colonel Henri Dijon.

As the drama unfolds you must evade the dangers that await you as you explore the gloomy estate in an attempt to discover who is murdering the Colonel's guests, and why. Expose the killer before he or she strikes again, and survive the long night ... if you can!

Never before has a plot been so complex, or characters so well developed. The thrill and suspense of **THE COLONEL'S BEQUEST** is unprecedented in 3-D Animated Adventure Games.

Can you solve the mystery of **THE COLONEL'S BEQUEST**? Dare to find out!

Order **THE COLONEL'S BEQUEST** from your local software dealer, or call the Sierra Sales Department toll free at (800) 326-6654. Please have your credit card and other information ready.



SIERRA®

SIERRA ON-LINE, INC.

COARSEGOLD, CA 93614

(209) 683-8989

Circle Reader Service Number 164