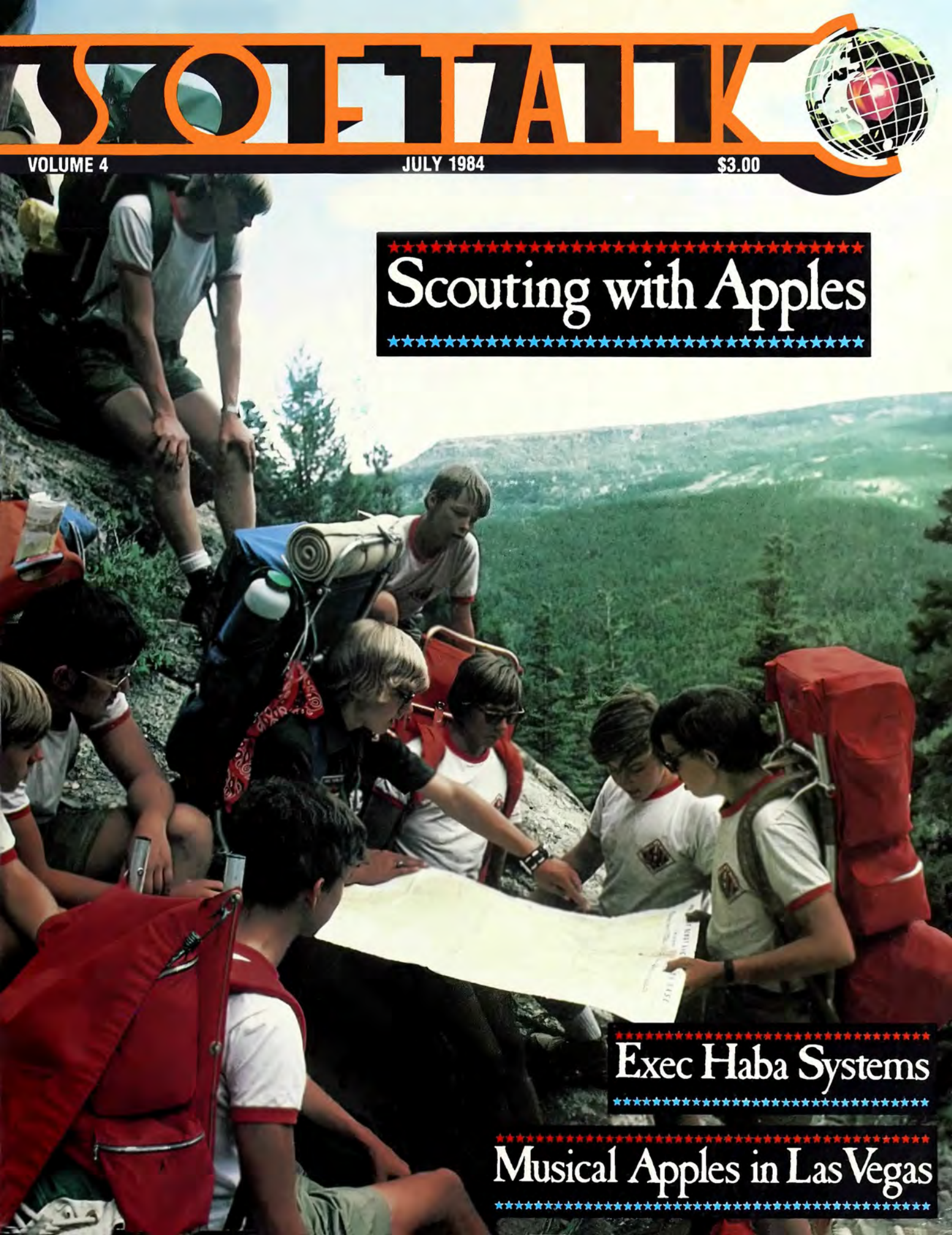
SOFTALK

VOLUME 4 JULY 1984 $3.00



# Scouting with Apples

## Exec Haba Systems

## Musical Apples in Las Vegas


ZORK
I


ZORK
II


ZORK
III


A LOCKED DOOR. A DEAD MAN.
And 12 Hours to solve the murder.
DOCUMENTARY EVIDENCE
DEADLINE

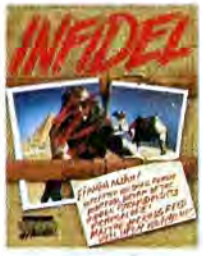

The WITNESS
SOMEBODY'S GOING TO TAKE THE DEEP SIX!


STARCROSS










# THE INCOMPLETE WORKS OF INFOCOM, INC.

Incomplete, yes. But it's not just because we're always bringing out new stories in the Infocom interactive fiction collection. Nor is it simply due to the fact that with all the writing and re-writing, honing and perfecting that we put into every one of our stories, our work is seemingly never done.

The real reason is: an Infocom work of fiction can never be complete until you become a part of it.

You see, as hard as we work at perfecting our stories, we always leave out one essential element—the main character. And that's where you enter in.

Once you've got Infocom's interactive fiction in your computer, you experience something akin to waking up inside a novel. You find yourself at the center of an exciting plot that continually challenges you with surprising twists, unique characters (many of whom possess extraordinarily developed personalities), and original, logical, often hilarious puzzles. Communication is carried on in the same way as it is in a novel—in prose. And interaction is easy—you type in full English sentences.

But there is this key difference between our tales and conventional novels: Infocom's interactive fiction is active, not passive. The course of events is shaped by the actions you choose to take. And you enjoy enormous freedom in your choice of actions—you have hundreds, even thousands of alternatives at every step. In fact, an Infocom interactive story is roughly the length of a short novel in content, but because you're actively engaged in the plot, your adventure can last for weeks and months.

In other words, only you can complete the works of Infocom, Inc. Because they're stories that grow out of your imagination.

Find out what it's like to get inside a story. Get one from Infocom. Because with Infocom's interactive fiction, there's room for you on every disk.

INFOCOM™

Infocom, Inc., 55 Wheeler Street, Cambridge, MA 02138

For your: Apple II, Atari, Commodore 64, CP/M®, DECmate, DEC Rainbow, DEC RT-11, IBM PC* and PCjr, KAYPRO II, MS-DOS 2.0*, NEC APC, NEC PC-8000, Osborne, Tandy 2000, TI Professional, TI 99/4A, TRS-80 Models I and III

*Use the IBM PC version for your Compaq, and the MS-DOS 2.0 version for your Wang or Mindset.

SOFTALK
July 1984



## Softly Comment

Softalk *takes the stand with opinion and commentary: Al Tommervik laments the Apple III's day of reckoning; Bert Kersey examines the impossible, inaccessible file-name generator; Steve Shendelman reviews reviewing; and Michael Berlyn ponders future adventuring* . . . 24

## Exec Haba Systems: Fame for the Fun of It

*Company profile: Chaz Haba has known and worked with some of the biggest names in computers. Now he's put his name on a software firm that's making waves.*

DAVID HUNTER . . . . . 32



# DEPARTMENTS

Advertisers' Index . . . . . Opposite Page
Beginners' Corner, by Todd Zilbert
*Disks, drives, DOS basics* . . . . . 57
Bestsellers . . . . . 123
Contest: If You Believe in *Softalk*, Clap Your Hands!
*Write the right slogan and win* . . . . . 4
Contest Winners
*Results of April's cipher contest; Oracle 500* . . . . . 6
DOStalk, by Tom Weishaar
*Secrets of the IIc, DOS text-file commands* . . . . . 41
Everyone's Guide to Assembly Language, by Jock Root
*The logic of input and output processing* . . . . . 115
Keys to the World, by Matt Yuen
*A look at ABBS, Net-Works, TBBS, CommuniTree* . . . . 97
Mac 'n' Lisa, by Kevin Goldstein
*Of mice and megabytes* . . . . . 121
Marketalk News
*Announcing new products and services* . . . . . 65
Marketalk Reviews . . . . . 79
Mind Your Business, by Peter Olivieri
*Of spreadsheets and database manners* . . . . . 61
Open Discussion
*Questions and answers· Taking it to the mailbox* . . . . 11
Tradetalk
*Industry news: Summer CES report and more* . . . . . 88

How Apple Put Training on a Disk
*An inside look at how Apple's User Education Group made* AppleWorks *easier for users to learn with computer-aided instruction.*
JONATHAN PRICE . . . . . 49

Boy Scout Apples
*Scouting has been around since the beginning of this century. It's as popular as ever, and now cheerfully reliable Apples are helping out.*
MICHAEL FERRIS . . . . . 72

Vegas Apples Are Beyond Belief
*Professional musician Tom Klem uses an Apple and a couple of synthesizers to perform music while the stars perform on-stage.*
ANDREW CHRISTIE . . . . . 104






On Our Cover: A boy's interest in Scouting directly relates to the amount of outdoor activity his troop is involved in. Photo courtesy Boy Scouts of America.

# PREVIEWS

**August Trailers . . . The 6502's Roar—Apples and MGM . . . Exec Electronic Arts . . . M.A.C. Gate, Part Two . . . Psychics and Apples explore the unknown . . . and more. . . .**

# INDEX OF ADVERTISERS


A B Computers . . . . . 110
Accelerated Logic . . . . . 59
Accent Software . . . . . 87
Action-Research Northwest . . . . . 107
Alf Copy Service . . . . . 52
A.P.P.L.E. . . . . 47,55
Applied Engineering . . . 45
Arrays, Inc./Continental Software . . . . . 64
Artic Technologies . . . . . 38
At Home w/Basics . . . . . 6
The Avalon Hill Game Company . . . . . 5
Baudville . . . . . 50
Beagle Bros . . . . . 100-101
Bluebush . . . . . 116
Borland International . 125
The Brady Communications Company . . . . . 7
Britco . . . . . 14
Bytes & Pieces . . . . . 44
Classified Ads . . . . . 18-23
Comark . . . . . 121
CompPro . . . . . 80
The Computer Colorworks . . . . . 117
Computer Discount Products . . . . . 54
Computerscope . . . . . 77
Computer Tax Service . . 68
Creative Computer Products . . . . . 106
Data Transforms . . . . . 69
Deluxe Computer Forms . . . . . 25
Dennison Computer Supplies . . . . . 63
DiNess Software . . . . . 84
Disk World . . . . . 92
Eastcoast Software . . . . 109
Epson America . . . . . 90-91
Eric Software . . . . . 82
Falcon Safety Products . . 8
FMJ . . . . . 86
Funk Software . . . . . 15
Garden of Eden Computers . . . . . 112
Gemini Info Systems . . . 66
Gourmet Software . . . . 108
Hayes Microcomputer . . . . . 98
Howard Software . . . . . 122
Humans . . . . . 99
Human Systems Dynamics . . . . . 26
Infocom . . . . . Cover 2-1
Inmac . . . . . 58
Interactive Microware . . 76
Kensington Microware . . . . . 10,75
Megahaus . . . . . 17
MicroPro . . . . . 81
Micro Ware . . . . . 36
Midwest Data . . . . . 118
Nibble Notch . . . . . 43
Northeastern Software . 119
Okidata . . . . . 103
Origin Systems . . . . . 13
Pacific Exchanges . . . . . 57
Penguin Software . . . . . Cover 4
Practical Peripherals . . . . 35,40,46
PractiCorp International . . . . . 93
Precision Data Products . . . . . 34
Programs Plus . . . . . 53
Psychological Psoftware . . . . . 67
PVI . . . . . 12
Quality Software . . . . . 126
Quark . . . . . 29
Quinsept . . . . . 61
Rems Software . . . . . 51
Rising Sun . . . . . 94
Satori Software . . . . . 62
Sensible Software . . . . . 124
Sir-tech . . . . . Cover 3
Smart Data . . . . . 16
Softalk . . . . . 27,113
Softdisk . . . . . 56
Solitaire . . . . . 102
Southern California Research Group . . . . . 37
Spectrum Software . . . . . 78
Spinnaker . . . . . 9
Strategic Simulations . . . 31
Street Electronics . . . . 30,95,111
SubLogic . . . . . 39
Sunburst . . . . . 120
Texprint . . . . . 42
Thunderware . . . . . 114
Tidbit Software . . . . . 83
Transend . . . . . 96
Trinity Press . . . . . 70
Turning Point . . . . . 60
Roger Wagner Publishing . . . . . 127
Xerox Education Publications . . . . . 71

# SOFTALK

**Publisher:** Al Tommervik
**Editor:** Margot Comstock Tommervik
**Art Director:** Kurt A. Wahlner

## Editorial Staff

**Senior Editor:** David Hunter. **Managing Editor:** Carol Ray. **Associate Editors:** Andrew Christie; David Durkee, *Programming*; Michael Ferris, *Product and Trade News*; Jean Varven; Matthew T. Yuen, *Reviews*. **Feature Editors:** Jock Root, *Hardware*; Todd Zilbert, *Letters*. **Market Research:** Lanny Broyles. **Copy Editor:** Cordell Cooper. **Assistant Copy Editor:** Judith Pfeffer. **Editorial Coordinator:** Betsy Barnes. **Proofreaders:** Harry McNeil; Steve Thomsen.

## Editorial Correspondents

**Contributing Editors:** Jim Merritt, *Pascal*; Peter Olivieri, *Business*; Greg Tibbetts, *Apple CP/M*; Tom Weishaar, *DOS*; Bill Budge, *Graphics*; Kevin Goldstein, *32-Bit Apples*. **Regional Editors:** Roe Adams, *East Coast*; John MacGibbon, *Australasia*. **Softalk Sages:** Doug Carlston, Bob Clardy, Roy Hicks, John Jeppson, Mark Pelczarski, Joe Shelton, Roger Wagner.

## Art

**Production Manager:** Donald J. Robertson. **Associate Art Director:** Lucas McClure. **Ad Production:** Michael G. Pender. **Assistant Production Manager:** Nancy Baldwin. **Assistant:** Ruth Seid.

## Softalk Publishing

### Business

**Chairman:** John Haller. **Associate Publisher:** Mary Sue Rennells. **Assistant Publisher:** Three Tyler. **Advance Projects:** Steve Shendelman. **Operations:** Marjorie Kaufman. **Director of Finance:** Chari Hilario. **Controller:** Duane Runyon. **Purchasing:** Gene O'Day. **Softalk Books:** Paul Mithra. **Siblings:** Craig Stinson, Editor, *Softalk for the IBM Personal Computer*; Patricia Ryall, Editor, *ST.Mac*.

### Advertising

**Coordinator:** Linda McGuire Carter. **Assistant:** Cathy Stewart. **West Coast Sales:** Randie James, *Softalk*; Mike Antich, *Softalk for the IBM Personal Computer*, *ST.Mac*. Softalk, 7250 Laurel Canyon Boulevard, North Hollywood, CA 91605; (818) 980-5074.
**East Coast Sales:** Ian Ross, Paul McGinnis Advertising Sales, 690 Broadway, Massapequa, NY 11758; (212) 490-1021.
**Midwest and Rocky Mountain Sales:** Ted Rickard, Bill Chalifoux, Kevin Sullivan, Market/Media Associates, 435 Locust Road, Wilmette, IL 60091; (312) 251-2541.

### Circulation

**Customer Service:** Michelle Vigneault-Kirschenbaum. **Subscriptions:** Jan Godoy-Aguiar, Barbara Naimoli, Josie Walley, Deirdre Galen, Anna Gusland, Ramona Gordon, Jill Stroud, Nancy Kelly. **Dealer Sales:** Lanny Broyles, Leticia Garcia. **Systems:** John Heitmann.

## Indicia

**Softalk**, Volume 4, Number 11. Copyright © 1984 by Softalk Publishing Inc. All rights reserved. ISSN:0274-9629. *Softalk* is published monthly by Softalk Publishing Inc., 7250 Laurel Canyon Boulevard, North Hollywood, California; telephone (818) 980-5074. Second-class postage paid at North Hollywood, California, and additional mailing offices.
**Credits:** Composition by Photographics, Hollywood, California. Printing by Volkmuth Printers, Saint Cloud, Minnesota. Apple, Applesoft, Macintosh, and Lisa are registered trademarks of Apple Computer Inc., Cupertino, California. *Softalk* is a trademark of Softalk Publishing Inc., North Hollywood, California.
**Postmaster:** Send address changes to Softalk, Box 7039, North Hollywood, CA 91605.
**Advertising:** Send ad material to Linda McGuire Carter, Softalk, 7250 Laurel Canyon Boulevard, North Hollywood, CA 91605.
**Free Subscriptions:** Complimentary six-month subscriptions to all owners of Apple II, II Plus, IIe, IIc, and III computers in the USA and Canada. If you own an Apple but you've never received *Softalk*, send your name, address, and Apple serial number with a request for subscription to Softalk Circulation, Box 7039, North Hollywood, CA 91605. Please allow six to eight weeks for processing. Softalk is totally independent of Apple Computer Inc; sending your warranty card to Apple Computer will not trigger a subscription to *Softalk*.
**Paid Subscriptions:** $24 per year. At the end of trial period, each subscriber will be notified; response is required only if you wish to continue receiving *Softalk*. Lack of response will be taken as your choice to discontinue the magazine. Special rates for schools and libraries, $12, concurrent additional subscriptions for schools and libraries, $8 each. Please allow six to eight weeks for processing.
**Back Issues:** $2 through February 1981; $2.50 through July 1981; $3.50 through September 1982; $4.00 thereafter. November and December 1980, January, February, March, September, October, and November 1981, and December 1982 are sold out. December 1981, February and May 1982, and February and December 1983 are in short supply.
**Moving?** Send new address and a label from a recent *Softalk* to Softalk Circulation, Box 7039, North Hollywood, CA 91605; telephone (818) 980-5074. Please allow six to eight weeks for processing.
**Problems?** If you haven't received your *Softalk* by the fifteenth of the month, or if you have other problems with your subscription, Michelle Vigneault-Kirschenbaum can help out. Call (818) 980-5074 or (800) 821-6231.





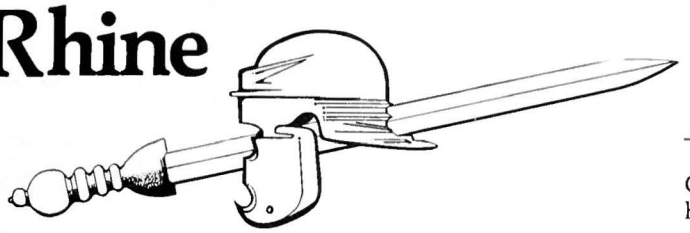


It seems to be the trend these days for Apple magazines to have slogans. *Apple Orchard*'s is, "The Premier Magazine for Apple Computer Users." *Nibble* likes to be known as "The Reference for Apple Computing." *InCider* wants to let you know right off the bat (and with a smile of word play) who owns it: "Green's Apple Magazine." *A+*'s angle, oddly, since only *Apple Orchard* doesn't share the trait, is its independence: "The Independent Guide to Apple Computing." Even *Softalk*'s sibling publication, *St. Game* (the black sheep of the family, as they say), bears a subtitle: "Computer Gaming for the Irreverent."

*Softalk*, on the other hand, has never had a slogan. Not that some haven't been considered from time to time, but the melees that ensue in such meetings—the hair-pulling, face-scratching, nose-punching knockdown-dragouts—make the project a poor candidate for success.

**All We've Got Is the World.** We're beginning to feel left out. It's such a trendy thing to have, this slogan. It's not that we really want to *use* one, at least not to print or mess up our cover with; but we'd feel better if we had one in the wings, so to speak—if we knew what ours was even if we never told anyone else. Since the last one we came up with—"Tommervik's Original, Independent, and Fun News, People, and Features Magazine and Reference Guide to

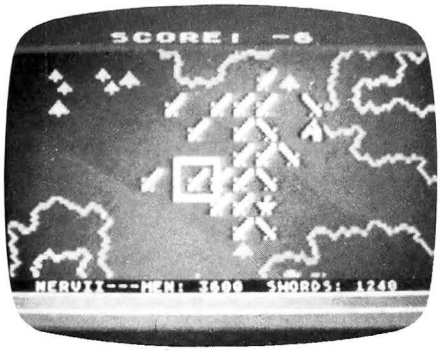
# Thunder on the Rhine



## LEGIONS OF ROME

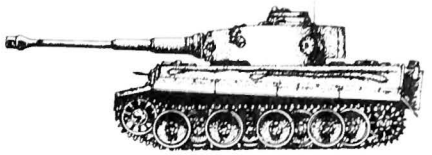
From across the Rhine comes the thunder of thousands of barbarian cavalry on the move. Caesar gives commands and his Tenth Legion moves toward high ground. It is June, 55 BC and you, as Caesar, are engaged in war with the fierce Germanic tribes who outnumber your stalwart Legions by two to one. Military strategy and organization are the keys to defeating the warlike, but oft disorganized, barbarian hordes. You command up to ten Legions against the computer-controlled enemy in this simulation of point-and-edge warfare.




**Legionnaire** is not an arcade shoot'em up game, but a sophisticated software system where the computer determines the outcome of each melee based on such factors as terrain slope, battle fatigue and leadership. Barbarian tribes are ranked in increasing difficulty, from the strictly introductory level Aedui to the dreaded Huns, rumored to be undefeatable.

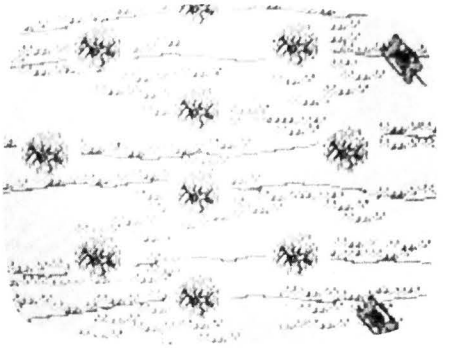
48K Disk for Apple® II, II+, IIc & IIe, $40
Cassette for Atari® (16K) and Commodore 64®: $35
32K Disk for Atari® Home Computers, $40
AVAILABLE SPRING '84: Disk for Commodore 64®, $40



## THE STEEL CAVALRY

The Rhine rolls on through twenty centuries and again the Germanic cavalry thunders: Tigers and Panthers, the steel horses of the *Wehrmacht*, deploy on the rolling plains of northern Germany.

Commanding platoon-sized battle groups of individual tanks, assault guns and infantry, you test your mettle against the computer or a fellow gamer while the computer determines each shot's effect based on armor thickness, gun size, angle of fire and even fuel tank location.






This is TAC—Tactical Armor Command. You pick a nation (from among the four major combatants: Britain, USA, Germany or Russia), you build a combat team (a simple purchasing system is used to "buy" the units you want), and you deploy your units to meet and engage the enemy.

All of the famous vehicles of WWII are here (along with some more obscure ones): T34's, Tigers, Panthers, Shermans, Fireflies, SU-152's & the awesome Pershing, to name just a few.

48K Disk for Apple® II, II+, IIc & IIe, $40
NEW 48K Disk for Atari® Home Computers, $40
NEW 64K Disks for IBM-PC® and Commodore 64®, $40

Both of these exciting games are available at leading computer game and hobby stores. Call 1 (800) 638-9292 for further information; ask for Operator L.

**microcomputer games®**
A Division of THE AVALON HILL GAME COMPANY
4517 Harford Road • Baltimore, Maryland 21214 • (301) 254-9200

® Trademarks of Warner Communications, Apple Computers, Inc., Commodore Business Machines and International Business Machines.

## AVALON HILL Microcomputer Games Available At These Fine Stores

• **ALASKA Anchorage:** Spenard Hobby Shop **Juneau:** Juneau Electronics • **ARIZONA Tempe:** Desert Hobbies • **ARKANSAS North Little Rock:** Bozo's Big Top • **CALIFORNIA** All Gamekeeper Stores **Carmel:** Game Gallery **Carmichael:** Viking Hobbies **Corcoran:** Huntington Computing **Downey:** The Flopii Disk, Inc **Fremont:** Scenario Game Shop **Fresno:** Arthurs Toys #2 **Garden Grove:** Brookhurst Hobbies **Half Moon Bay:** Strawflower Electronics **N. Hollywood:** Valley Plaza Hobbies **Mountain View:** San Antonio Hobby **Rolling Hills Estate:** Purposeful Pastimes **San Diego:** Command Post, Ltd., Games Towne **Santa Ana:** Gamesmanship **Thousand Oaks:** Dragon's Court **Torrance:** Paul Freiler's Historical Models **Walnut Creek:** Centurion Militaria **Westlake Village:** Alpha Byte Computer Products • **CANADA Ontario Kingston:** T.M. Computers & Video Enterprises Ltd. **Kitchener:** Whats This? **London:** The Computer Circuit Limited **Toronto:** Electronic Playworld **Quebec Montreal:** Kidbits Computer Outlet, Inc. • **CONNECTICUT East Hartford:** Hobbytyme Stores **Manchester:** Train Exchange **Meriden:** Family Hobbies **New London:** Citadel **Norwalk:** Family Hobbies **Simsbury:** Leader Department Stores **Stamford:** Hobbyist **West Harford:** War and Pieces • **FLORIDA** All Games 'N' Gadgets Stores **Orlando:** Enterprise 1701 **Port Richey:** Computer Tutor **Sarasota:** H & H Hobby Sales • **GEORGIA** All Electronic Boutique Stores, All Games 'N' Gadgets Stores **Atlanta:** Sword of the Phoenix • **HAWAII Honolulu:** Legionnaire • **ILLINOIS Addison:** Digital World **Arlington Hts.:** Gamers Paradise **Chicago:** Gamers Paradise,Kroch's & Brentano's,Pace/Downtown Hobby **Norridge:** Gamers Paradise **Westmont:** Lyle's Hobby & Craft Center **Wood Dale:** P.A.C.E • **INDIANA Clarksville:** Something To Do, Inc. **Indianapolis:** A-Computer Store, The Boardroom• **IOWA Cedar Falls:** Arts N Crafts **Davenport:** Thinker's Emporium • **KENTUCKY Knoxville:** Yankee Peddler **Louisville:** Something To Do, Inc. • **LOUISIANA** Sound Trek **Shreveport:** Hobby Hut • **MARYLAND** All Electronic Boutique Stores, All Games 'N' Gadgets Stores **Baltimore:** Personal Computer Learning Center, The Program Store **Columbia:** Patowmack Toy **Frederick:** Frederick Software Supply **Pasadena:** R-W Electronics **Randallstown:** The Video Experience **Rockville:** The Software Store • **MASSACHUSETTS** All Electronic Boutique Stores **Cambridge:** Family Hobby **Hadley:** Hobbytyme Stores **Maynard:** Games Clearinghouse • **MICHIGAN Ann Arbor:** Riders Hobby **Bad Axe:** Future Directions Computer Showcase **Detroit:** Micro Station, Inc. **East Lansing:** Capital City Hobbies **Flint:** Capital City Hobbies **Royal Oak:** Alcove Hobby Shop • **NEBRASKA Omaha:** Star Realm • **NEW JERSEY** All Electronics Boutique Stores, All Games 'N' Gadgets Stores, All Software City Stores **Chester:** Gameworld **East Windsor:** Software 'N' Such **Ocean City:** The Gameroom **Rockaway:** Software Station **Somerville:** Skydells **Woodbridge:** The Gameroom **Wyckoff:** Yudin's, Inc. • **NEW MEXICO Albuquerque:** Wargames West • **NEW YORK** All Compleat Strategist Stores, All Games 'N' Gadgets Stores, Computer Center **Ithaca:** Quest's End **Long Island:** Waterloo Hobby Shop **Orchard Park:** Computer World **Rochester:** Campaign H.Q. **Staten Island:** Gameworld • **NORTH CAROLINA** All Games 'N' Gadgets Stores • **OHIO** All Games 'N' Gadgets Stores **Akron:** Little Shop of War **Cleveland:** National Hobby Shop, Inc. **Lakewood:** Wings Hobby Shop, Inc. **Trotwood:** Computer Expressions • **OKLAHOMA Oklahoma City:** Wizard's • **OREGON Eugene:** Endgames **Portland:** Endgames, The Military Corner • **PENNSYLVANIA** All Electronic Boutiques Stores • **RHODE ISLAND** Hobbies UnLtd. • **TENNESSEE Nashville:** The Game Store • **TEXAS El Paso:** The Learning Center **Houston:** Nan's Game Headquarters **San Antonio:** Computer Edge • **UTAH** All Hammond Tots & Toys Stores **Salt Lake City:** Cosmic Airplane Books • **VIRGINIA** All Games 'N' Gadgets Stores **Hampton:** Stitch & Sew of Virginia **Rockville:** The Program Store **Vienna:** Executive Hobbies • **WASHINGTON Bellevue:** Tripple Alliance, World of Toys, Inc. **Federal Way:** Butler's TV & Computer Service **Seattle:** American Eagles **Tacoma:** Computers + • **WASHINGTON D.C.** The Program Store • **WISCONSIN Milwaukee:** Computer Software Center

**Computerland, Programs Unltd., Software Centre Intl., Soltware City and Toys 'R' Us Stores**

Dealers: if you are carrying AVALON HILL Microcomputer Games and are not listed write Lauren Nole for your free listing.

**At last.... School-tested educational software.**

NEW

*Learn and reinforce basic skills on your home computer!*

Each package is complete with:
- diskette
- 24-page workbook of additional activities
- answers to all exercises

$19.95 each title

Available for Apple II, II+, IIe and TRS-80 III, 4

**BUY MORE AND SAVE!**

Buy Any 3 Titles / 7 Titles / 10 Titles Get 1 More / 2 More / 3 More FREE

**Word Analysis Series** (ages 10 to adult)
- ☐ #9001 Fraction Action - Forming Contractions
- ☐ #9002 Kissin' Cousins - Using Root Words
- ☐ #9003 Up Front - Studying Prefixes
- ☐ #9004 End 'n Sight - Using Suffixes
- ☐ #9005 Divvy Up - Dividing Words into Syllables

**Vocabulary Skills Series** (ages 10 to adult)
- ☐ #9006 Word Connection - Analyzing Word Structure
- ☐ #9007 Shadow Boxing - Homographs and Homo
- ☐ #9008 Alike or Not? - Homographs/Homophones
- ☐ #9009 Magic Clues - Context to Determine Meaning
- ☐ #9010 Word Track - Selecting the Precise Meaning

**Study Skills Series** (ages 10 to adult)
- ☐ #9011 Whiz Kid - Learning to Take Tests
- ☐ #9012 Chart Smart - Reading/Understanding Tables
- ☐ #9013 Data Data - Discover What Graphs Tell You
- ☐ #9014 What To Do - Learning to Follow Directions
- ☐ #9015 Line Out - Using Outlining Skills

**Reading Comprehension** (ages 10 to adult)
- ☐ #9016 Main Line - Discovering the Main Idea
- ☐ #9017 What's It? - Discovering Details
- ☐ #9018 In Order - Keys to Sequence
- ☐ #9019 Conduct-a-Search - Building Inference Skills
- ☐ #9020 Track Facts - Focusing on Critical Reading

Name _____
Address _____
City _____ State _____ Zip _____
☐ APPLE ☐ TRS-80
☐ Check enclosed ☐ MC ☐ VISA ☐ Amex
Card # _____ Exp date _____

**Check off titles of your choice including FREE titles.**

___ titles @ $19.95 _____
___ titles FREE N.C.
Postage @ $1.00 per diskette _____
Sales Tax (MD residents 5%) _____
TOTAL _____

At Home w/ Basics

Department 8404
30th Street & Remington Avenue
Baltimore, Maryland 21211-2891

CALL TOLL-FREE 1-800-345-8112
PA Residents 1-800-662-2444

Or your local computer store.


Computing for Owners, Users, and Contemplators of All Apple IIs and a Few IIIs, Colorfully Illustrated Throughout"—put everyone to sleep and lost us an entire afternoon's worth of editorial staff time, we've decided to put the question to you.

Write a slogan for *Softalk*. There'll be two winners, maybe. The for-sure winner will have come up with the best realistic slogan or subtitle that captures the essence of *Softalk* as you see it in a crisp, snappy, clever way. We'll award a second prize if someone sends in an outstandingly witty, pithy, possibly tongue-in-cheek slogan that still is recognizably *Softalk*.

**This Time, Mail It In!** Even if you never enter *Softalk*'s contests, enter this one! It's lonely out here in mottoless NoHo. Pretend we're Tinkerbell, and send your entry to let us know you believe. If no entry qualifies for the wit award, the mean old random number generator will pick one name from among all entrants for the second prize.

Write your slogan on the entry blank or on a piece of paper, no more than five slogans to an envelope, and mail to Softalk Slogo, Box 7039, North Hollywood, CA 91605, by August 10, 1984, along with your name, address, and phone number, the name of your favorite dealer, and the product or products from July *Softalk* advertisers you'd like us to put $100 toward. If you win either prize, we'll do it.

**Special Note to June Contest Computer Designers:** The mythical head of your department, unreasonable as usual, has just laid a previously unmentioned deadline on your heads; proposals for new computers must be postmarked by July 15, 1984. And you thought you had infinite time. Oh well.

(clip along the dashing line)

**Entry Blank (Yearning To Be Filled)**

*Send your entry to Softalk Slogo, Box 7039, North Hollywood, CA 91605.*
*Entries must be postmarked by August 10, 1984.*

Slogan: _____

Your name (if you dare reveal it): _____

Your address: _____

Community, State, Zip: _____

Your phone number (or Paul Newman's, whichever is handier): _____

Your dealer (if you dare reveal it): _____

Your heart's desire (as advertised in *Softalk*): _____

Special: Crucial Contest Questionnaire
(participation optional)

Have you entered a *Softalk* contest before? ☐ Yes ☐ No ☐ A what?
If not, ain't it fun? ☐ Yes ☐ No ☐ Only If I Win
Are you clapping? ☐ Yes ☐ No ☐ Hard to tell
Commentary: _____

_____ That's enough.

(clip along the dotty line)

# Contest Winners

**Fpn Oxpm?** Reacting positively to all the cards and letters we receive that ask for more challenging contests, the staff conceived the cipher contest that appeared in the April issue. "This," one staffer remarked, "will show 'em that they're not so smart!"

Obviously, it didn't show everybody. Post cards, though much fewer in number, flowed in; most of them had the correct information requested in the contest. The staff spent a few days looking at all the nice pretty pictures on the cards and then finally decided to throw all the correct entries into the random number generator.

It's been more than a year since such a small number of contestants have tied for a contest, and the oft-feared RNG took offense at our asking it to pick from a group as small as this. Wrinkling its nose, the RNG plucked out Jim Germann (Jackson, NJ) and said, "This is as random a person as I can find." Germann wins the prizes of his choice, which happen to be Hayden's *Sargon III*, Sansoft Plus's *Sex-O-Graphic* and *Strip Blackjack*, and a whole slew of Elephant disks.

For the curious, here's what all those weird letters on page four of the April issue, once translated, said:

*You might have noticed that nowhere on this page does it say you have to solve this cryptogram to enter the contest. The fact that you're reading this says that you have the kind of initiative and drive it takes to be a winner. To enter this contest, all you have to do is send us one piece of information that can be found in this magazine. To be eligible to win, just send us a post card telling us what color lights are on a Christmas tree. It can be a*

# Uncover the Apple *IIc*'s Appeal

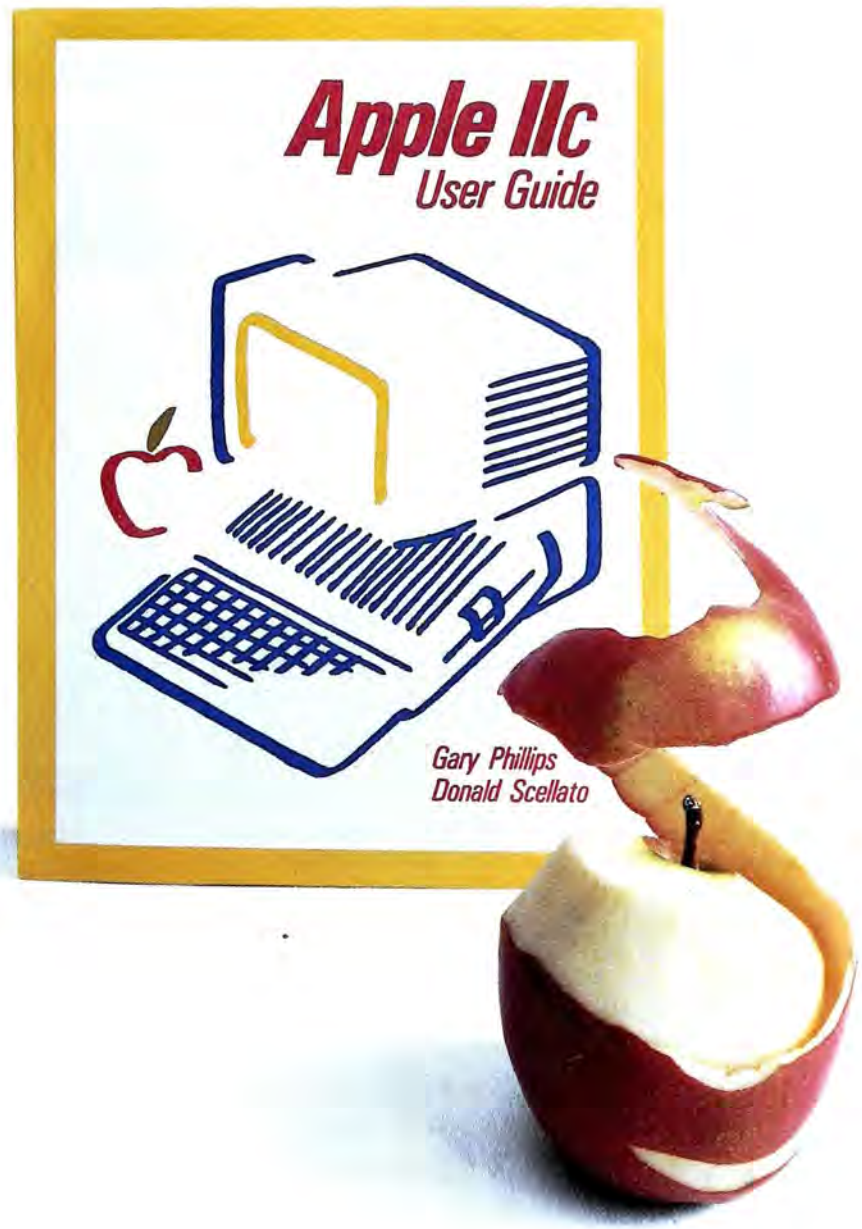
Brady Communications Co. knows that you'll be delighted with the most appealing Apple to appear in a long time. It's expandable, it's portable, and it has the capability to do some pretty amazing things—once you learn how to use it. Now, Brady Communications Co. reveals the real appeal of the Apple *IIc* between the covers of the very first book you should buy!

**APPLE *IIc* USER GUIDE**
By Gary Phillips & Donald Scellato

This is the comprehensive guide you need to learn about your Apple *IIc*. Written in a jargon-free style, this is the book to give the user a clear account of the programming capabilities and applications for the new machine. It starts at the very beginning with how to set up the Apple *IIc* and continues with complete discussions on Applesoft BASIC, ProDOS, and the System Utilities. A very helpful section is included to teach you how to select software and accompanying hardware (monitors, modems, disk drives, printers etc.).

To make you even more comfortable with the new Apple, it includes appendices to help you find Apple user groups, reliable vendors, and trade publications to increase your Apple expertise. This is the volume you'll want to have accompany you and your Apple *IIc*, everywhere you go together!

1984/250pp/paper/illus./ISBN 89303-307-3/
D3073-6/$14.95




Also from Brady and basically written to reveal more about your Apple *IIc* is:

**APPLE *IIc* AN INTRODUCTION TO APPLESOFT BASIC**
by Lois Graff and Larry Joel Goldstein

These and other books by Brady Communications Co. for the Apple *IIc* and other Apple™ Computers are available at fine bookstores and computer dealers nationwide. Or, call **800-638-0220** for information.

BRADY

Brady Communications Co., Inc.
A Prentice-Hall Company
Bowie, Maryland 20715

Apple is a registered trademark of Apple Computers, Inc.



# PREVENT THE DISASTER OF HEAD CRASH AND DROPOUT.

The war against dust and dirt never ends. So before you boot-up your equipment, and everytime you replace a cassette, disk or drive filter, be sure to use Dust-Off® II; it counteracts dust, grit and lint. Otherwise you're flirting with costly dropouts, head crashes and downtime.

Dust-Off II is most effective when used with Stat-Off II. Stat-Off II neutralizes dust-holding static electricity while Dust-Off II blasts loose dust away. There's also the Dual Extender and Mini-Vac for vacuuming dust out of hard-to-reach places.

Photographic professionals have used Dust-Off brand products consistently on their delicate lenses and expensive cameras for over ten years. They know it's the safe, dry, efficient way to contaminant-free cleaning.




Cleaning not provided by liquid cleaners.

Dust-Off II's remarkable pinpoint accuracy zeros in on the precise area being dusted. And you have total control—everything from a gentle breeze for




**Stat-Off II neutralizes dust-holding static electricity from media and machines.**

delicate computer mechanisms to a heavy blast for grimy dirt.

Don't let contamination disrupt your computer operation. Stock up on Dust-Off II—the advanced dry cleaning system, at your local computer or office supply dealer.

Or send $1.00 (for postage and handling) for a 3 oz. trial size and literature today.




# Dust-Off® II

**The safe dry cleaning system**

Falcon Safety Products, Inc., 1065 Bristol Road, Mountainside, NJ 07092

*post card of your hometown, a place you've visited, or just a plain old index card. It must be postmarked by May twentieth, nineteen eighty-four. The winner will receive two hundred dollars' worth of products made by advertisers in this issue. Be sure to include your name, address, phone number, and a list of what you'd like to win. Send your post card to Softalk Xmas Tree, Box seven zero three nine, North Hollywood, California nine one six zero five (convert numbers to numerals, please). Go to it.*

Yes, the Christmas tree referred to was found on page 171, in the left column, last paragraph. The tree has a series of orange lights, one green light, and a red foul light for each car's lane. Since it wasn't clear from the article that the foul light was also on the Christmas tree, we accepted entries that specified only the orange and green lights.

Our hearts bleed for the poor misled souls who looked at the Christmas tree on page 187 (top row, third magazine from the left) and said that Christmas tree lights are all sorts of colors. Sorry, gang. But that tree's lights look black and white to us.

Also, thanks to all the readers who sent us cards with cryptograms on them. But since we couldn't read them, we didn't know if they had the right information. We made it nice and simple, and you went and made it complicated for us. Be kind; our contest staff has a limited mental capacity.

**Oracle Drivel.** We didn't really want you to predict the top finishers of the Indianapolis 500. What we actually meant to say was, "If you took everyone in the world, put them on the freeway, and let them drive like maniacs for five hundred miles, who would be the first ones to finish?"

Of course, such an idea is ludicrous. Not everybody has a car. Anyway, the next best thing was the Indianapolis 500, so we settled for that.

Oracle contestants were asked to predict who would finish in the top three spots; for bonus points, they were to predict the winner. In order, they were Rick Mears, Roberto Guerrero, and Al Unser, Sr. Ten points were awarded for each driver named, and five bonus points were given to those who predicted Mears as the winner.

Because no one predicted Guerrero, the most anyone could predict was two, and that's what eighteen contestants did. From the pile, Scott Bauer (Pittsburg, CA) was selected at random to claim his booty of $200 in Apple accessories.

It comes as little surprise that Guerrero was on nobody's list, since this was his first race. But really what threw a lot of contestants out of the running was that they wrote Al Unser's name without specifying whether they meant senior or junior. Sorry, but that's the way it goes. It would have been like naming "Marx" as *Time*'s Man of the Year, without specifying Groucho, Harpo, Chico, Zeppo, Gummo, or Karl.

**Coming Attractions.** Next time, we'll find out why so many contestants had such a hard time with the Embassy contest (besides the fact that there was no deadline mentioned). ◨




# Finally, computer games you want your kids to play.

Spinnaker makes computer games kids love to play. But some of our biggest fans are parents.

Because on top of all the fun and excitement, our games have something more. True educational value. They help develop a child's learning skills, in all kinds of fun ways.

So Spinnaker games aren't just computer games. They're Learning Games.

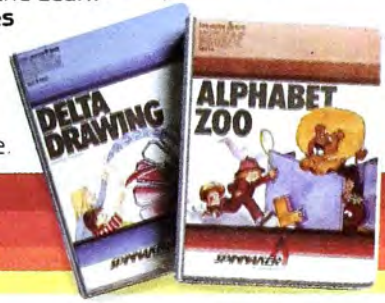
They're written by top educators who know how to make learning fun. And by expert game programmers, who use colorful graphics, animation and sound to make our games so exciting, your kids may not even realize they're learning. They're having too good a time!

That's why children love us. And parents love us.

And why we're already the leader in the field of home educational software.

So if you're looking for computer games that you'll like as much as your kids will, look for Spinnaker **Early Learning Games** (ages 3–8) and **Learning Discovery Games** (ages 6–12) at your local retailer.

Spinnaker. We're giving computer games a good name.




SPINNAKER™

We make learning fun.

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

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

Apple, Atari, IBM and ColecoVision are registered trademarks of Apple Computer, Inc., Atari, Inc., International Business Machines Corp., and Coleco Industries respectively. Coleco Adam and Commodore 64 are trademarks of Coleco Industries and Commodore Electronics Ltd. respectively. © 1984, Spinnaker Software Corp. All rights reserved.

# The word is out on word processors. Format-II® ranked number one.

We've always thought of Format-II as the finest, easiest to use word processor for Apple® II+, IIe and Franklin® computers. We're pleased that Peelings II magazine agrees. They judged Format-II best out of 18 leading word processors. Here's why:

**Format-II makes editing easy.**
There's our unique editing process: simple, mnemonic commands logically relate to the task you want to perform. To center text, you press [C]. To delete, [D]. To justify, [J].

And since what you see on the monitor is exactly what will print out, editing and formatting is always a breeze.

The Peelings II reviewer said, *"Format-II is one of the few word processors that is so comfortable and predictable, I would consider it as an addition to my small library of personal software."*

**Peelings II Magazine Rating**

| | |
|---|---|
| FORMAT-II | 1 |
| SCREEN WRITER II™ | 2 |
| PIE WRITER™ | 3 |
| WRITE AWAY™ | 4 |
| LETTER PERFECT 5™ | 5 |
| WORDSTAR™ | 6 |
| MEGAWRITER™ | 7 |
| APPLE WRITER II™ | 8 |
| PERFECT WRITER™ | 9 |
| CORRESPONDENT™ | 10 |
| SPELLBINDER™ | 11 |
| MAGIC WINDOW II™ | 12 |
| ZARDAX™ | 13 |
| SUPERTEXT 40/80™ | 14 |
| GUTENBERG™ | 15 |
| WORD HANDLER™ | 16 |
| SELECT™ | 17 |
| SANDY™ | 18 |

Reviewed by John Martellaro, September 1983, based on Peelings II rating system for performance and performance to price ratio.

In the words of the Peelings II reviewer: *"This is the best program I have seen for people who do a lot of work with mailing lists, form letters and short correspondence."*

**An easy to follow manual.**
Essential to any good program is a manual that's clear and understandable. The Peelings II reviewer describes the Format II manual. *"All in all, it is one of the best word processor manuals I have seen. The latest documentation is a model of clarity and organization."*

Put it all together. Then add features such as support of hard disk drives and a standard DOS text file format compatible with spellers and communications programs, and it's not hard to see why Format-II has earned the number one rating.

The words of the Peelings II reviewer sum it up: *"I cannot think of another word processor that would be better overall for business use."*

Thanks Peelings II. We couldn't have said it better ourselves.

For a reprint of the full review, or to order Format-II, fill out coupon and send it to: Kensington Microware, Ltd. 251 Park Avenue South, NYC, NY 10010 or call us at (212) 475-5200. Tlx: 467383 KML NY. Or visit your local Apple dealer.




**Format-II supports all printers.**
Unlike other word processors, Format-II is compatible with *every* printer that works with the Apple, from the simplest dot matrix printer to the most advanced letter quality printer.

**A built in mailing list at no extra cost!**
Actually a database system resembling an index card file. A SORTING program will arrange the mailing list alphabetically or numerically. Powerful LOGIC commands merge specific entries into form letters and documents.

Please send (indicate quantity):

_____ Free reprint(s) of Peelings II review

_____ Format-II Word Processing Program(s) $150 each. Total $_____

_____ Apple II+ owners require keyboard mod. $5 each Total $_____

On purchases add $2.50 shipping and handling $_____
New York State residents add applicable sales tax. $_____

☐ Check enclosed ☐ Visa ☐ Mastercard Total order $_____

Card No. Expires

Name on Card

Name

Address (UPS delivery)

City State Zip Phone

Kensington Microware, Ltd.
251 Park Avenue South
New York, NY 10010

KENSINGTON™ MICROWARE

© 1983 Kensington Microware Ltd.

Format-II is a registered trademark of Kensington Microware Ltd.
Peelings II is a registered trademark of Peelings II, Inc.
Format-II requires 64K and an 80 column card.

# OPEN DISCUSSION

*Open Discussion gives you the chance to air your views and concerns, to seek answers to questions, to offer solutions or helpful suggestions, and to develop a rapport with other readers. It's what you make it, so share your thoughts, typed or printed, and double-spaced (please), in* Softalk*'s Open Discussion, Box 7039, North Hollywood, CA 91605. To ensure the inclusion of as many contributions as possible, letters may be condensed and edited.*

**Apple IIe Forever**

Many critics say that since the Macintosh is the newest, it must be the best microcomputer. IBM says that the PC Junior is the best. I say that the Apple IIe is best for normal use.

I am a junior high school student and I'm in several accelerated classes. The IIe helps me do everything from writing essays to studying for tests. I wonder why people think they should pay for something like a Macintosh when they can get something very similar for less money. I wonder why they buy something that is hard to find good software for like the PC Junior.

I will stick with my Apple IIe.

Chip Witt, Cotati, CA

**The Gosub at the End of the Universe**

We are trained in humility from childhood. We are taught to look to our government and industrial leaders for the caliber of intelligence needed to understand complex concepts. We are more likely to think of ourselves as competent tennis or chess players than part of the brain trust. So I can't fault Dick Smith (May Open Discussion) for his doubts about David Hunter's Just Think piece in the March issue. Hunter's article held me spellbound from the moment I started to read. I felt something close to the thrill of an elegant solution to a challenging programming problem, the touch of a vital intelligence successfully describing the promise of a giant advance in human understanding.

How can I put this most forcefully and persuasively? It is time we were aware, as the editors are perhaps aware, that the readers of *Softalk*, individually and collectively, are probably more intelligent than any other large human group you could define. We may have spent too much of our time over the keyboards of our computers to realize this, or even to have acquired a well-rounded education. We may not have heard of Russell's Theory of Types or know it from a fimbria, but we've learned it of necessity and use it successfully every day. And for dynamic, raw, naked smarts, there are few who can beat us. (Those few would appreciate us and cherish us and perhaps even ask us to travel with them.) That intelligence is clearly visible in Smith's letter and in Hunter's article.

I also felt some doubts. I felt a tiny suspicion that this might be a gigantic hoax about a spurious or nonexistent manuscript. But as I reflected on it I realized that that would be fun too. A fantastic gosub adventure! So I would like to ask Dick Smith: If we don't care, if we don't understand, who will? Do you really think the readers of the *Physical Review* or *Reviews of Modern Physics* are smarter than we are? If it is a hoax, are we not among the best-qualified to prove it so?

Joe Fulford, Pacifica, CA

**Trapped in Beginners' Corner**

In all of the computer magazines that I subscribe to I have found the majority of the articles to be written for the beginner. I have been working with computers for more than five years (since I was in seventh grade) and usually end up skipping over many of these articles. This seems to me a waste of money. I am not saying that there are no articles above my level, but rather that there are very few of them at my level. I hope that some of the magazines that were originally by and for the pioneers of microcomputing return to publishing the types of articles that made them famous.

Vick Khera, Rockville, MD

**The Mensa Method**

I was interested in Al Tommervik's comment (April Softly Comment) that "you had to be a Phi Beta Kappa Mensa member to learn to use all" the features of *WordStar*. He may be right. San Francisco Mensa uses *WordStar* to put out two magazines every month for our twenty-nine hundred members. Perhaps the converse is true, too, and people who can use *WordStar* ought to apply for Mensa membership. To do so, please write to Mensa in Brooklyn, New York. Let's see if Tommervik has discovered something.

Bennett Woll, San Francisco, CA

**A Kiss for Woz**

I have to comment or expand on Al Tommervik's closing remark in "DOS: Apple's Unsung Champion," in the May Softly Comment. I was told way back in 1962 by a grizzly tech instructor in a military electronics school about a then old principle called K.I.S.S. Many may know of it, but budding new geniuses may also benefit from his philosophy. It states simply, "Keep It Simple, Stupid!" Sold as I am on computers, modeling programs, and the like, overkill has done just that to many a good product. Bells and whistles have their place, but every one you add other than as a "user wanted" option just degrades your possible reliability.

Three cheers for my Apple (at home). The $375,000 mainframe at work has no word processor, a mediocre editor, and is down (again) for a $2.95 chip, or so I'm told. The Apple has yet to hiccup once in eighteen months, including a six-hour stint during a lightning storm to finish an overdue article. My favorite corner of the house is my "orchard."

David J. Brown, Indianapolis, IN

**Overt Cover Opinion**

I don't want to come off sounding like a dissatisfied subscriber, because I'm not. But I'd like to share a comment. *Softalk*'s cover photos are just too abstract in my opinion. March and April's covers are good examples. I subscribe to the magazine because I'm into computers. If I wanted to see dancers and babies, I'd subscribe to *Life*. Keep it simple, like your February Macintosh issue. That's my two cents' worth. And my compliments to Tom Weishaar and Matt Yuen for two fine columns.

Mike Romito, San Jose, CA

**More Ogre than Elf**

I have enjoyed *Softalk* for a long time, which is why I am so disappointed in the May story on the Apple IIc. I was very excited about the IIc. I waited for it. After all, 90 percent of all IIe software is compatible with the IIc. Right? Wrong! How can any Apple that doesn't run *VisiCalc* call itself 90-percent compatible? It doesn't run *Format II*. In fact, of my twenty programs, the IIc ran only one.

The product is very disappointing. The first time this thing is dropped, kiss $1,300 good-bye. It won't use any modem currently available. And if you can get everything you need to run the IIc into your briefcase, you must be a heavy equipment salesman from Cleveland. Maybe in two or three years this thing will be worth owning, but now it's not.

Ivan Motherhead, Charlotte, NC

**Butterflies Are Free**

I don't know where someone got the idea that "Today, HP continues to struggle to gain a toehold in the personal computer market" (Softalk Presents the Bestsellers, April 1984), but this statement illustrates ignorance of Hewlett-Packard's products and of its position in the personal computer marketplace. Further, any comparison of the first Apple computer to HP's first personal computer will clearly illustrate why HP never "exercised their option." Compared to the HP-85, the first Apple computer was quite crude in almost every way. It is HP's experience with technical applications that makes their products far superior for their intended purpose than anything Apple has ever made.

Hewlett-Packard aims its products primarily at scientists and engineers, with some emphasis on business applications. The Apple has very poor numerical precision, which can add up to an answer that is little more than a crude approximation after several thousand instructions, each with a further accumulation of error. All HP computers intended for technical applications can do far, far better, and there is no sacrifice in speed to accomplish this increase in precision.

The programming language in HP computers is considerably more sophisticated than that in a comparable Apple. For instance, an HP-86 can have more than 64K of Basic resident in ROM that includes features normally associated with Fortran and Algol. The HP-86 and the much more sophisticated 9816S (with 264K Basic and more than two megabytes of RAM possible) are a programmer's dream. Programmers who think the Apple IIe is powerful and flexible have never used an HP-86.

Hewlett-Packard is doing very well with their personal computers in the market they are intended for: engineers and scientists. This has always been HP's primary marketplace. The Apple is a poor choice for those who do complex numerical calculations or who will be using many instruments with their computers.

Chuck Butler, Kalamazoo, MI

**Only the Fax, Ma'am**

Not long ago I purchased a copy of Link Systems's *Datafax* from a local store. After three days' use, I discovered a minor problem in printing out files with the package. I wrote to the company and sent in my registration form. One week later I received a call from Link explaining that there was a bug in the version of the program I had and that a new updated version for my Apple IIe was on its way. In addition, the company's technical representative suggested some other applications of the program for my business that I had not considered previously.

Besides this excellent consumer support, the people at Link have a tremendous program. *Datafax* is a Pascal-based database that keeps files in

unstructured fields and retrieves and sorts data based upon key words you assign to the data folders or pages. This makes it possible for you to design the fields to meet your existing data format and not redesign your data to meet the program specifications.

On another subject, I recently visited several Apple dealerships in the Northwest and generally found the sales staffs interested only in selling Macs and totally unwilling to demonstrate or discuss software or other products in the Apple II line. I am reminded of Winston Sayers's letter in the March Open Discussion and agree with him.
Bob Clarkson, Helena, MT

**Streets of Fiscal Fire**

The letter published in the May Open Discussion under the heading "Potholes on Money Street" was unnecessarily negative in tone and gave an erroneous impression of this fine checkbook accounting program. I have been using *Money Street* heavily for both personal and business accounting and can say without hesitation that this is a program of highest quality. *Money Street* is fast, very easy to use, and has extensive on-screen searching, editing, and reporting features. Granted, there are a few sorted reports that can only be routed to the printer. But I have never viewed this as a flaw, as these are the reports I want to have printed. In summary, I have been driving *Money Street* for more than a year and haven't hit a pothole yet!
William E. Linn, Jr., Lithonia, GA

I received a rather unusual letter from the publishers of *Money Street*. They felt that *Softalk* was "unfair" in its printing of Selbert Chernila's criticism of *Money Street* and asked me—and I presume most other registered *Money Street* owners—to write a letter in defense. Although I am very pleased with the program, I vehemently disagree with the company's contention that *Softalk* was unfair in printing the letter. Open Discussion is my favorite column simply because it is open. In fact, I purchased my *Money Street* after reading words of high praise for it in Open Discussion. I believe *Money Street* owes a good deal of its sales to this column, and its publishers should be thankful for its openness. I hope their writing campaign does not backfire.

Although I don't approve of *Money Street*'s solicitation for letters of defense, I don't feel that Chernila's letter should go unchallenged. *Money Street*, despite Chernila's contentions, is a very good program for the average user. It is fast and very easy to use and learn. The defects Chernila points to are minor and have no bearing on my use of the program.
James Nogle, Savoy, IL

*By early June,* Softalk *received more than forty letters in defense of* Money Street *from people all over the country.*

**Two for Tessler**

In reference to the May Open Discussion letter from Franklin Tessler of Los Angeles: Perhaps Tessler experienced problems with the documentation of *Flight Simulator II* because he did not receive the "Important Sheet" that goes along with the manual. On the "Important Sheet" discrepancies in the manual are clearly stated.
Debbie Woodard, SubLogic, Champaign, IL

I agree with Franklin Tessler's comments in the May Open Discussion. The manual for the *General Manager* leaves much to be desired (and too much to the imagination). Still, I believe *GM* offers an excellent price-to-performance ratio and is superior to many other filing systems available for Apple II series micros.

How about a *GM* special interest group? I would be delighted to correspond with other *GM* users who wish to share questions and solutions, as well as create ways to exploit *GM*'s power. Anyone interested should contact me through Open Discussion.
Jack Williamsen, De Pere, WI

**Pounding It In**

I read with sympathy the struggles of Kendall C. Sanford with *Apple Writer II* and the Epson printer (May Open Discussion). I have the Epson MX-100 with the Graftrax Plus modification and I think this will work. You can make the British pound symbol one of two ways. The first is to boot *Apple Writer II* and then define a keyboard symbol such as the $. Then enter the following keystroke sequence: *control-V escape escape control-V > control-V control-A escape escape control-V =*. The problem of how to create a glossary is found on page 43 of my *Apple Writer II* manual. Pages 44–45 of the manual tell you how to save a glossary file. Once this is done and loaded into the glossary with the control-Q 5 option, you will get the pound symbol each time you press control-G $.
Andrew B. Dott, New Orleans, LA

In response to Kendall C. Sanford on printing the British pound symbol on an Epson printer, I offer the following: Follow the procedure outlined in Bill Parker's "Picking Up the Tab" in April's *Sof-*




Beat It!

Turn your Apple II®, II+® or IIe® into a drum and percussion instrument with **Drum-Key®**, an interface board/software package that lets you create music using digital recordings of actual percussion sounds. It's like having 28 different percussion instruments at your fingertips. You can compose, play, record and playback, even use pre-recorded rhythm patterns of all the percussion sounds. Use these patterns or create your own to provide a background for singing or playing other instruments. **Drum-Key** is suitable for the serious musician or the novice — or for just having fun. And it's an excellent way to learn rhythm.

A **Drum-Key** package in your Apple, connected to your stereo provides full programmability and storage capacity for 100 rhythm patterns and 26 songs. A scrolling Hi-Res graphic screen displays instrument staves for easy learning, quick notation and editing.

- Real-time recording or play-along
- On-screen composition and editing
- Programmable tempo, time signature, pattern length
- Selectable timing correction for professional results
- Selectable audio/visual metronome
- Sync Out for external synthesizers
- Professional demo patterns and songs included

The complete **Drum-Key** package, including interface card and program diskette, all for only. **$139.95**

To hear **Drum-Key** in action, call 215-296-8242. To order **Drum-Key**, call toll free 800-441-1003. Most major credit cards are welcomed. Or send a check to:

Apple is a registered trademark of Apple Computer, Inc.

**PVI** Great Valley Parkway
Malvern, PA 19355

# *"A LIVING TAPESTRY . . ."*




*"The world of Ultima III can only be compared to a living tapestry — complex and beautiful . . . This is the best fantasy game in computing. Indeed, it is one of the best fantasy worlds in which to live. Lord British is a veritable JRR Tolkien of the keyboard."* — Popular Mechanics

*"Exodus: Ultima III, with a superior plot to match its superior gaming system, is a great game. It upgrades the market; in several ways it sets new standards for fantasy gaming state of the art."* — Softline

*"Exodus: Ultima III is Lord British's magnum opus — so far. It's fun and exciting to play and constantly intriguing. And the ending is marvelously unexpected and not a bit disappointing — except that it is the ending, and as with a good book, you'll probably wish there were more."* — Softalk

*Available on: Apple, Atari, Com64, IBM*

ORIGIN SYSTEMS INC. 1545 OSGOOD ST., #7 NORTH ANDOVER, MA 01845
(617) 681-0609

Apple, Atari, Com64, and IBM are trademarks of Apple Inc., Atari Inc., Commodore Business Machines, and IBM, respectively.
Ultima and Lord British are trademarks of Richard Garriott. Copyright 1984 by Origin Systems, Inc.

*talk* to create a glossary file using ASCII 129. This will allow you to print the pound symbol.
Michael H. McGuire, Rome, GA

**The Good, the Bad, and the Questionable**

Several weeks ago I ordered a Videx UltraTerm by mail. The decision to order through the mail was made after I read a complimentary report on Videx's customer relations in Open Discussion. When I received my UltraTerm, I noticed a slight problem in changing display modes, and I sent the company a note describing this problem. To my great surprise, a Videx technician promptly called me during business hours in response to my letter. It turned out that one of the board components was bad and the card had to be returned. A further surprise was in store, for Videx mailed a new board by UPS second-day air the day after receiving my old board. Frankly, I did not believe such dedicated service existed today.

In the April Open Discussion, Robert Spaith mentioned that boldface (control-PB) with *WordStar* put a Daisywriter 2000 into shadow printing mode. This is characteristic of letter-quality printers; to get the regular boldface feature, the double-strike (control-PD) command must be used.

Spaith also mentioned the deplorable attitude of Computers International (maker of Daisywriter) toward its customers. I too received a bad impression of the company when I noticed a problem with the buffer on a Daisywriter 2000. The model I purchased was supposed to have a 48K buffer, but I could load into it 16K at most. I took the printer to my friendly local ComputerLand technician, who called Computers International. He was informed that, although the printer was shipped with 48K, a jumper must be cut to make all of this buffer space available. It seems to me that the company could at least have informed the dealers of this on its own so that the necessary adjustments could have been made before the printers were sold. Another disappointment was the documentation for the Daisywriter. It was slightly more confusing than the blueprints for a nuclear power plant. All of this is a shame since I have found that the Daisywriter is a good, versatile, feature-packed printer. If Computers International started acting more like Videx, they could take the printer market by storm.

Finally, I would appreciate hearing if anyone has succeeded in getting Microsoft Fortran-80 to run on a PCPI Appli-Card. A fellow Apple owner bought Microsoft Fortran and found that it did not work with the Appli-Card. He wrote to Microsoft, which informed him that their Fortran will run only on the Microsoft CP/M card. This is not exactly true, because I know of at least one other CP/M card that will work. However, as I have no desire to get a new CP/M card, I would like to know if there is a several-byte patch that will permit the Appli-Card to run Fortran. I have heard rumors about the existence of such a patch, and I certainly would like to be aware of this patch before I even consider buying Fortran. By the way, this incompatibility is one of my pet peeves. I think that all CP/M programs should run on all CP/M cards.
John Sarisky, Youngstown, OH

**Addition to Correction**

In reply to Don Thatcher's helpful additions (April Open Discussion) to the continuing *Apple Writer IIe* embedded printer codes controversy: His suggestion, "in the left-justify mode, typing control-V control-H control-V completely solves this hassle," is, well, not completely right. I was happy to see his suggested solution and went right to using it. It does work, but unless you carefully monitor your output by first printing to the screen (control-P pd0), you may find hanging periods, commas, exclamation points, and question marks, just as I did. *Apple Writer* reads backslash as a space and consequently, if what precedes the space can fit onto a line, all that follows it will wrap around onto the following line. What I would like to see is a way to allow my printer to perform a true continuous underline, instead of the tedious and time-consuming one character forward and one back that is provided.

I have a problem of my own with *Apple Writer IIe*. When I use fill justification, lines that end with a period or a parenthesis are occasionally one character short of matching up with the adjacent lines. Why is that?
Alan Drake, Old Bridge, NJ

**Printing Primer**

After reading about problems people are having getting their word processors to print the way they want, I resigned myself to the fact that my *PFS:Write*, with boldface and underlining, would have to do. But as I got further along into the manual, I found I could enter control characters to get my Epson to print my correspondence the way I wanted it. After doing some experimenting with the codes and translating what the Epson manual was trying to say, I came up with these codes to do a few more printing varieties than are built into *PFS:Write*. To get into the different modes, enter the following codes where you want the special printing. Don't forget to turn off the special feature, as it will stay on until turned off.

| Effect | On | Off |
|---|---|---|
| Enlarged | *P 14* | *P 20* |
| Condensed | *P 15* | *P 18* |
| Double-Strike | *P 27,71* | *P 27,72* |
| Emphasized | *P 27,69* | *P 27,70* |
| Superscript | *P 27,83,0* | *P 27,84* |
| Subscript | *P 27,83,1* | *P 27,84* |
| Underlined | *P 27,45,1* | *P 27,45,0* |
| Italics | *P 27,52* | *P 27,53* |

A final code is that for emphasized and double-strike, which is turned on with * 27,69,27,71* and off with *27,72,27,70*. Some of these codes can be used in combination with each other and some can't, so experiment and see what happens.
Patrick D. Kerr, Costa Mesa, CA

**The Overseas Market**

I have been very interested in so-called microcomputers since 1978, when I visited the United States and read an advertisement for Apple in a magazine. I've owned two domestically manufactured Japanese microcomputers, a Hitachi (in 1979) and an NEC (in 1982). However, Japanese makers have changed their models so often that software houses and users could never catch up with the changed models. Also, Japanese models have little capability for peripheral expansion. I bought an Apple IIe last summer.

I regret that advertisements in *Softalk*—which I have read since May 1983—never say how overseas readers can order software and peripherals. Should I order by Visa card? How will mailing expenses be treated?

Also, I welcome readers' recommendations or suggestions on telecomputing software for the Apple IIe so that my IIe can connect with The Source. My configuration consists of an Apple IIe, one disk drive, and a color display. I don't have an eighty-column card or CP/M card.
Tatsuo Nakahara, Narashino City, Japan



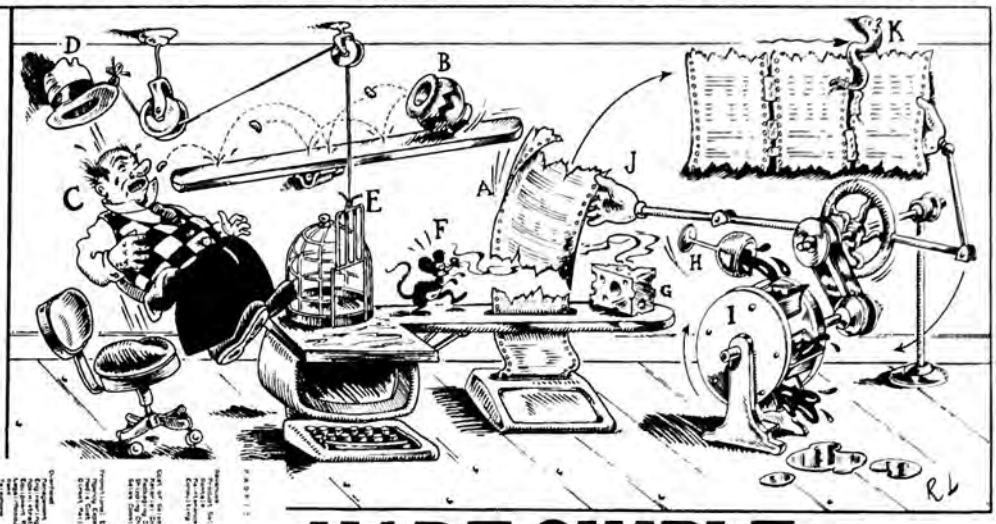
# SIMPLIFIED SPREADSHEET ASSEMBLY

RISING SPREADSHEET (A) KNOCKS MEXICAN JUMPING BEANS (B) INTO MOUTH OF NEUROTIC MAN (C) WHO IS SO DISCOMBOBULATED THAT HIS HAIR STANDS ON END, DISLODGING HAT (D) WHICH OPENS CAGE (E) AND RELEASES EPICUREAN MOUSE (F).

MOUSE, INSPIRED BY SCENT OF PERFECTLY AGED CAMEMBERT CHEESE, GNAWS THROUGH SPREADSHEET, ONLY TO DISCOVER HE HAS BEEN FOOLED BY AROMA OF OVER-RIPE GORGONZOLA (G).

IN A FIT OF PIQUE HE SPILLS VINTAGE WINE (H) INTO WATER-WHEEL (I) WHICH TURNS PULLEY THAT CAUSES GLOVE (J) TO GRASP SPREADSHEET AND MOVE IT TO TAPING AREA.

SHEET IS TAPED SECURELY IN PLACE BY TRAINED ADHESIVE TAPE WORM (K).




# MADE SIMPLE.

Now you can save time, aggravation, adhesive tape, and Gorgonzola cheese by following one simple direction—Sideways. It's the unique software program that lets you output all the spreadsheet columns you need, all on one continuous page, all with one print command—and all for only $60!

The New York Times calls Sideways "one small program that solves a big problem for computer users". You'll agree. Sideways can print as wide a spreadsheet as you can invent with VisiCalc,® Multiplan,® or other programs. You can also use it for those far-into-the-future schedules and pert charts you create with your word processor. And there's more—Sideways gives you complete control over margins and character spacing, and lets you choose from a variety of type sizes. For any wide text file, for dozens of uses, the way to go is Sideways.

You can go Sideways today with your Apple® II and a wide variety of dot matrix printers, including Epson,® Okidata, Apple DMP, and Imagewriter. Ask for Sideways at leading computer stores. Or mail a $60 check to Funk Software, P.O. Box 1290, Cambridge, MA 02238. (617) 497-6339. MC/Visa accepted. Send no Mexican jumping beans, please.

## SIDEWAYS™

FOR EASY-READING HARD COPY



**Grappling with Defaults**
In the January Open Discussion, Susan Rollinson talked about resetting the default eighty-character right margin, done automatically by the Grappler interface card. My printer interface is made by Apple. Rollinson used control-I 132N to set the margin at 132 characters. I have the Apple IIe, Dot Matrix Printer 2MOO98. I use PFS software. I have been trying to figure out how to set up my computer so I can have four columns of from six to eighteen characters wide. I can get only three columns to fit on-screen using a left margin of two and a right margin of seventy-eight.

With the above instruction, does this mean if I had the codes for the Dot Matrix Printer I would be able to change print size on my screen to 132 characters? I sure am confused. I have so much room when I print in the condensed mode that I'm sure I could add the fourth column, if I can print it on the screen or code it so it is placed there when printed. Can anyone help me with this problem? If so, I need simple instructions, including the setup and placement of codes.
Elaine Jamrog, Flint, MI

**Super Buy**
At the Seventh West Coast Computer Faire I bought a Videx-compatible eighty-column card from an outfit called Super Computer. The card is perfect and is one of the best buys I've made. However, there is one thing I hope some machine language genius out there can solve. The htab command for the Apple was designed for use with forty columns. So if I try to say htab 60 in one of my programs (I'm an Applesoft kind of guy), it puts the string one line down and twenty columns along. Obviously it wraps htab at forty columns. Now I know that people can make their own commands using the ampersand vector. What I'd like is for another reader to show me how to poke in the vector so that if I say &60 with my eighty-column card on, it'll do that right—actually print in the sixtieth column.
Eric D. Stephan, Palo Alto, CA

**Beginner's Bsave Blues**
Can anyone help me with a problem in machine language programming? I am very new to this area. When entering a program, I type *call −151* and begin entering the program in the Monitor, bsaving with the command *bsave* file name, *A*$starting address, *L*$length. What I would like to know is whether it is possible to stop in the middle of such a binary program, save it to disk, and then later add to the program. If this is possible, can it be done by simply entering the Monitor, bloading the binary file to the original starting address, and beginning with the first memory address after the last one previously entered? Or is it necessary to do something else? It would be a great help to me to be able to do this, since binary files to be accessed by Applesoft are frequently so long. I have an Apple IIe with 64K and one drive.
Carole Hanna, Hallsville, TX

**Brotherly Thanks**
There is probably a very simple and logical answer to this question, but I have yet to figure it out. I have a Panasonic KX-P1090 printer connected to an Apple II Plus via an MPC parallel card. I cannot get output to appear on both screen and paper at the same time. I have tried every control sequence listed in the card and printer documentation. Help!

I would also like to give the people at Sirius a big "thanks, bro" for their quick and courteous help with *Escape from Rungistan*. I had the program for quite a while and was getting rather frustrated because I couldn't get through the entire adventure. I wrote Sirius, and within a month I had a map and documentation that listed all directions and actions to take from start to finish.
Tony Leslie, Laguna Niguel, CA

**First Impressions**
I have an Apple IIe with an extended eighty-column card installed. When I bought my computer I had the impression that the extra 64K of memory doubled the size of the largest program I could run. I learned quickly that this was not the case, and my extra 64K has been sitting in my machine doing nothing. I now know there is a way to use the card as an extra disk drive. In Pascal, you can transfer part of the operating system to the card to speed up compiling. Does anyone know how a lowly user like myself can get hold of the software to do these wonderful things? The manuals that came with my Apple are no help, and the dealers I've talked to look at me as though I'm crazy.
Mike Whitley, Alexandria, VA

**Update Available**
Since there has been much discussion about the pros and cons of *ScreenWriter II*, I thought I would mention that there is now a new version, version 2.2, available. This new version has fixed the problem of incompatible macro files for RAMcard and non-RAMcard versions of the editor. More important, it appears to have fixed the problem of files being hashed when using *ScreenWriter* on a 48K machine. Finally, the new version supports the Apple IIe and its eighty-column board. Best of all, current owners of *ScreenWriter* can update for $15 plus an original *ScreenWriter* disk. In return you get two new disks and the new manual, which is 50 percent larger than the original. Interested readers should contact Barbara Frost at Sierra On-Line.
George D. Parker, Carbondale, IL

**Music Appreciation**
Do any of you super-intelligent computer programmers know how to print out the music of *Music Construction Set* by William Harvey with an Okidata Microline 92 printer? My father and I have tried for weeks to figure it out, but we can't. The rest of the program is excellent. The sound is even better with a Mockingboard from Sweet Micro Systems. I recommend both of these fine products.
Keith Jenkins, Cincinnati, OH

**The Sound of Silence**
I'm sure other Apple II Plus users have run into the problem of being unable to print out *PFS:File* files with a Pkaso printer interface on an Epson FX-80. No one I have spoken to seems to be able to help. When I type control-O, as the *PFS:File* instruction book says, my Epson remains silent and my files remain in memory or on the disk, not on paper. Can anyone help?
Parker Monroe, Plano, TX

**Apples and First Aid**
Is there any friendly software that records medical references and has comprehensive listings of first aid procedures? I wish that software companies would recognize the need for personal medical software.
James Lee, Fountain Valley, CA

**Computing Antiquity**
Harry Northrup of Waterville, NY, asked in the May Open Discussion for a program that computes the Yahrzeit. I have such a program available. For any year, it computes the Gregorian dates of fourteen Jewish holidays and dates of up to eight anniversaries selected by the interested party (I would say "user," but I have read Matt Yuen's Softly Comment) by either Gregorian or Jewish systems. The original dates for the anniversaries can be saved to disk and, when the program is run again, they will be automatically loaded in.
Charles Kluepfel, New York, NY

**Throw Him in the Lion Cage**
In an attempt to increase credibility for our now famous "Rename the Hobby-10 the Utility-10" campaign, we decided to contact the person on the street. A random survey was conducted using weekend visitors to the San Diego Zoo. Each person was asked the same three questions while being shown a copy of *Softalk*'s Hobby-10 bestseller list, with the list title hidden. The questions were:

1. Which title best describes the ten Apple *utilities* you see listed here? A. Hobby-10 B. Utility-10 C. Other

2. Which of the following bestselling Apple *utilities* would you classify as a "hobby" disk? A. Apple Pascal B. *DOS Boss* C. *Graphics Magician* D. *Zoom Graphix*

3. On a scale of $00 to $0F, what importance do you give to an Apple *utility* list's name?

The results were enlightening.

Without exception, every person surveyed, regardless of background, told us to take a long walk on a short pier.
Bert Kersey, president, Beagle Bros


**SPECIALS OF THE MONTH**

**Buy ELEPHANT Diskettes at Low Low Prices**
**Lifetime Warranty!**

Boxes of ten 5¼" Soft Sector ELEPHANT diskettes with envelopes, labels and reinforced hub-rings.

| | |
|---|---|
| Single Sided/Single Density | $16.50 |
| Single Sided/Double Density | $18.50 |
| Double Sided/Double Density | $25.50 |

**We offer. Quality. Fast service & Low prices**

VERBATIM DATALIFE 5¼" with envelopes, labels and hubs. Free plastic library case.

| | |
|---|---|
| Single Sided/Double Density | $22.95 |
| Double Sided/Double Density | $31.95 |
| HEAD CLEANING KIT | $11.00 |
| Library Case for 10 Mini Diskettes | $1.65 |
| GEMINI 10x-120 CPS PRINTER | $269.00 |
| PRDWRITER 8510AP 10" Parallel 120CPS | $348.00 |

NDVATIDN Apple Modems:

| | | | |
|---|---|---|---|
| J-Cat | $99.00 | Apple-Cat II | $245.00 |
| Auto-Cat | $215.00 | 212 Auto-Cat | $539.00 |

**Buy now and save. Sale ends August 31, 1984.**

Shipping & Handling (Min. $3.00): $3.00 for any order of diskettes; $5.00 for monitors & modems; and $9.00 for printers. C.O.D. orders add $1.65. We accept Visa, Mastercard and American Express credit cards at no extra charge. We also accept written purchase orders from schools, universities, governmental entities, and companies. Illinois residents please add 7% tax.

**Call us now toll free ANYWHERE in the U.S.**

**Orders only: 1-800-227-3800 Ask for "Smart Data"**
**7 Days a Week, 24 Hours a Day**
**Other information: (312) 256-4456**
**9am to 8pm (central), Mon. through Sat.**

SDI SMART DATA INC.
P.O. Box 297
Wilmette, IL 60091
(312) 256-4456
VISA

# No matter what line of work you're in, you can use MEGAFINDER!



**MEGAFINDER IS A DATA MANAGEMENT PROGRAM THAT IS SO SIMPLE, ANYONE CAN USE IT, NO MATTER WHAT THEY DO FOR A LIVING!**

Unlike most other computer programs, Megafinder has simple, easy-to-remember commands. It also has instant on-line help to give your customers answers when they need them!

It's simple.

**MEGAFINDER MAY BE THE MOST POWERFUL AND VERSATILE DATA MANAGEMENT PROGRAM AVAILABLE FOR A PERSONAL COMPUTER.**

Not only is Megafinder a simple system to use, but it has many other plus-factors that will really set a person free! Things like:

- Advanced sorting and retrieving capabilities
- Unmatched speed
- Simple, yet sophisticated form design
- Efficient report generation
- A virtual library of ready-made forms you can use
- Instant on-line help
- Complete ease of use

**MEGAFINDER IS ALSO FULL OF ITS OWN IDEAS!**

Megafinder is the only data management program that gives the user its own ideas for using it!

Its library of ready-made forms and reports for example, solve business, home and personal finance needs as well as other everyday transactions.

Plus, an individual can design his own custom forms for his own specific needs. Just think, now a person can:

- Store mailing lists
- Prepare invoices
- Record financial data
- Manage task files
- Keep inventory records
- Compile sales records

**MEGAFINDER WORKS ON THE MOST POPULAR COMPUTERS!**

Megafinder is compatible with Apple II+, IIe and soon for Apple's new Macintosh! It will also work wonderfully well with the IBM PC.

Remember.

Megafinder is a TOTAL organizing tool. If you keep any kind of file at all...you'll NEED Megafinder!

**The more you learn about software,**
**The more you'll choose**

megahaus

WE MAKE COMPUTERS WORK HARDER.

**MEGAHAUS CORPORATION**/5703 Oberlin Drive/San Diego, CA 92121/Phone (619) 450-1230

Contact us for further information and to find out the nearest Megahaus Dealer

# SOFTALK CLASSIFIED ADVERTISING

## Adventure

### MAPMAKER FOR HIRE: $39.95

QUICK-DRAW adventure mapper draws great maps of all your favorite adventures. Enter room and connection info and QDAM lists the info and prints a Hi-res map on your dot-matrix printer. Save 4 adventures per disk. Update & print new maps. Many printers & interfaces. Get demo disk & manual for $5.95, which can be credited to the purchase of QDAM. Visa/MC. Tellus Systems, Box 96588, Houston, TX 77213.

---

### ADVENTURE TIPS & SOLUTIONS

Quality books complete with FULL MAPS, CLUES, and SOLUTIONS. *Colossal Cave, Deadline*, all 3 *Zorks, Enchanter, Starcross, Transylvania, Death in the Caribbean, Mask of Sun, Cranston Manor, Ulysses, Wizard & Princess, Mission Asteroid, Pirate Adventure, Adventureland*. $3.95 each, any 3 for $10, or 4 for $12. NM res. add 5% tax. Send check/MO to: TIPS, Box 312-A, Hobbs, NM 88240.

---

### THE ABYSSAL ZONE™

Underwater graphic adventure. Comes with 3-ring binder and 2 disks. Contains 114 hi-res unprotected pictures created with *Graphics Magician*. Game and copyright by Jeff Gray, M.S. Aquatic Biology. Send $29.95 + $2 (U.P.S.) (Visa/MC, check or M/O) to *Salty Software®*, 1139 Hawthorn S.W., Canton, OH 44710 or phone (24hr. order taking); (216) 478-2220.

---

### VIKING QUEST

Explore oceans, discover new lands, battle strange creatures! Apple II+, IIe, DOS 3.3, 48K. *Not copy protected!* Hi-res adventure for only $20. Microstrategy Games, 4974 N. Fresno St., Suite 323, Fresno, CA 93726. CA residents add 6% tax.

---

### ZORK! MAPS & HINT BOOKS

For *Zork I, II, III, Planetfall, Infidel, Enchanter, Seastalker, Deadline, Suspended, Witness, Sorcerer, Starcross*, and *Adventure*. $3.75 ea. or any 3 for $9.75! (Visa/MC, Check, M/O) Brass Lantern Press, Dept. ST, 1625 W. 39th Ave., Kansas City, KS 66103; (913) 722-2464.

---

**HINT HOTLINE!** You probably need only 1 or 2 hints to solve your Infocom Adventure game. Don't buy more than you need! Multi-level hints, Fast Delivery and Guaranteed! Send $1.25 for ea. hint needed (Maps $1 extra) & 20 cent stamp to: HOTLINE, Box 2681-S, Shawnee Mission, KS 66201.

---

### ADVENTURERS!

Peek into your favorite adventure games! You won't spoil the game with our complete maps and coded clues. If desperation is reached, a sealed envelope reveals all. *Cranston Manor, Wizard & Princess, Ulysses, Dark Crystal, Softporn, Mystery House, Mask of the Sun, Serpent's Star, Transylvania, Sherwood Forest, Death in Caribb., Quest, Masquerade*. Summer special $4/ea., 3 sets/$10. Ask Alice, Box 3074, Stony Creek, CT 06405.

### NEW TEXT ADVENTURE!!

You awaken in a dark, dank cell far below the surface, with no remembrance of the past. Will you accept the challenge? *Double-sided disk*. Full sentences recognized. Meet the challenge of MAROONED! Introductory offer normally $39.95, now just $24.95 plus $1.50 shipping. OH res. add $1.50 tax. For Apple II, II+, IIe. VISIONS, 610 W. Alkaline Springs, Vandalia, OH 45377. LIMITED TIME ONLY!!

---

**ADVENTUREDISK**—Monthly double-sided disk full of hints, tips, & solutions to all types of adventures. Also a different Eamon Adventure each month. $9 to start, then $6/mo. AdventureDisk, Box 216, Mercer Island, WA 98040.

---

### ZORK HINTS

Has the skill of Zork gotten too challenging? For a step-by-step guide to *Zork I, II*, or *III* send $2.95 for one or $7.50 for all three to Chad Olsen, P.O. Box 3105, Merced, CA 95344.

## Apple III

### APPLE III POTPOURRI WITH LA GAMES PROGRAM!!

World & Olympic sports data in multiformat program. Original games! Graphics, sound, function demos for learners. All in Business Basic. *Copyable and listable*. Full disk of fun & instruction at a low price! For quick return, send $8 to Bob Court, Box 5503, Glendale, CA 91201. Add $2 for complete Daisywriter printout. SASE for inquiry.

---

### PASSWORD III

Complete file security for the Apple III. The advanced data encryption program will password protect any SOS file: Spreadsheets, Databases, Word proc., Basic, Pascal programs, and more. An average file can be protected in under 2 minutes but can take billions of years to break. Keep your information yours. Only $55 (U.S. funds). GREBAR, Box 83, Station C, Winnipeg, Canada.

## Business

### DATABASE GENERATOR

Create your own customized, self-booting, independent databases without programming. Each holds up to 1,150 records. Great for lists, labels, and files of all sorts. Both generator and databases operate via user-friendly menus. Requires II+, IIe, IIc with Apple Pascal, 80-column card and two drives. Send for free information to Alyeska Software, 3911 Rose, Seal Beach, CA 90740.

---

**LABEL MACHINE!** Perfect for organizing diskettes. A menu-driven automatic disk labeler. Uses 3 1/2, 4, or 5 inch labels. Prints up to 33 files & sec used. Optional alphabetizing & titling. In edit mode type what you wish (up to 480 characters) to create custom labels. For the APPLE II, II+, IIe 48K with either EPSON MX-80 (with Graftrax), FX-80, RX-80. $24.95. BORDER SOFTWARE, Box 66973, Ste. 1153, Houston, TX 77006.

### APPLE II AVIATORS

The "Applelog" for all aviators makes keeping logbooks fun! Also the "Flight Pay Program" for prof. Both very sophisticated & keep records on disk & print full reports. 48K & A/soft & DD reqd. Order @ $24.95 each disk w/manual or get details from 'PI' LET Software, Box 655, Oakton, VA 22124; (703) 620-1131.

---

### THE CHECK MASTER

The ultimate checking account pgm. Keeps multiple accnts. with secret names on one disk. (Personal or business.) Prints monthly statement, but printer isn't req'd. Never add up those outstanding checks again! Reconcile with bank with one entry! Fast and easy to use! Finds errors, search & replace, and more. Only $24.95 from SoftByte, Box 5701 F.PK., Dayton, OH 45405.

---

### * EARTHWORK VOLUMES * by GRID METHOD $55.95

Fast, easy to use. Evaluates cuts, fills, areas, and daylight lines. Permits grid size change and odd sized grids. Provides totals and analysis. Requires 48K Apple II+, IIe, 1 drive, printer. Please send your check or MO to LaComputer, Box 197, Wrightwood, CA 92397. More ENGINEERING CONSTRUCTION programs available. (619) 249-3219.

---

### * GOLF HANDICAPPING * USGA RULES

Complete handicap system ideal for pro shops, golf clubs, and personal use. Will calculate new handicap for an individual or the entire club. *Program* written with the assistance of a professional golfer. Complete with disk and instructions. Requires 48K Apple II or II Plus w/1 or 2 drives and printer. Also Apple IIe and Apple III. Only $99 + $2 shipping. C C Computing, Box 432, Simsbury, CT 06070-0432; (203) 658-7375.

---

### LEARN IBM JCL

On your Apple II, of course. INTRODUCTION TO IBM OS/JCL is a tutorial in IBM job control language for OS. Don't be intimidated by the wizards . . . learn their secrets! Ten lessons cover OS concepts, JCL syntax, and IBM utilities. Individual version $25; Institutional version $50.

Applied MicroSystems, Box 832
Roswell, GA 30077; (404) 475-0832.

---

**REAL ESTATE PROPERTY MANAGEMENT** software for owners of single family, apartments, condos, offices, ministorage, duplexes. Provides instant cash flow analysis, records expenditures on each unit, prints cash flow reports and summary of operations report, and accumulates cost for tax purposes. $149.95. Tomar Productions, Box 740871, Dallas, TX 75374; (214) 750-1212.

---

### PLOT BUSINESS MODELS $39

Revenue: TR MR AR with *elasticity of demand*. Cost: TC MC AC AVC AFC. (TC is *cubic*.) Profit: TC MC TR MR P w/*optimum qty/price*. Auto-save-DIF. Interactive Edit/Help/Display. DOS 3.3 II + /IIw/ FP ROM 48K. Logan Publishers, Box 4203, Gainesville, FL 32613-4203.

### CURVE PLOTTER $34

Five *functions*, fitted to a scatter-diagram. 13 stats show *best-fit* and include t & F. Interactive data edit/help/display/print. Auto-save-data. Cross-section & Time Series. II+II w/FP ROM 48K DOS 3.3. Logan Publishers, Box 4203, Gainesville, FL 32613-4203.

---

### THE PRINT MASTER

THE COMPLETE printing disk! Prints checks (business or per.), mailing labels (1 or 2 across), mailing lists & envelopes all from file data! Powerful sorting features, quick set-up, menu-driven. INCLUDES CHECK MASTER. Needs 48K, 1 or more drives. The biggest value around at only $39.95. Soft-Byte, Box 5701, F.PK., Dayton, OH 45405 (Free Info).

## Communications

### APPLE—IBM COMMUNICATION

With APPLE-BISYNC your Apple II or IIe can communicate directly with IBM mainframe systems software. Ideal to transfer data files in both directions. EASY TO USE! Complete RJE capabilities: submit jobs/data, extract listings/reports. True RJE 3780 emulation. Also Apple to Apple communication.

URGEO Software, Box 305,
Cheney, WA 99004; (509) 838-6058.

## Fantasy

### **WINNER'S KITS**

Complete Maps, hints, and solutions for *Ult.III*: $8.50; 3 *Zorks*: $8.50 or $3.50 ea.; 3 Wiz. Scenarios—$7.50 or $3 ea. Choose from *Enchanter, Deadline, Witness, Cov. Mirror, Death in Carib.*—$3.50 ea. or 3 for $8. Time Awaits, 5304 Cam. Velasquez, San Diego, CA 92124.

---

### TIRED OF ARCADE CLONES?

You won't find 'em in the WIZINEWS quarterly! We only publish the latest in news, articles, tips, reviews, interviews, gossip, commentary for ALL fantasy/adventure games! Attractive format, great writers! Subscribe: $10/4 issues, sample $2.50 (Visa/MC). WIZINEWS, 6901 Buckeye Way, Columbus, GA 31904; (404) 323-9227.

---

### ARE YOU A WIZARDRY WIMP?

Build Wizmuscles fast, easy with no cheating! NEW 90+ page manual: complete charts, great tips, step-by-step help for all 3 games ($15). Superior maps $5 (Sc.1, 2, or 3). All $25. OUR fix disk modifies/prints all 3 games AND is but $17.50! FREE support/updates. Other game products, too! VISA/MC. We're the ones the others imitate! Nichols Services, 6901 Buckeye Way, Columbus, GA 31904; (404) 323-9227.

---

**NO CHEATING!** Just a well-organized quest. Personalized forms/charts made by your printer & *Wizardry Roster* keep track of all stats, etc. Update as you play—*without erasing*. There's a trick? Ah, there is!! Compl. kit $18. K. Sheasley, 19240 McGill, Roseville, MI 48066.

---

MASTER MAZE SYSTEMS



### KNIGHTS OF WIZARDRY !!!

Frustrated? Rookies and skilled players alike win with our system. Fully detailed maps containing all notes and hints needed. $6 each scenario. Master Manual has secret tricks and helpful hints, only $12. All for only $22.50. Master Maze System, 1404 S. Ocean Blvd., Myrtle Beach, SC 29577.

---

### BUY A FOREIGN COUNTRY

Or win at *Ultima II* and *III* with the world's easiest to use character editors. $9 each or $14 for both disks. Fishtree Software, 34 Giralda, Long Beach, CA 90803. Specify *II* or *III*.

---

### WIZARDRY GAMESTERS

Teleported into solid rock? Restore your characters with Legacy Breaker. Works with all three scenarios, modifies everything, including items, except chevrons. Only $20. Quantum, 106 E. Washington, Coleman, MI 48618.

---

### SUPER STAR TREK
### NOT COPY PROTECTED

You've seen it on mainframes! All the thrills of the original *Star Trek* plus: Romulans equipped with cloaking devices, Klingon Commanders with tractor beams, orbit planets, mine dilithium crystals, launch probes, defend starbases, five levels of play and much more! Only $19.95. SoftTrek Enterprises, 3646 Fieldcrest Dr., Garland, TX 75042.

---

### QUALITY WIZARDRY MAPS

High quality maps of all three scenarios are included for one low price of $7.95!! These maps are GUARANTEED to be accurate, and are printed and bound very attractively. Please send your check/M.O. to: A-Maze-Ment Grafix, Box 963, La Mesa, CA 92041.

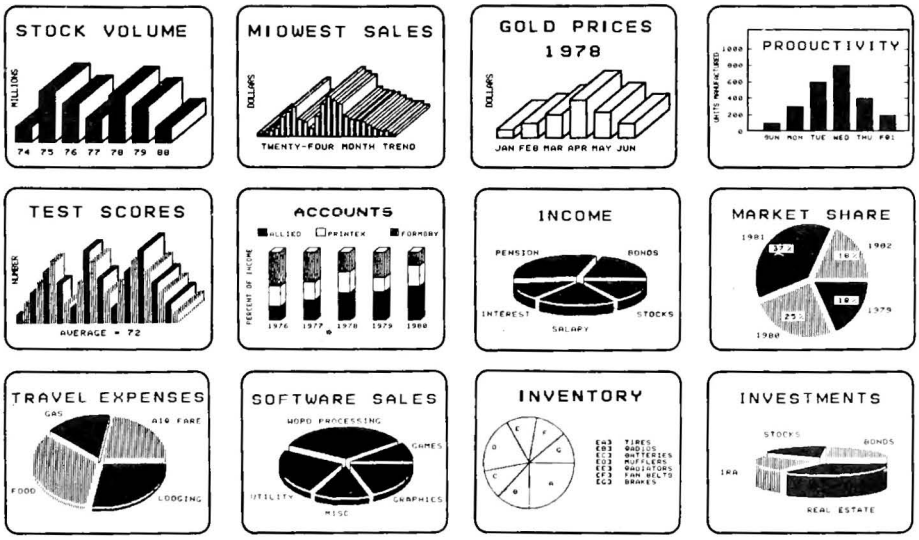
## Graphics

### PRINT GRAPHICS

Print HI-RES graphics on your Apple DMP or Prowriter. PRINTPIX is a standalone program, plus a utility you may add to your own programs. Send $29.95 to MSB Software, 7560 Hillcrest Drive, Oscoda, MI 48750.

---

# MasterChart!




***MASTERCHART!*** **lets the user convert keyboard data into picture-perfect pie or bar charts, in 26 different styles, automatically scaled and labeled, in color or black and white. *MASTERCHART!* comes with these valuable extras . . .**

***THE GRAPHICS EDITOR,*** **for editing or drawing on charts. Besides point-by-point sketching, built-in structures permit pushbutton creation of circles, rectangles, shape table shapes, and straight lines. User may also type on the screen in several different letter font styles. For the artist, the *GRAPHICS EDITOR* can also be used to sketch any imaginable scene from scratch.**

***SHAPE TABLE EDITOR,*** **for creating special shapes or font characters for typing or drawing with *THE GRAPHICS EDITOR.***

***THE SLIDE PROJECTOR,*** **for automated screen presentations of a series of charts, timed and sequenced by the user. An indispensable utility.**

***MASTERCHART!*** **includes screen-dump utilities for printing your charts on paper.**

***ONLY $29.95.*** **Apple II+/IIe/IIc. Satisfaction guaranteed or money back (really!). Send check or purchase order to *SPECTRAL GRAPHICS SOFTWARE*, 540 N. California, Suite 22A, Stockton, California 95202. Call (209) 463-7309 for COD orders and dealer inquiries. *MASTERCHART!* is not yet sold in most stores.**

# SOFTALK CLASSIFIED ADVERTISING

### OVER 2,000 SHAPES!

Ready-to-use tables, 2 disks. Character sets, game & animation sets, beasts, ghosts, houses, spaceships, animals, flowers, trees, flow chart symbols, snowflakes & more, in various sizes. $29.50 includes instructions, viewing & demo programs. 48K Apple II+/IIe. LUSTER SOFTWARE, Box ST, 541 G St., Salida, CO 81201.

## Hardware

### THE SHRINK

Keep your Apple running error-free. Includes software to accurately set drive speed *plus* a head cleaning kit *and* diskette storage box. Just $39.95+$2s/h (CA+6%) to: Quality Computer Products, 10724 Rochester Ave., L.A., CA 90024. MC/Visa may call: (213) 837-1881.

### DATABIND: RING NOTEBOOKS

New! Designed to FIT TRACTOR FEED PAPER! No more stripping or punching holes. DATABINDS are sturdy, attractive, vinyl-covered, office-quality notebooks. Large capacity 1½'' metal rings are cleverly spaced to fit paper fan-folded or sideways. Black, brown, blue, green, or orange. $6 each, set of 5/$26. Add $2 shpg/order. DATABIND, Box D, Margate, NJ 08402.

**5¼" One-Step**



*For Apple, Franklin, Atari, Commodore 64*

***Order yours today!***

**SAVE $,**

***Use 2 sides of***

- *"Built-in alignment" makes write-eneable notch in one-step.*
- *Doubles your disks-count.*
- *Fast end easy to use.*
- *Pays for itself in minutes.*

**$12.95** *Add $2 P & H ($6 int'l P & H) MA add 5% tax Chack, M.O., VISA, MC*

***©FORTUNE TECHNOLOGY CO.***
***70 Marcellus St., Suite 747, Newton, MA 02159***

### FYTRON HS 3000 MODEMS - $99

300 baud, full-half duplex, originate-answer FSK standalone, handset connect, standard RS-232-C or TTL-43 interface. For most computers and all desk telephones *except* Princess or electronic. Satisfaction guaranteed or full refund. Also one-year factory warranty. Aspen Apple Software, Box 1962, Boulder, CO 80306.

### APPLE MONITOR II $99!

Macintosh, Imagewriter printer, Apple IIe, IIc, more! Also over 800 DOS and CP/M prog. Send for cat. 2A and details. Discount Computer Accessories, 445 N. Pine, Reedsburg, WI 53959.

ANNOUNCING

**COMPUTEREYES™**

VIDEO IMAGES ON YOUR APPLE!

Finally — an inexpensive way to capture real-world images on your Apple's Hi-Res display! COMPUTEREYES™ is an innovative slow-scan device that connects between any standard video source (video tape recorder, video camera, videodisk, etc.) and the Apple's game I/O socket. Under simple software control, a b/w image is acquired in less than five seconds. A unique multi-scan mode also provides realistic grey-scale images. Hundreds of applications!

Package includes interface module, cable, complete easy-to-use software, support on disk, owner's manual, and one year warranty. For 48K Apple II series and compatibles, with Applesoft and DOS 3.3. COMPUTEREYES™ is available from your dealer or direct from DIGITAL VISION for just $129.95 plus $4.00 S&H (USA).



Also available as a complete package including:

- COMPUTEREYES™
- Quality b/w video camera
- Connecting cable

for only $349.95 plus $9.00 S&H.

Demo disk available for only $10.00 postpaid.

Mass. residents add 5% sales tax. Mastercard, Visa accepted. To order, or for more information, write or call:



Screen dumps of actual COMPUTEREYES™ images

**DIGITAL VISION**

DIGITAL VISION, INC.
14 Oak Street — Suite 2
Needham, MA 02192
(617) 444-9040

### 3M DISKETTES . . . $19.95

Box of 10 5.25'' SS/DD/RH diskettes for Apple. Ship in 24 hrs. $2 shpg. Check/MC/Visa. Cactus Computer, 3090 E. Palouse River Dr., Sp 305, Moscow, ID 83843; (208) 882-8603.

**FREE? DISKETTES**

**SAVE MONEY !** Apple II+/e users can use the diskette flip side, if another "write enable" notch is correctly made.



The **DISK NOTCHER by QUORUM** quickly **SOLVES** that **PROBLEM**. It's like FREE DISKETTES!

- Stainless Steel Guide
- Easy Leverage Handle
- Clippings Catcher
- Square Notch Cut
- Black Finish
- Get THE BEST!

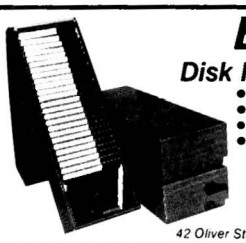
**Certifix™**

**BE SAFE !** Your 'FREE' disk is CERTIFIED 100% ERROR FREE with **CERTIFIX** by QUORUM. It **'LOCKS OUT' DISK FLAWS** and lets you use the rest. Displays status report & saves it to disk. Next, **CERTIFIX automatically formats** then offers to initialize **with genuine Apple DOS 3.3** too. Great for testing economy disks. **CERTIFY, FIX & INITIALIZE every disk with CERTIFIX !**

*100% Money Back Satisfaction Guarantee !*

DISK NOTCHER is $14.95
CERTIFIX™ is just $24.95
ONLY $29.95 for BOTH!
Add $1.50 s/h • CA add 6½ % tax

**QUORUM INTERNATIONAL, Unltd.**
**INDUSTRIAL STATION P.O. BOX 2134- ST**
**OAKLAND, CA 94614**



**Easy-View™**

***Disk File Work Station***

- *Stores 100 Disks, Dust Free*
- *25 Disk Titles Clearly Visible*
- *Fast, Easy Access, Stackable*
- *Top Flips Back, Locks Upright*

**$9.95** *Add $2.50 Postage & Handling*
*Cash, check or M.O. No C.O.D.'s*

***RULE ONE***
*42 Oliver Street Dept. S, Newark, N.J. 07105*

### EPROM BOARD

This peripheral card, for the II, II+, & IIe holds one 2716 EPROM or 2316 ROM. It has built-in I/O and device select lines and maps into $CN00-$CNFF where N is the slot number. It also maps into the 2K expansion ROM space and follows all Apple conventions. Excellent for experiments, hobbyists, or as a software protection scheme. $29.95 + $3 s/h. CK/MC accepted (add 3 1/2%). Soft CTRL Systems, Box 599, West Milford, NJ 07480; (201) 728-1272.

## Home

### GOLFERS!!!

Prog. stores scores and computes handicap for yourself & dozens of friends. Apple II+, IIe. Mail $24 to The Nautilus Computer, 27 Nautilus Dr., Hampton Bays, NY 11946. Free rule book.

### TOTAL FITNESS SOFTWARE

*Free* catalog of 130+ health progs: diet, exercise/aerobics, psychology, anatomy, health games. For the heart, smoking, alcohol, stress mgmt., memory retention, and more CTRL Health Software, 18653 Ventura Blvd. #348A, Tarzana, CA 91356; (818) 788-0888.

### ***** RATED XXX *****

Play TRIVIA BUFF, the *New Adult Party Game* for trivia fans. Over 1,000 questions for 48K Apple II+/e (at least 1 disk drive). 3 levels of difficulty, 4 knowledge categories: TV/Movies, Super Potluck, and History!!!! 1 to 5 players. The more the merrier. Losers have all the fun! Only $39.95 from H.U.M.A.N.S., Inc., Box 82, Evington, VA 24550, toll free (800) 368-3238 (VA 800-542-2242). MC/Visa.

### HOME ADDRESS BOOK

Everybody needs one! Keeps 32 items for 402 families. Reports are: ADDRESS BOOK, PHONE LIST, DATE CALENDAR, MAILING LABELS, etc. Easy to Use! Unlocked. For II+ or e (64K). Satisfaction guaranteed! $19.95 (Ck, MC/Visa) to OPT-SYSTEMS, 2109 W. Edgewood Dr., Jefferson City, MO 65101.

## I CHING DISK * DICE DISK

Brand New!!: The I CHING in modern imagery!!! Complete, easily understandable, insightful. *I Ching Oracle Disk* for Apple II series (48K) just $59.95 (includes shipping and sales tax). Also available: < < < STARS AND DICE DISK > > >. Combines astrology and dice in modern imagery to answer your personal questions. Great Fun!!! Just $29.95 complete. Send check today to Frank Kegan, Box 8513, Emeryville, CA 94662.

---

## MAKE BANNERS AND MONEY!

This easy-to-use program will make quality banners. The size of each letter is approx. 8" by 6". Make and sell banners for friends, parties, etc. For only $20 you will get a quality program that will probably pay for itself in a matter of weeks. Apple IIe and Epson printer required. Send to BBB, 2759 Windamere Way, Rockford, IL 61109.

---

## PONY

Thoroughbred race handicapping with the Apple II. Four systems with user-chosen weighing factors to allow fine tuning & "what if" variations. Formatted reports & data entry displays; soft & hardcopy. Instructions, scripts, & diskette. $69.
IDM Co., Box 587
La Verne, CA 91750

---

## WIN$$ CRAP$ WIN$$

Crapshooting Tutorial

Skill-building exercises, tests, systems, & simulation. Apple II+, IIe disk. $39 incl. tax. TOUT Co., Box 3145, Pomona, CA 91769.

---

Improved version!

## SPORTS TRAX

**The Proven Sports Stats Program**

Stores player and team game results. Automatically computes averages and league standings. Sorts statistics by team leaders to screen or printer. Prints blank team roster to aid data gathering. Improved to allow up to 16 teams per league. Already in use by many high schools, Little Leagues and other amateur groups. Also perfect for game players or dorm leagues. Available for the following sports:

**● Baseball/Softball**
**● Hockey**
**● Basketball ● Soccer**

Apple 48K DOS for $24.95 includes postage and handling. After Aug. 1, price per sport will be $29.95. Order now to beat the price increase.

**F.J. Voss**
**459 Sierra Vista Lane**
**Valley Cottage, N.Y. 10989**

---

## COMPUTER ROAD ATLAS

*TAKE TRIPS WITH COMPUTER LISTINGS SHOWING THE BEST ROUTE*



Enter departing and destination city. **ROADSEARCH-PLUS** computes and prints the best route. RDS subroutine lets you add 50 cities to the original 406. Unlocked. 15 day **Moneyback Guarantee.** Apple II/IIe or Commodore-64/Disk. $74.95. **ROADSEARCH** (w/o RDS) is $34.95. Add $1.50 shipping. CHECK/VISA/MC. Ask your dealer or:

**Columbia Software**
Box 2235 Y, Columbia, MD 21045
(301) 997-3100

---

## 59 CALC-PLATES FOR THE INCREDIBLE JACK

Completely set up and ready to compute! Choose from a wide variety of standard spreadsheet-type personal/business forms, including loans & interest. Load the desired CalcPlate and go! Disk comes with 59 CalcPlates & Instructions File with all directions. Write for Details. ALL FOR $19.95 (NYS sales add sales tax). **AEROCAL, Box 799, Huntington, NY 11743.**

---

## DOG$

Greyhound Handicapping Tutorial

Three menu-driven, multifactor systems. Modeling Coefficients to meet YOUR needs. Apple II. $39. TOUT Co., Box 3145, Pomona, CA 91769.

---

## HO$$

Thoroughbred Handicapping Tutorial

Five menu-driven, multifactor systems. Modeling Coefficients to meet YOUR needs. Apple II $89. TOUT Co., Box 3145, Pomona, CA 91769.

# Home-Arcade

## DOUBLE BONUS

Purchase double trouble (five great new arcade games, played two at a time, side by side) and get another BEZ game free: choose either *BEZ-MX*, a military strategy game for one or two players, or *BEZoff*, a busy, BEZzing, bug-infested arcade game. *All three have been reviewed in* Softalk! Send $15.00 (CA+6%) to BEZ, Box 19654, Irvine, CA 92714.

---

## MAZE GAMES $4.95

Maze Games contains 4 *colorful*, *fun* games, packed on the same disk. Machine lang. speed, great graphics, & *superb* playability! All for only $4.95!!! *As usual, no shipping & handling charges.* Foxxivision Inc., 28090 Tavistock, Southfield, MI 48034.

---

## GRAPHICS GAMES $4.95

Announcing the *greatest* price in Apple games history. 5 *new*, original, *enjoyable* games for everyone in the family packed on the same disk. Great graphics, animation, mach. lang. speed, & *superb* playability. Send $4.95 to Foxxivision Inc., 28090 Tavistock, Southfield, MI 48034. *Extremely fast & reliable delivery!*

---

## GAMES $2.50

The *new* Foxxivision demo disk is *packed* on both sides with *quality* entertainment, graphics, & *games*!!! We have the lowest prices around! Send $2.50 to Foxxivision Inc., 28090 Tavistock, Southfield, MI 48034.

*Or send for our free brochure!!!*

---

## ENTERTAINMENT PAK $4.95!!!

Announcing the *greatest bargain ever*!!! Hate paying high prices for software? You get 8 great games, with great graphics, mach. lang. speed, and *superb* playability, all packed on the same disk!!! Send $4.95 to Foxxivision Inc., 28090 Tavistock, Southfield, MI 48034.

# Home Education

## 4 GRAPHICS DISKS $25!!!

All 4 graphics disks are *listable*, *copyable*, & *original*, not public domain. These disks contain the greatest computer graphics programs *you have ever seen*!!! Over 100 computer graphics programs in all. Great for education, beginners, and experts alike. Send $25 to Foxxivision, 28090 Tavistock, Southfield, MI 48034.

---

## FREE!! SOFTWARE CATALOG

Nearly a thousand items, mostly educational, for grades K–12. Largely APPLE but other popular machines represented as well. Write EAV Inc., Pleasantville, NY 10570 or call toll free: (800) 431-2196.

---

## VITAMIN DISKOPEDIA

Complete nutritional info at your fingertips. Vitamin, Mineral, Enzyme, Amino acid, and Deficiency symptom menus. $19.95. Diskopedia, 1809 Monticello Pl., Edwardsville, IL 62025.

---

## MIKE O'TUTOR

Your private tutor with artificial intelligence that helps you learn any subject. Two disks help with homework, study with flash cards & graphic games, and gives tests. Send $49.95 to Willoughby Ware, RR 1, Box 304, Centerview, MO 64019; (816) 732-5787.

---

## **CHEMISTRY**

*Introduction to the Elements* is an interactive drill/practice & problem-solving course on the Periodic Table. Free-format allows the student to learn anything or everything about the Table or elements themselves. Tools for problem solving (such as the Table & a calculator) are included in hi-res graphics. $29.95. Applied MicroSystems, Box 832, Roswell, GA 30077; (404) 475-0832.

# SOFTALK CLASSIFIED ADVERTISING

### LEARN APPLESOFT

New release 3.2 of **BEGINNING BASIC** is now available. This tutorial, popular nationwide for over two years, teaches programming to the beginner easily and inexpensively. Twelve lessons cover everything from input/output and printing techniques to arrays, looping, and graphics. $34.95 at your local dealer or from Applied MicroSystems, Box 832, Roswell, GA 30077; (404) 475-0832.

---

### MULTI-LINGUAL SOFTWARE

For Spanish, French, German, and other languages. No extra hardware required. Apple II+/IIe. Word processor and educational programs. Free catalog. Le Professeur, 959 NW 53rd St., Ft. Lauderdale, FL 33309; (305) 771-6498.

---

### LEARN COMPUTER PROGRAMMING

with the Apple's Core for beginners $49.95. To learn more advanced programming, order Part II: The Seed $59.95. Each program contains 2 teaching disks + an instructional manual. Add $2 for shipping. Send check/MO (COD accepted). The Professor, 959 NW 53rd St., Ft. Lauderdale, FL 33309; (305) 771-6498.

## Publications

### MORE THAN 3000
### COMPUTER BOOK TITLES AVAILABLE

Comprehensive selection of computer books from every major publisher at low discount prices! Call (800) 847-4272 or (818) 841-8411 to place book order & receive free price list, or mail $2 P&H for price list only.

THE BRIGHT SIDE
3308 W. Burbank Blvd., Burbank, CA 91505

---

### MINUTE MANUALS

| | |
|---|---|
| Apple Writer IIe | $7.95 |
| Apple Writer II+ | $7.95 |
| PFS:FILE/REPORT/GRAPH/WRITE | $12.95 |
| DB Master (Ver 3) | $12.95 |
| Apple Writer Glossary Disk | $14.95 |
| Data Disks (2) For MM for DB Master | $9.95 |

Send check & add $1 shipping (301) 995-1166
MinuteWare, Box 2392, Columbia, MD 21045

---

### MINUTE MANUAL For PFS FILE/REPORT/GRAPH/WRITE

Explains this integrated software system for those who have one or more of these programs and for those who want to find out about them. Quick guide to over 50 step-by-step procedures. Tutorial is perfect for home and classroom. Dot matrix printing codes explained & much more. $12.95 + $1 S&H. MinuteWare, P.O. Box 2392, Columbia, MD 21045.

## Services

### DON'T SEND ME ANY MONEY!

The lowest prices on *Softalk*'s Bestsellers! All the Top Thirty at substantial savings you can't get from *any* other mail order dealer! Send for Free catalog: APPLESEED SOFTWARE, 1103 Regent Street, Alameda, CA 94501.

---

### APPLE OWNERS

Join the Club where you never have to buy software again.

JUST RENT IT FOR $4.00 per program

For further information call **(714) 996-0100** and for a unique catalog send $4.00 for Postage & Handling to:

**COMPUCLUB INTERNATIONAL**
4332 E. LaPalma
Anaheim, CA 92807

---

**DON'T BE LIMITED** by disk exchange services. Turn unwanted software into CASH! Sell Apple disks on consignment. Buy quality used software at huge savings! *Zork* or *Zaxxon* $22.50, *Wizardry* $27.50, *PFS* $65. Free information. Consignment Software, Box 2813, Cedar Rapids, IA 52406-2813.

---

### SAVE AT GOLEM COMPUTERS

Our **SOFTWARE and HARDWARE** prices are lowest. All major brands are available. We carry business, education and entertainment software. Call for **FREE** catalog. (800) 345-8112, in Pennsylvania (800) 662-2444.

---

**PFS:FILE.....$78.50**
**KOALA PADS .....$79.95**
(219) 534-1012
HOOSIER SOFTWARE
Box 275, Goshen, IN 46526

---

### LOW SOFTWARE PRICES!

Check our fantastic prices! Write for our **FREE** price list! KERR SOFTWARE, Box 5301-ST, Long Beach, CA 90805; (213) 428-8193. Source: CL0854.

---

### WE CAN'T AFFORD A BIG AD

Because we're keeping our overhead low so you'll get the *cheapest* software prices. Write for our free catalog. Alligator Enterprises, 1105 Alameda, TX 78704; (512) 443-2621.

---

### ZAXXON-LODE RUNNER-$5?? EXCHANGE YOUR APPLE SOFTWARE WITH US

Send your list. We'll send ours. Write to . . . WCC, 101 Buena Vista East, San Francisco, CA 94117.

---

### DON'T BUY

until you check out our low prices. Call or write for **FREE** 64-page catalog. A.P. COMPUTER PRODUCTS, INC., 214A E. Main St., Dept. C-10, Patchogue, NY 11772; (516) 654-8811.

### SUPER SOFTWARE SAVINGS

Dollars & $ense — $69.95
MasterType — $29.95
HomeWord — $49.95
Flight Simulator II — $39.95

For a complete catalog of personal and small business computer software and hardware at excellent prices, write: SBCC, Box 1191, Thousand Oaks, CA 91360; (805) 492-9391.

*Service Is Our Motto!*

---

### SAVE BIG BUCKS!

Top-rated software at low, low prices. Send for **FREE** price list. See how much YOU can save! Tangent 270, 2509 Dahlia, Box 38587S, Denver, CO 80238; (303) 322-1262.

---

### BUYING USED SOFTWARE

I buy and sell used software for about 1/2 price. For listings please call Jim at (314) 527-4180. Or write *Used Software*, 729 Oklahoma Ave., Manchester, MO 63011.

---

### SOFTWARE SPECIALS!

**Gibson Light Pen .....$196.96**
**Time is Money .....$73.96**
**Wildcard 2 .....$112.96**

Just a sample of the over 50 programs on special this month. Send check, M.O., Visa or MC number and expiration date. All prices include shipping. Ask for our **Free Price List**. Educators—ask for our **education catalog**. Bytes & Pieces, Box 525, Dept. S, E. Setauket, NY 11733; (516) 751-2535.

---

### 900 APPLE PROGRAMS

Straight 30% discount, reliable service. Free price list. Write Select Software, Box 86, Buffalo, NY 14226. For credit card orders only (800) 732-2666 anytime.

---

### APPLE GAME DISK EXCHANGE ***OUR 2ND YEAR***

Exchange your unwanted games for ones you would like to play. WRITE FOR INFORMATION OR SEND your original manufacturer's disk, documentation, a list of five games to make your exchange from, and $5.50 (2 for $10.50, 3 for $15.50, 4 or more $4.75 each) to:

National Home Computer Game Exchange
P.O. Box 20285, Columbus, OH 43220

---

### SOFTWARE JUNKIE??

RENT today's most popular software: recreational and educational. Buy at 20% discount. FREE brochure. The Soft Source-R Inc., Dept. J, Box 2931, Joliet, IL 60434.

---

### COMPUTER SOFTWARE RENTALS

Rent-buy-sell-trade-new-used
SOFTWARE-FIRMWARE-HARDWARE
FREE BROCHURE & MEMBERSHIP
Box 33, Owensboro, KY 42302

New Version **Dot Matrix Printer Utilities** New Version

*"... does what Apple should have done for the DMP a year ago."* (SOFTALK, FEB. 1984, P. 144)

- **New versions** for Epson FX, and Apple® DMP & Imagewriter printers.
- **24 custom fonts** including Greek, Typewriter, Script, Old English, and Super- & Sub-script.
- **Full featured font editor** supports proportional and variable width characters.
- **User friendly** selection of all printer features plus 60 page manual.

$50 from your dealer or postage paid directly from us. Write for examples of character fonts and additional information. Please include your printer and interface types.

Wisconsin residents add 5% sales tax. Apple is a registered trademark of Apple Computer, Inc.

**Vilberg Brothers Computing, PO Box 72, Mt. Horeb, WI 53572**

(608) 274-6433 CompuServe # 73765,124

# Strategy

## COMPUTER PINOCHLE

Play this two-handed version against a challenging computer opponent. Hi-res graphics, auto scorekeeping. Apple II+/IIe, 48K, DOS 3.3. Send $24.95 to MSB Software, 7560 Hillcrest Drive, Oscoda, MI 48750.

# Utility

## PASCAL 1.1/1.2 UTILITIES

For the II+/IIe: Program a key to type several characters (function keys), use your Apple while it is printing (spooler), send what you see on the screen to a file, $29.95. For the IIe: Turn the extended 80-column card into a fast 126 block RAMDISK drive, $19.95. Source included! David M. Neves, 2801 Monroe St. #2e, Madison, WI 53711; (608) 238-0020.

---

*Softalk*'s classified advertising section offers a considerably less expensive way than normal display advertising to reach tens of thousands of Apple owners.

Classified advertising space is available at the rate of $10 per line for the first ten lines, with a five-line minimum. Each line over ten lines is $25 per line.

Heads will be set in 10-point boldface, all capitals only. Italics are available for body text only; please underline the portions you would like italicized.

The body text of the ad will hold roughly 45 characters per line. Spaces between words are counted as one character. Please indicate if you would like the head centered or run into the text.

Display advertising may be placed in the classified section at $100 per column inch; no advertising agency commission shall be granted on such advertising. Ads must be black and white, may be no larger than 1/2-page, and must fit within the three-column format.

Ad copy for classified ads and camera-ready art for classified display advertising should be received no later than the 10th of the second month prior to the cover date of the issue in which you want the ad to appear. Payment must accompany ad copy or art.

Please call or write for additional information.

Softalk Classified Advertising
7250 Laurel Canyon Boulevard
Box 7039
North Hollywood, CA 91603
Attention: Linda McGuire Carter
(818) 980-5074

## *FREE CP/M SOFTWARE*

Tap the vast supply of public domain CP/M software. Download programs over the phone. Communicate with remote Bulletin Board Systems. Transfer files between computers. The CP/M user's group *modem* protocol is used. Easy to use; instructions, examples. Needs CP/M 2.2. For Apple II+, TRS80 MOD1,VT180. Disk $34.95+$2 ship. Inquiries welcome.
ALTEK, Inc. Box 591, Brighton, MI 48116

---

## ADVANCED PASCAL USERS!

Assembly Libraries: for VIDEX VIDEOTERM & ULTRATERM (all modes); at, set cursor, & attributes, fielded screen reads, echo, rdscreen, slot3. EXTENSIONS: str2int, xlate, verify, strip, addr, word/byte peek/poke. Generalized QUICKSORT! MORE . . . $40. For complete desc. send SASE to RTSoftware, Box 674, Columbia, MD 21045.

---

## DISK LABEL ORGANIZER

Organize and label your Diskette library!
+ Automatically reads and sorts catalog.
+ Fast machine language read/sort routines.
+ Simple selection of files to be printed.
+ Supplied with 300 labels.
+ Easy to use, one-key menu selection.
+ Easy-to-follow documentation.
+ Reasonable price! ($24.95 + $2.50 P&H)

Isle-Soft, 2497 W. River Rd.,
Grand Island, NY 14072

---

## INTRODUCING CAT-CARD

Print your disk catalog plus much more on a 3x5 card. The card is held to the disk jacket in a see-through card holder. CAT-Card also sorts by file name. Req. Apple II+/IIe, one drive, printer. Unprotected for back-up! $39.95 ppd. incl. starter supply of cards and holders from Hollowpoint Software Systems, Dept. S, 270 N. Second St., Box 80, Freeland, MI 48623. MI res. add sales tax.

## APPLE WRITER IIe/GEMINI

Discover REAL PRINTER UNDERLINING and other previously unusable features like SUPERSCRIPT. All functions usable from within Apple Writer IIe control. Includes preboot, glossary, new help screens and utilities. Everything is menu-driven. Send $19.95 to Paul Revere Enterprises, 3519 Historic Dr., Jeffersontown, KY 40299.

---

## VOICE SYNTHESIZER $39.95

Classical Computing announces Speak Up! For II+/IIe. Unprotected disk and manual in a protective vinyl album. Any BASIC program talks without hardware! TEXT TO SPEECH makes it easy to use, and it's fun. Order toll free (800) 334-0854 ext. 890.

# Word Processing

## EPSON FX-80 GLOSSARY FOR APPLE WRITER IIe

Confused about getting all the FX-80 print options to work when using *Apple Writer IIe*? Our EPSON GLOSSARY makes it easy! Just load the file and use a 1-character command. Quality disk comes with glossary, sample *AWII* files, manual, and free *AWIIe* "Cheat Sheet." $14.95 + $1 shipping (NYS sales add sales tax). **AEROCAL, Box 799, Huntington, NY 11743.**

---

## APPLE WRITER GLOSSARY DISK

Select glossary from menu for Epson MX/FX/RX, Gemini 10/10X, Apple DMP/Imagewriter, NEC, Prowriter, and Okidata. Access any print command in *Apple Writer II+* or *IIe* with a single keystroke. 16-page booklet & guide. Nul code patch/underlining, superscripts on Epson MX and Gemini. $14.95 + S&H $1.
**** **** (301) 995-1166 **** ****
MinuteWare, Box 2392, Columbia, MD 21045.

---

**DIRECT MAIL II**—a sophisticated mail merge for Apple II/IIe. Merge form letters from *Apple Writer* and other text processors with Visifile, General Manager, PFS, DIF or Text files. Fast processing. Easy to use. Builds mailing lists. Performance guaranteed. $99.95 plus shpg. Eval. disk and manual available. VENTURE SOFTWARE INC., Box 6502-S, Nashua, NH 03063; (603) 889-2556.

---

**LETTER MENU**—an integrated series of WPLs for *Apple Writer* with more than 1,500 lines of WPL commands. Simplify daily correspondence. Letter building/addressing are automatic. Easy to use. Menu-driven. Tutorials give educational tips for writing better WPLs. $39.00 ppd. or manual only $6.00. VENTURE SOFTWARE INC., Box 6502-S, Nashua, NH 03063; (603) 889-2556.

**Thunder Software**

- **The THUNDER C Compiler** - Operates under the APPLE Pascal 1.1 operating system. Create fast native 6502 programs to run as stand alone programs or as subroutines to Pascal programs. A major subset of the C defined by K & R. Includes a 24 page users guide, newsletters, Macro preprocessor, runs on 64k APPLE ][, ][+, //e,//c. Source code for libraries is included. Only $49.95
- **ASSYST; The Assembler System** (Formerly The Cheap Assembler) - A complete 6502 editor/assembler and lister that runs under DOS 3.3. Menu driven, excellent error trapping. 24 page users guide, demo programs, complete source code for all programs including the editor and the assembler! Only $23.50

**Thunder Software POB 31501 Houston, Tx 77231 713-728-5501**
**Include $3.00 shipping. COD, VISA and MASTERCARD accepted.**

# Softly Comment

Obits

## The Apple III: The End of Forever

*It was probably the best personal computer ever made, but it could never overcome its disastrous beginning. In the end, it succumbed to poor marketing and neglect in the face of those big blue letters.*

Apple Computer has announced that it's stopped development efforts on the Apple III. That's one step short of announcing that it will stop manufacturing the machine, but that announcement is almost a foregone conclusion, with timing being the only remaining question.

If you're a stockholder in Apple, or a hater of Apple computers, you'll probably think that it's about time. The Apple III has never been much more than a cash and psychological drain.

But if you're a dedicated user of an Apple III, the announcement couldn't help but tug a little at your heartstrings.

Seldom has a company so misconceived a product, or struggled so hard to undo its mistakes. What makes the recent announcement so sadly ironic is that the Apple III Plus upgrade had finally remedied the last remaining deficiencies in the machine. It's now a solid, reliable performer.

Unfortunately, the marketplace has made its judgment. The Apple III is the unwanted stepchild. Apple's decision reflects what has been conventional wisdom outside Cupertino for years.

It's fruitless now to harp on all of Apple's mistakes with the III. One image that will always remain is the sight of a large gentleman walking on his Apple III motherboard in order to reseat chips that had popped out of their sockets. Approximately the first fourteen thousand IIIs suffered from the malady of chips coming unseated during use. The aforementioned cure, like a bottle of Dr. Whiffenpoof's Snake Oil and Toothache Remedy, was effective for about an hour.

Perhaps the largest single drawback of the III is its operating system. Pronounced like sauce, it really should be pronounced like the distress signal. SOS is about as user-friendly as a hungry wolverine. It has all the charm of a corporate president making an unfriendly tender offer for a rival company. It's about as intuitive as the operation of a nuclear power plant.

But SOS was also a breakthrough, inasmuch as it does several things for the user that no previous operating system had ever done. Those hidden accomplishments went unappreciated by the unwashed, who were having trouble coping with its human interface.

The Apple III is not a great computer. Like the IBM PC, it's an okay computer. That means that it'll do most of what you want it to, reliably and reasonably efficiently. But it doesn't qualify as great.



Maybe there are no great microcomputers being sold in quantity today. Or maybe Mac is the only one. It depends on what you mean by great. If you're trying to imply cutting edge of the state of the art in all areas of manufacture and use, no microcomputer qualifies and only Mac comes close. The Apple II was a great computer when it was first introduced; now it's only an ordinary one. If all you mean by great is that the computer makes easy what was once difficult, then many micros qualify.

Microsoft is the hub around which great computers come and go. Because they supply the Basic language for almost everything in chips, they get to see prototypes long before anyone else. They've seen great computers. Most never saw the light of day. If you know any Microsoft employees, ask them. They're constrained not to talk about manufacturers, machines, or performance details, but most Microsoft personnel can confirm that they've seen some great computers.

Perhaps great and commercial are mutually exclusive. Perhaps commercial implies enough manufacturing and performance compromises to preclude *great*.

Even if the Apple III is not a great computer, Apple's decision is to be mourned. The Apple III is kind of like that old easy chair in the front room at home. It clashes with the rest of the furniture and it needs reupholstering, but it's so doggone comfortable that you can't bear to part with it.

What made the Apple III so comfortable was not Apple Computer but the few software geniuses who adopted the III and worked around its barriers to developing good software.

It may come as a surprise to many to find out that there is good software available for the III. Such folks will be doubly surprised to find out that some of it is great software.

*VisiCalc: Advanced Version*, as implemented on the III, is great software. Bill Gates and Mitch Kapor can legitimately disagree with the

opinion that the Apple III version is the best spreadsheet implementation extant, but that's how we see it.

Tim Gill's *Word Juggler III* is great software. Quark has provided III users with perhaps the most complete word processing program this side of a multiuser, $50,000 dedicated system.

Rupert Lissner's *III E-Z Pieces* is great software. Haba Systems won't agree with the opinion that *III E-Z Pieces* isn't up to the standard of *1-2-3* on the IBM PC, but that isn't the point. Whether it's as good as, better than, or slightly behind *1-2-3*, *Pieces* is still a sound integrated program that provides Apple III users with excellent functionality.

Oddly enough, the very best piece of software on the III isn't even an applications program. As voted by *Softalk* readers last year, the best program is *Catalyst*, another of Tim Gill's brainstorms. *Catalyst* allows III users to put all their copy-protected applications software on a ProFile hard disk. Because most III applications require swapping program segments in memory, having the applications on a hard disk significantly improves performance.

All the III really lacks is a superb database. *Keystroke* is a good start in that direction, but it's too little, too late.

It may seem surprising to many that some damned fool would cite software as a reason to regret Apple's announcement. After all, Apple crows about the sixteen thousand programs that run on the Apple II. IBM is claiming an estimated eleven thousand on the PC. The III has only a comparative handful, excluding those that run—and run is definitely a euphemism in this context—in the Apple II emulation mode.

Most serious computer users use only five or six programs on a regular basis. When was the last time you saw an Apple II owner with sixteen thousand programs at his beck and call, asserting that he was expert in every one of them and using them on a regular basis? Ridiculous? Of course!

What the Apple III lacks in quantity of programs, it makes up for in quality of the few programs that exist.

The Apple III has an unexpected versatility about it that *Softalk* had occasion to test in various ways.

From its inception, the *Softalk* subscriber list was maintained on Apple IIs. Plural is the correct usage, in that the database grew to 155,000 records, which is at least a couple more than is prudent and efficient to maintain on any micro.

When a new subscription database was readied on a Hewlett-Packard 3000, the problem was to convert the Apple II data to the HP format and to efficiently transmit the data to the HP. The Apple II was a whiz at converting the data but could not transmit the changed records with any speed.

The solution was to reformat the converted data to an Apple III file, using *Apple Writer III Utilities*. The Apple III file was then transmitted to the HP 3000 at 9600 baud in terminal mode, using Access III. The process added a step but cut hours off the overall effort.

It's a tribute to both the Apple II and the Apple III that the process had a reliability statistically approximating 100 percent—two records of 155,000 were garbaged. Think of the data-handling that was going on. The Apple II would read a record, reformat it, and write it to a second disk. Then the Apple III would read the Apple II record, convert it to Apple III format, and write it to an Apple III disk. Finally, the Apple III would read the reformatted record and transmit it at 9600 baud to the HP. For only two records to be damaged during all that handling on floppy disks borders on the miraculous.

The Apple III also played an integral role in supplying data to the post office during the time when the Apple IIs were handling subscriptions. Each month as the mailing labels were being generated, the Apple II would create text files of the number of magazines being sent to each zip code. The files were so large that no Apple II could retrieve the data.

Using *Apple Writer III Utilities*, the Apple II files were converted to the Apple III. The Apple III would then read the files and spew forth data that reported the number of magazines sent into each postal zone; the number of copies, city and state of each zip code, exclusive of multiple zip code cities, into which *Softalk* was mailed; and the number of copies, city, state, and range of zip codes for each city that encompassed more than one zip code.

Think of the amount of data the Apple III had to process. It had to assimilate delivery files created on the Apple II that were often as large as 120K, it had to know the city and state for each zip code, it had to know whether a zip code was the single zip code for a given city or part of a range of zip codes for that city, and it had to know in which postal zone each zip code was contained. It had to take the delivery data and apply it to at least two different tables. It had to print out three different reports.

It did all this in less than an hour.

Is it any wonder that the loss of the III will be mourned at *Softalk*?

It's to Apple's everlasting credit that they didn't abandon the III when it was first apparent that they had a disaster on their hands. It would have been easy enough to do. Ford had its Edsel. RCA had its laser disc. Why shouldn't Apple have its own debacle? Why not burn those original fourteen thousand buyers and leave the disaster behind as rapidly as possible?

Apple didn't do that. Apple made it right. They replaced every one of those defective motherboards for free. They stayed with the machine long after the conventional wisdom said it was futile and long after the investing community said it was stupid. They stayed with the Apple III until they got it right.

That's a reason to regret Apple's action. The Apple III is okay now.

Even if Apple doesn't pursue more improvements to the III, its continued presence is symbolic of some very positive things: Apple has a corporate conscience. Apple does not place earnings ahead of its installed user base. Apple has the will to create an excellent product from a morass of mediocrity.

These statements say good things about Apple. They also say good things about not quitting in the face of adversity. The Apple III may never have made a positive contribution to the bottom line, but the struggle to turn it around

YOURS FREE!

**The essential new catalog of the business computer forms and supplies you need most for your APPLE!**

***It's quick • convenient • easy-to-use.***




Now Deluxe Computer Forms, a division of Deluxe Check Printers, gives you the software-compatible checks, invoices, statements and word processing stationery you've been searching for. And accessories too.

**And we can ship them all to you in as few as 3 working days!**

Deluxe delivers your order in record time because we know how much you depend on it to make your office run smoothly. And we deliver it to your precise specifications. That means customization for your unique program needs, or personalization of any of our 200 standard forms for popular software programs. And you order only what you need—as few as 500 forms.

See what we've got to offer your business. Then see just how fast we can deliver it.

**Send for your FREE catalog today!**

DELUXE COMPUTER FORMS
530 N. WHEELER ST.
P.O. BOX 64046
ST. PAUL, MINNESOTA 55164-0046

☐ YES. Rush me your complete, new catalog of computer forms and essentials.

My Name _____ Title _____

Company Name _____

Address _____

City _____ State _____ Zip _____

( ) Phone _____

Clip out and mail or call TOLL FREE:

**1-800-328-0304**

(In Minnesota, call 1-612-483-7300.)

7370

THE STATISTICS SERIES™

**FLEXIBLE • ACCURATE**
**EASY-TO-USE**

Human Systems Dynamics programs are used by leading universities and medical centers. Any program that doesn't suit your needs can be returned within 10 days for full refund. Designed for use with Apple II 48K, 1 or 2 Disk Drives, 3.3 DOS, ROM Applesoft.

**REGRESS II** $150

Complete Multiple Regression Series
Stepwise, Simultaneous Solutions
Forward, Backward Solutions
Auto Power Polynomial Solutions
Data Smoothing, Transformations
Correlation and Covariance Matrices
Residuals Analysis, Partial Correlation
Research Data Base Management
Count, Search, Sort, Review/Edit
Add, Delete, Merge Files
Curve Fit, Hi-Res X-Y Plot

**STATS PLUS** $200

Complete General Statistics Package
Research Data Base Management
Count, Search, Sort, Review/Edit
Add, Delete, Merge Files
Compute Data Fields, Create Subfiles
Produce Hi-Res Bargraphs, Plots
1-5 Way Crosstabulation
Descriptive Statistics for All Fields
Chi-Square, Fisher Exact, Signed Ranks
Mann-Whitney, Kruskal-Wallis, Rank Sum
Friedman Anova by Ranks
10 Data Transformations
Frequency Distribution
Correlation Matrix, 2 Way Anova
r, Rho, Tau, Partial Correlation
3 Variable Regression, 3 t-Tests

**ANOVA II** $150

Complete Analysis of Variance Package
Analysis of Covariance, Randomized Designs
Repeated Measures, Split Plot Designs
1 to 5 Factors, 2 to 36 Levels Per Factor
Equal N or Unequal N, Anova Table
Descriptive Statistics, Marginal Means
Cell Sums of Squares, Data File Creation
Data Review/Edit, Data Transformations
File Combinations, All Interactions Tested
High Resolution Mean Plots, Bargraphs

HSD
HUMAN SYSTEMS DYNAMICS

To Order—Call
Toll Free (800) 451-3030
In California (818) 993-8536
or Write
HUMAN SYSTEMS DYNAMICS
9010 Reseda Blvd. Suite 222/Dept. S
Northridge, CA 91324
Dealer Inquiries Invited

VISA MasterCard

added something positive to the corporate psyche. Apple is poorer but stronger for having done the Apple III.

Apple and many Apple III boosters have insisted all along that the III is every bit as good a business machine as the IBM PC. The problem is that there seems to be no economic means of convincing a skeptical marketplace of that. So it's just as well that Apple cuts its losses and discontinues development of the III.

It's not as if Apple has nowhere else to put the resources. The streamlined Lisa, dynamic Mac, and raft of Apple II products will all benefit from additional development and marketing dollars. And Apple is rumored to be doing some extraordinary things in advance projects.

Perhaps the damnedest thing of all, prior comments notwithstanding, is that the Apple III is a relative failure as much as it is a real one. The vast majority of the three hundred microcomputer manufacturing companies would be delighted to have sales at the level normally achieved by the Apple III.

But the III's sales, in either units or dollars, were insignificant when charted against the II.

Apple's decision to allocate its dollars in more promising arenas is sound business. But those of us who will continue to use the III in the task of making our living can't help paraphrasing the cry of a young boy upon seeing Shoeless Joe Jackson emerge from a courtroom after being found guilty of fixing the 1919 World Series:

"Say it ain't so, Steve!" *—Al Tommervik*

---

Computing

# The Impossible, Unrepeatable, and Inaccessible File-Name Generator

*Bert Kersey proves once again that he can do anything with DOS. On the other hand, he can't undo everything.*

Everyone knows you can't legally begin a DOS 3.3 file name with ASCII characters 33–63 ("!" through "_"). But suppose you wanted a dummy file name like a string of hyphens or colons to dress up your catalog. You could always "zap" the name in with a disk-write utility, but here's a way that uses direct keyboard command and takes advantage of a really obscure bug in DOS 3.3—

Let's say we want a dummy file name called "----------" (30 hyphens). Here's what you do to get it:

1. Type: NEW
2. Type: SAVE DUMMY "----------."

3. Now use the rename command like so: type *rename*, the file name *Dummy*, twenty-five spaces, thirty hyphens, and return. Theoretically, there is supposed to be a comma between the first and second file names in a rename command, but apparently, if the first name stretches out to fill the full thirty characters allotted to a file name (which we did by adding twenty-five spaces to the five-letter word *Dummy*), the comma isn't needed and the normal error checking on the second file name isn't done.

This is illegal, but it works! Life is too short for explanations. Especially since I don't have one. I also don't have a way of re-renaming the file or accessing it. *—Bert Kersey*

---

Journalism

# Reviewing Reviewing

*Looking at reviews from both sides now, a former retailer talks about what makes reviews useful and throws in a scathing critique of nothing just to help satisfy our craving for blood.*

Now that I've spent time on both sides of the fence, first reading and now writing software reviews, a certain amount of compassion for those beleaguered souls who accept this challenge has begun to manifest itself. Before I saw the light and error of my ways, my voice was one of many who, upon reading a current crop of program evaluations, would exclaim, "Boy, don't they ever give bad reviews to anyone? Everybody knows that _____ is @#!$&!!!"

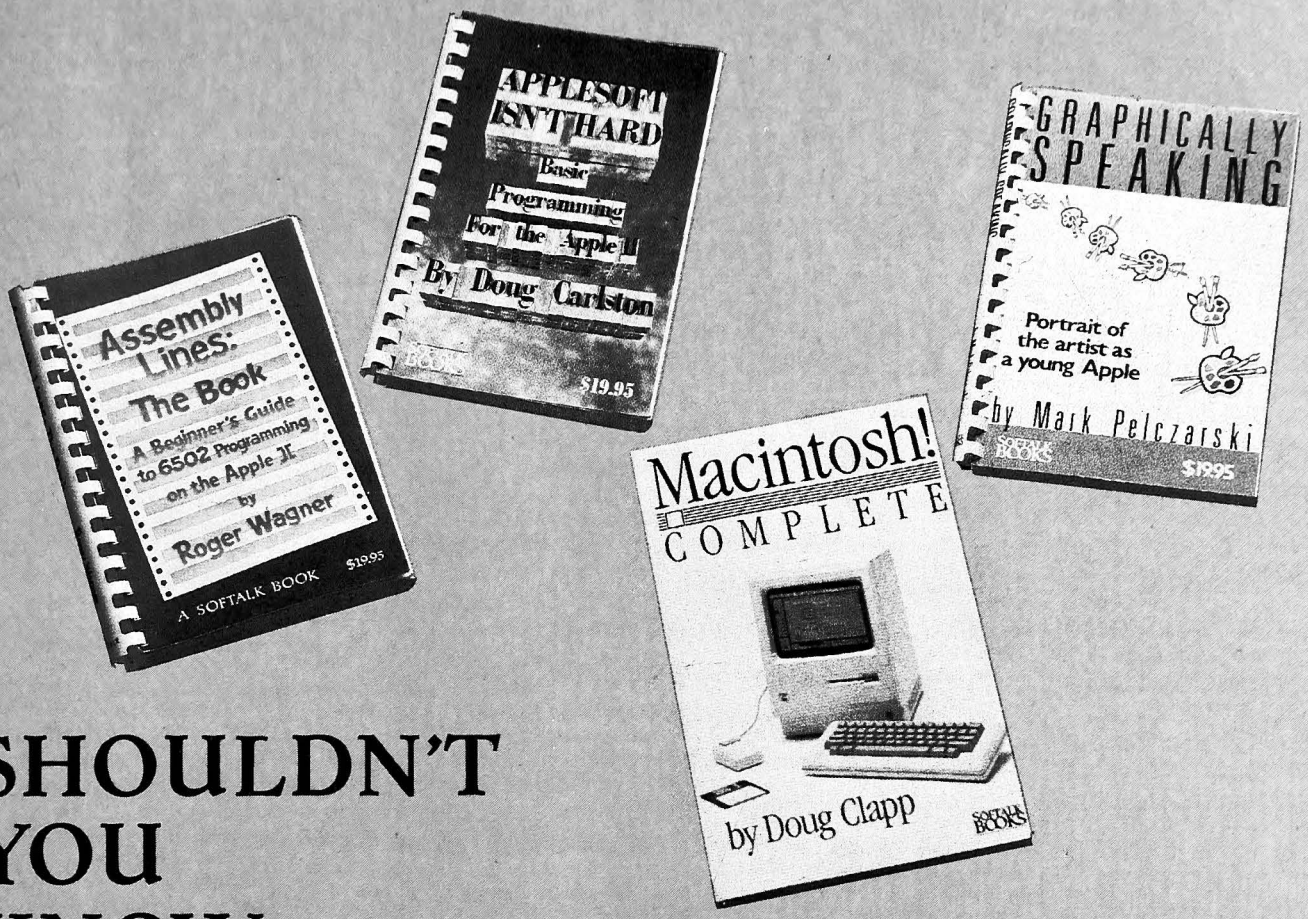
Only after talking with many owners does one realize that there's almost no such thing as a completely bad software program. (Sorry, Father Flanagan!) One can find at least one redeeming feature about most of them—and many good points about many more. A lot depends on your point of view; one program may be unsophisticated in cosmetic areas, but it may be the first attempt to provide a solution to a particular problem. For this much effort, is it fair to condemn that program completely because the reviewer doesn't feel it meets his standards? Our goal in doing software reviews should be to provide a reasonably objective overview of the product in order to give the potential purchaser enough information to decide whether it might be of use to him, and also to alert the consumer to shortcomings. After all, it's just a software review, not a trial.

It's also much faster work to write negatively about a product—the same way many people vent their personal frustrations at innocent victims (or software packages). Ranting and raving doesn't generally require much effort in the way of research or objectivity.

There's always a learning curve involved in one's first encounter with a new product; it's very easy to condemn a package because it didn't work right the first time, when, in reality, the failure was a result of not reading the documentation carefully or of not using the required equipment. Evaluating a new database program, for example, using a half dozen entries is pointless, since the whole purpose of such a program is to store and manipulate rela-

# ON AND OFF

# THAT'S ALL YOUR APPLE KNOWS




# SHOULDN'T YOU KNOW MORE?

Our books promise to impart useful knowledge to you as an Apple user. Knowledge about programming Basic, assembly language, and graphics. Information brought to you by leaders in the field. Good, solid information that can give you a whole new realm of control over your computer. Choose an area and pick a book.

**Assembly Lines: The Book** by Roger Wagner

An introduction to 6502 assembly language for the novice programmer. Beginning with fundamentals, the author works up to more sophisticated routines, offering many program listing examples, providing a basis for further explorations in assembly language.
*ISBN 0-88701-000-8 272 pages $19.95*

**Graphically Speaking: Portrait of the Artist as a Young Apple** by Mark Pelczarski.

An in-depth tutorial on creating graphics on the Apple computer. Includes hi-res graphics, 3-D illusions, color, binary files, picture-packing, shape tables, and more.
*ISBN 0-88701-007-5 184 pages $19.95 or $27.95 with program disk*

**Applesoft Isn't Hard: Programming for the Apple II** by Doug Carlston

A comprehensive tutorial on Applesoft, the Basic programming language for the Apple II family. Includes over 30 program listings.
*ISBN 9-88701-002-4 232 pages $19.95 or $27.95 with program disk*

**Macintosh! Complete** by Doug Clapp

A unique exploration of the capabilities of Macintosh. Delightful, detailed descriptions of its many features, profusely illustrated with photos, screen dumps, and MacPaint art. A book that, like the machine, is a joy to experience even if you dislike computers.
*ISBN 0-8701-009-1 344 pages $19.95*

SOFTALK BOOKS

Softalk Books, P.O. Box 60, North Hollywood, CA 91603
Please add $1.50 shipping/handling for each book ordered. California residents add 6.5% sales tax. Visa and MasterCard welcome. Apple, Applesoft, and Macintosh are trademarks of Apple computer, Inc.

tively large amounts of information.

It's a real temptation to look for shortcuts in the process, since, after all, the time spent understanding the product is only a means to an end—that of producing a review. This is in direct contrast to "real life," where a system owner intends to make use of the product on a regular basis, therefore justifying a certain investment in time and effort for the long term. Obtaining total objectivity is practically impossible; the lack of effort to establish it can allow a review to become uselessly self-indulgent.

Self-indulgence can be a very real trap for a reviewer of anything. Everyone has seen the movie or drama critic who has used a position of responsibility and influence as a soapbox—a situation where the triumph of style over substance serves no purpose but to provide entertainment. That's okay in certain circles, but not when the primary objective is to inform.

However, for those of you who will not be denied a certain measure of gratuitous mayhem, here is a generic review that should calm the bloodlust in your soul (at least until the next full moon). For maximum effect, this should be read aloud in the style of Henny Youngman, accompanied by rim shots where appropriate.

*&%$#&$!!, a software program for the sadistic.*

*No more Mr. Nice Guy! This is one of the sorriest excuses for microcomputer software released since Apples only used cassettes.*

*This so-called "user-friendly" program is about as pleasant as a session with the Grand Inquisitor. The average owner will probably come back to the store that foisted this obscenity on him with a larger whip than Indiana Jones. Talk about your temple of doom!! When the disk was inserted in the drive, the computer spit it out and cursed us for defiling its chips.*

*One might ask, "Awright, so it's a little tough to get started with this puppy, but after ya do, it's pretty good, ain't it?" Oh yeah, it's just dandy. When it isn't crashing to a halt and locking up the machine, or giving error codes that read like your credit card number, it almost resembles something useful. But, then again, a doorstop is useful, isn't it?*

*This is only the beta-test version of the program, so any of the complaints and criticisms mentioned here won't apply to any copies sold in stores. That's what you'd like me to say about now, wouldn't you, Mr. Software Publisher? Hah!! This is version 104.2. The previous ones caused an insurrection in an unnamed South American country, earth tremors in the Silicon Valley, and a severe migraine in this reviewer, among other disasters.*

*Summing up, there are some things in this world that cause an immediate and visible effect by their presence in the marketplace. If one considers nausea and revulsion to be immediate and visible, this puppy fits the bill.*

Feeling better? ***—Steve Shendelman***

---

Games

# Future Adventuring: The Good, the Bad, and the Ugly

*Where interaction will take us: a game of the future illustrated by the foremost fiction writer in microcomputing.*

*This is an article about the future of game playing. It isn't a piece of fiction. It reads like fiction because that was the only way the author could make the points he wanted to make without putting you to sleep.*

All around you the forest glitters with dew. There's a slight mist off in the distance and you can see sunbeams breaking through the tops of the trees, making small patches of sunlight, warm and dry spots on the forest floor. You step into one of them to warm yourself, to help get your blood flowing after the long cold night.

You have time to eat something before starting off again. The small party of men chasing you may be on horseback, but that gives them little speed advantage in a forest this thick. You reach for your bag and open it, rummage around until you find the dried beef and the loaf of crusty bread. Settling down onto your haunches, you do your best to enjoy the dry, hard meal.

You know that if you don't reach the falls before sunset, you're as good as dead, and the terrain ahead is rougher and more difficult going than any you've faced so far. You've been lucky up until now, eluding the band of soldiers from the castle, but you know that one false move may be your last.

The slight vibration beneath your soft-soled shoes causes you to freeze for an instant. The birds stop their carefree chirping, and the gentle breeze dies. You figure that the vibrations are from the pounding of horses' hooves. Springing to your feet, you realize they're closer than you thought. There isn't a moment to spare.

You throw a bag over your shoulder and start trotting at a slow but steady pace, making directly for the falls. As you pass under the trees, an idea comes to you—perhaps you could climb one of the large oaks, get off the forest floor to elude them. But that would put them ahead of you, and if they reach the falls first, there's a good chance the Globe of Talens will fall into their hands.

You figure that continuing is worth the chance of death. Without the globe, the whole quest would be impossible. If only you had a weapon of some kind—something a little sturdier and effective than the stiletto you found in that abandoned cabin. . . .

The forest is suddenly gone, its scents and sounds a memory. You stand up, get out of your chair, and look around the darkened room. You stretch, then realize the hour. You've been sitting in the chair for hours, and you never did get to that work you brought home from the office. You're grateful to yourself for having set the timer on the chair—something you learned after three sleepless nights.

You look at the chair with longing and hatred.

Part of you knows you should have never leased it, while another part of you, the part that hates the mundane, day-to-day tasks of life, is relieved that the chair is here.

You awake the next day feeling refreshed, thinking about the globe and what finding it before the band of soldiers found it would mean. You reach for your bag to grab another chunk of dried beef to start the day, but your hand feels the rough linen of your sheets. You realize where you are and who you are, and you sigh.

You're slightly annoyed with having to straighten your bedroom, perform the daily toiletry rituals, and fix yourself breakfast. When you sit down at the kitchen table, you can't help longing for the songbirds of the forest, the clean, clear air of the kingdom, despite the dangers involved. If you could be there now, you would gladly trade the powdered, cholesterol-free, absolutely safe-to-eat eggs for that crusty bread and dried beef. The problem, you realize, is that you *could* be there now. All it would take is a few strides across the tiny apartment to the chair.

The efficiency apartment is small, difficult to get comfortable in, but it's all you can afford. The last time you looked for an apartment, the first, last, and security alone exceeded your life's savings. Commuting has become a nightmare now that these new experiences have come out. The situations call for a more aggressive personality, and it seems like everyone on the trains is a little more aggressive, too.

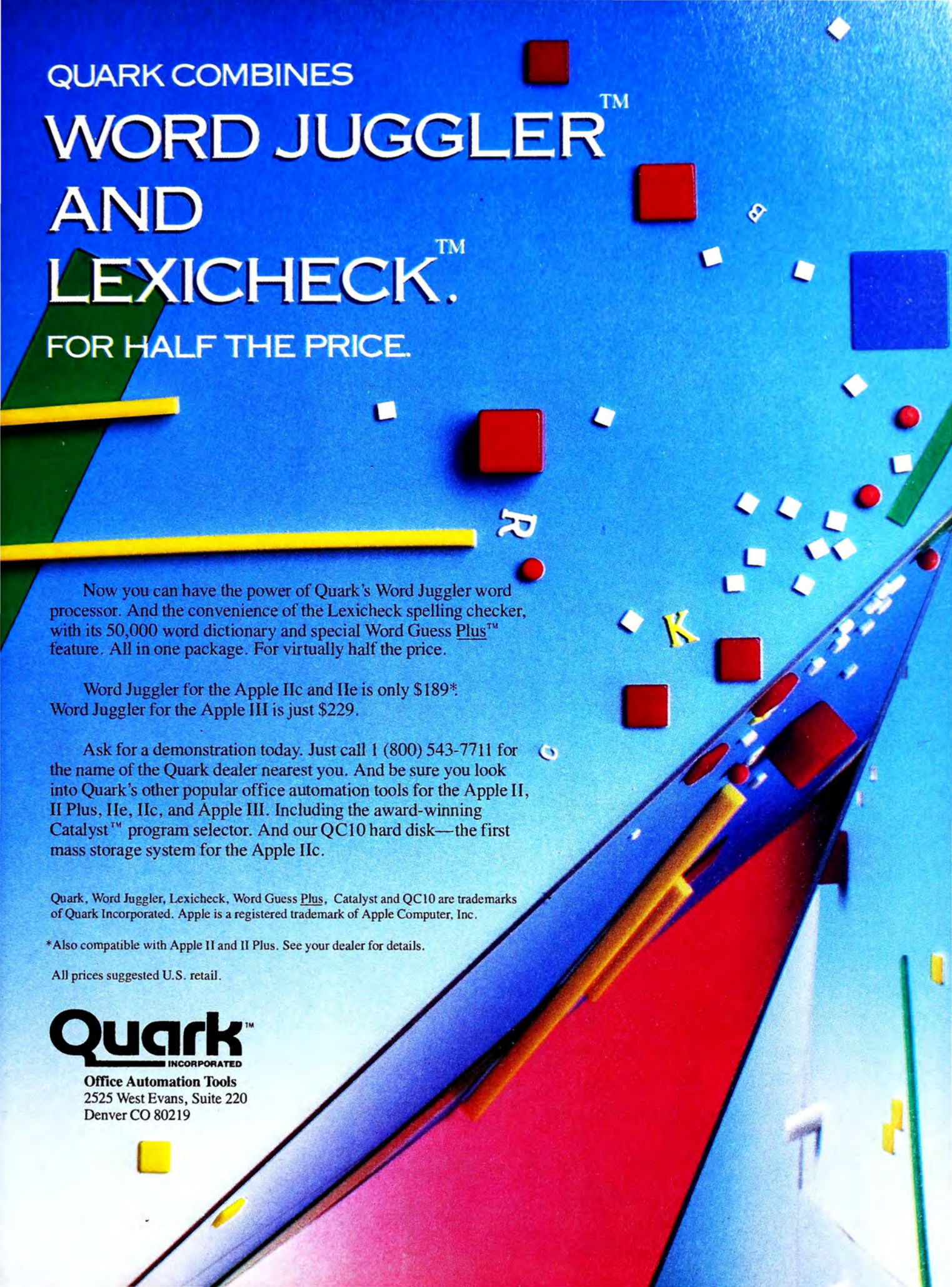
As you clean the breakfast dishes, you can't help glancing toward the chair. It occupies most of the living room, cutting down further the amount of free space you've got to move around in, but it's worth it. Without it, your free space would be limited to this apartment instead of the kingdom and the other places you get to visit.

You leave, finding it difficult to face the day that lies ahead, the paperwork that needs to be done, the uncooperative people with whom you must interact, and, worst of all, the terror of the trains. Silently, you say good-bye to the kingdom and those damned guards who pursue you like hounds from Hell.

Your body armor, thin and durable, saved your life three times on the train as gangs of young punks wandered through the cars, slashing people at random with their nasty little knives. Once you made it to the office, your day was more difficult than ususal—everything seemed to crawl at a snail's pace. Every time you looked at your watch, only a few minutes had passed, even though it felt like hours.

Getting home was the most difficult part of the day. There was a certain skill needed to survive this reality, a skill you had built up through experience. While others faltered due to a new train schedule, you managed to figure out just when and where to be to catch the only connecting train—a train that brought you to your neighborhood only fifteen minutes later than usual. Those fifteen minutes felt like an eternity, though, when you thought of what awaited your return home.

You heard murmurs of the Kingdom Experience Group starting up while you ate your lunch, and as you walked up the long, narrow,


QUARK COMBINES
WORD JUGGLER™
AND
LEXICHECK™.
FOR HALF THE PRICE.
Now you can have the power of Quark's Word Juggler word processor. And the convenience of the Lexicheck spelling checker, with its 50,000 word dictionary and special Word Guess Plus™ feature. All in one package. For virtually half the price.
Word Juggler for the Apple IIc and IIe is only $189*.
Word Juggler for the Apple III is just $229.
Ask for a demonstration today. Just call 1 (800) 543-7711 for the name of the Quark dealer nearest you. And be sure you look into Quark's other popular office automation tools for the Apple II, II Plus, IIe, IIc, and Apple III. Including the award-winning Catalyst™ program selector. And our QC10 hard disk—the first mass storage system for the Apple IIc.
Quark, Word Juggler, Lexicheck, Word Guess Plus, Catalyst and QC10 are trademarks of Quark Incorporated. Apple is a registered trademark of Apple Computer, Inc.
*Also compatible with Apple II and II Plus. See your dealer for details.
All prices suggested U.S. retail.
Quark™
INCORPORATED
Office Automation Tools
2525 West Evans, Suite 220
Denver CO 80219

dimly lit flight of stairs to your apartment, you thought you might give them a call. It would be nice talking to other people about this strange and wonderful place, sharing in their experiences, perhaps learning a new way of dealing with that infernal, relentless band of soldiers. Knowing a little more about an experience than the people for whom you worked could come in very handy when promotion time rolled around.

As you turned the key in your front door lock, you remembered you were supposed to stop by the market and buy some food. Your cupboard was almost empty, and the things in the refrigerator seemed to have developed spontaneous life.

But none of that seems to matter now as you stand before the chair, palms a bit moist, fingers dialing in four hours on the timer. The problems of the day just melt away, become a bad dream, a poorly created fantasy. You sit down . . .

. . . and scan the forest, looking for the path that would present the most trouble for the men on horseback. There, low overhanging branches, more felled trees, and some tricky undergrowth should slow them down. How they're managing to track you through this forest is beyond you—and something you wish you had time to figure out as you run in a new direction. You can hear a horse whinny in the distance, and then the shouts of the men as they spot something.

You hope and pray that what they've spotted isn't you.

The globe should help you deal with your pursuers in an effective way. Once holding it, you should be protected by the sphere of force it creates. Their weapons would be worthless. And then . . . on to the real reason for risking your life in this forested area.

But even as you think of the jeweled sword, the item you need most, you spot the chasm through the trees, straight ahead. You had no idea you were this far west. You're going to have to travel miles to the east, to the falls, and then make your way down the rocky cliffs. If they don't catch up with you first.

You could try to climb down here, but you decide to continue straight ahead, making your way through the huge, towering trees, through the thinning forest, picking up what little distance this new route affords. And as you reach the top of the cliff and look around, taking in your surroundings, you realize that the way down here is impossible. You start off to the east, toward the falls and the globe, hoping to find a footpath, some relatively safe way down to the raging river at the bottom of the chasm.

The river's noise, even from this height, blocks out the pounding hooves of your pursuers. Perhaps this wasn't the best approach to the falls. There could have been a better route, or there could have been a way to elude the men on horseback. But there's no way you'll know now. It's just too late for "ifs" and second-guessing. You've gotten yourself into this situation, and it's up to you to get yourself out of it. There's no one to turn to for help, and there aren't any easy answers.

The sun is out in full force now, making you sweat, making you feel like little more than a hot, clammy mess. You're already tired, partly from stress, partly from physical fatigue. You're not sure how much longer you can keep this up. It's those horses—they're running you to death. Their endurance puts a human's to shame. If only you could think of some trap, some way of dismounting the riders, you would stand a far better chance.

And then, as if in answer to your prayers, not more than a hundred yards ahead, the ground rises steeply, almost forming a cliff face. The horses will never be able to make it up that steep rise, especially with the loose stones and gravel covering the front face. Well, maybe this approach to the falls wasn't that bad. You run now, knowing that the men on horseback aren't too far behind and may catch up as you attempt the long, difficult climb. You're expending valuable energy—energy you'll need to scale the steep rise ahead, but what choice do you have? If you slowed down now, you might be able to climb a quarter of the way up before they reached you. With their bows and arrows, you would make an easy target.

You take the foot of the rise in full stride, figuring that a running start is just what you need. But your foot comes down on a loose rock and your ankle twists. You clutch it in agony, the shooting pain traveling up your leg.

You turn in time to see the men on horseback heading right toward you. You can see them take their bows from their backs, reach into their quivers for arrows, see the horses gallop madly toward you as you stare in rapt fascination. Frozen, you watch as they unleash the first volley. As the arrows fly toward you, you come unstuck and start to scrabble up the face of the rise, ignoring as best you can the intense pain slicing through your ankle.

The men shout happily to one another as if they already knew the outcome of this encounter. Try as you might, you can figure no way out of this situation.

You hear a whizzing sound by your ear, followed by the sound of an arrow striking stone. You realize then that it's all over, that it's just a matter of time before one of the arrows finds its mark. You turn to face these men, these desperate and evil souls, to curse them and their king, a master of darkness, only to see another volley of arrows. As they penetrate your chest, the pain is unbearable. . . .

. . . and you clutch your chest in the chair, gasping for breath, trying to make the pain go away.

You stand on wobbly legs, looking around the apartment, hearing your stomach grumble . . .

. . . when you realize the timer has gone off. You can feel the improvements you're making in the interlaced experience. The incident on the train wasn't nearly as difficult to deal with as it could have been, especially since you thought to wear that lightweight body armor. The train schedules were planned for, but those men on horseback!

That's going to take quite a bit more experience and strength. But enough of this—it's time to go to school, time to compare notes on this new experience with others in your class. After all, *you* know the difference between reality and fantasy—*you* know who you are and what roles you play in the chair.

*—Michael Berlyn*



# QUESTRON

## Live the Fantasy and the Adventure.



**ATARI® & APPLE® versions now showing at a computer/software or game store near you. COMMODORE 64™ version coming soon!**

STRATEGIC SIMULATIONS INC. PRESENTS A FANTASY ADVENTURE GAME: QUESTRON™
ONE OF THE FINEST CHAPTERS IN THE NEVER-ENDING SAGA OF THE BATTLE BETWEEN GOOD AND EVIL
Starring YOU as THE HERO • MESRON, THE GOOD WIZARD • MANTOR, THE EVIL SORCEROR
AND HIS HORDES OF HERO-CRUNCHING MONSTERS • Written and directed by CHARLES DOUGHERTY

On 48K disk for your Apple® II with Applesoft ROM card, Apple II+, IIe, or Apple III. Also for Atari® home computers.

SSI

PG | THIS GAME RATED POSITIVELY GREAT. Ideal for Fantasy Adventurers of all ages.

APPLE & ATARI are trademarks of Apple Computer, Inc. and Atari, Inc., respectively.

**STRATEGIC SIMULATIONS INC**

COMMODORE 64 is a trademark of Commodore Electronics, Ltd.

If there are no convenient stores near you, VISA & Mastercard holders can order direct by calling 800-227-1617, ext. 335 (toll free). In California, call 800-772-3545, ext. 335. QUESTRON™ goes for $49.95, plus $2.00 for shipping and handling.

To order by mail, send your check to: STRATEGIC SIMULATIONS INC., 883 Stierlin Road, Bldg. A-200, Mountain View, CA 94043. (California residents, please add 6.5% sales tax.) All our games carry a "14-day satisfaction or your money back" guarantee.

**WRITE FOR A FREE COLOR CATALOG OF ALL OUR GAMES.**

# exec haba



Clockwise from top: Chaz Haba, Haba Systems's cofounder and president, Rob Jordan, vice president of marketing and sales; Doug Redding, vice president of finance and administration; Gary Crandall, chief programmer; and Ron DeBry, vice president of engineering and operations.









# systems:

# fame for the fun of it

## BY DAVID HUNTER

Summertime is Hollywood's season—the season of Indiana Jones's return, Spock's regeneration, and Robert Redford's bid to play in the Big Leagues. Young and old alike flock to the theater to see the latest science-fiction adventures, rowdy comedies, fast-paced car chase epics, and cadaver-room horror flicks.

Best known for producing movies and for the steamy private lives of those who make them, the area in and around Los Angeles seems like some mythical place to most of the rest of the world—a place where fantasies as racy and exciting as those depicted in the movies are played out. Los Angeles is a land of dreams, to be sure, but not all the dreams dreamt there are lived out on or around celluloid.

Los Angeles is home to more high-tech companies than most people realize. One of those companies is Haba Systems. Based in the flatlands of the San Fernando Valley, on a sleepy Van Nuys street called Stagg, Haba Systems is a relative newcomer to the industry the two Steves started, but a newcomer to watch closely.

**Born in the U.S.A.** The story of Haba Systems has all the elements of a good movie. A charismatic, intelligent fellow assembles a colorful band of followers and begins the quest to conquer the Apple world with software and hardware products. The group starts slowly—they are barely known—but soon, the pace picks up. By the end of the second reel, they seem bound for glory.

Chaz Haba is the outspoken founder and prime mover of Haba Systems. A native Texan and veteran of the Korean War, Haba is a self-made millionaire—living proof that the American Dream still works for some. A mixture of Obi-Wan Kenobi, George S. Patton, Admiral Kirk, and John D. Rockefeller, Haba is part visionary, part inspired leader, part wily daredevil, and part financial kingpin. Haba Systems is not the first company he's founded and it probably won't be the last.

After returning from Korea a "pretty grown-up guy," Haba recollects, "I had to educate myself." He attended Cal State Long Beach where he studied electrical engineering. He then went on to do graduate work in physics at USC.

Haba attributes his start in the computer business to Bob Noyce, now the chairman of Intel. Haba is no stranger to the semiconductor industry.

While working at Fairchild in the sixties, Haba knew several of Apple's past and present executives. In fact, people like Mike Markkula and Floyd Kvamme worked with him there.

In the seventies, Haba founded two companies, both of which he has since sold for a profit. The first, Electro Mask, was a firm that pioneered the use of lasers in pattern generation. Under Haba's leadership, the company developed tooling and masking techniques that led to the first "computers on a chip." In 1975, Haba sold the company to TRE.

Haba's next venture involved providing distributed database systems for hotel applications. He formed the company Micro Z and eventually took it public.

A little over two years ago, Haba says, he met with Mike Markkula and the two talked for the better part of a day about tying together the telephone with microcomputers. The idea was to combine the computer's desktop organization abilities, its communications capabilities, and the telephone. Haba foresaw a huge market for such a program. Soon after talking to Markkula, Haba bought ten Apple IIIs and a couple of Apple IIs.

At the time that Haba first set his eyes on publishing software for Apple computers, the Apple III was far from being the dead-in-the-water machine it is now. Haba brought in a team of developers and set them up in a lab in Van Nuys—the same building Haba Systems currently occupies—and "blitzed them in 6502" programming.

*Habadex* for the Apple III, Haba Systems's first product, was released in August 1983. Written in Pascal for a limited market, it was not a big seller. A new version, rewritten in assembly language, was released in December as part of a co-merchandising deal with Apple.

*Habadex* may be a product that arrived in the right market at the right time. A program that combines phone dialing and desktop organization functions, *Habadex* is designed to turn an Apple IIe, III, or Macintosh into an electronic secretary.

**Habavoice of America.** Designed for use with or without a hard disk, *Habadex* is first of all a database. Users can enter thousands of records and can search through these records many different ways. *Habadex* is also a software manager, allowing the user to load as many as twenty-four programs into a hard disk and retrieve them via a main menu.

The niftiest feature of *Habadex* is its telephone dialer feature. The program can quickly look up any phone number stored in the database and then automatically dial the number through the Habaphone peripheral card or a modem (such as the Hayes 1200 Smartmodem). If the user is calling long distance and uses a discount service like MCI or Sprint, the program automatically inserts the appropriate number. Also, *Habadex* calculates the cost of each call and can generate a telephone cost summary printout.



Habaexecs, left to right: Rob Jordan, Ron DeBry, Chaz Haba, Doug Redding, and Gary Crandall. In a refreshing departure from the prevailing attitude in the software industry, Haba Systems claims to be "pure Apple" and plans to ignore the IBM PC market.




**Precision Data Products**
P.O. Box 8332
Grand Rapids, MI 49508-0332
Outside U.S.A. (616) 452-3457
Michigan 1-800-632-2468
Outside Michigan 1-800-258-0028

**3M Brand Diskettes @ + Toll-Free Ordering = Error Free Performance for Apple® Computers.**

Our New Low Prices!

VISA **Precision Data's Prices** MasterCard
Unlimited Warranty on All 3M Diskettes

**$1.80** Boxed

**3M 5¼" Diskettes**
Single Sided - Double Density
Reinforced Hub (RH)
*Per Diskette (orders of 50 or more)*

**$1.57** Bulk with Env.

Double Sided - Double Density -Soft or Hard Sector
DS - DD - RH Boxed ..... $2.31
DS - DD - RH Bulk with Envelope No 3M Logo ..... $1.97
DS - DD - 96 TPI - RH Boxed ..... $3.16
**3M Head Cleaning Diskette Kit ..... $21.00**

**FREE** *SHIPPING WITH DISKETTE ORDER-GOOD FOR 30 CLEANINGS.*
Use on a regular basis to eliminate particles of dirt, dust and oxide that accumulate with normal use of your system; helps eliminate downtime and service call interruptions.

**3M Certified Data Cartridges**
DC 300XL ..... $20.65
DC 600A ..... $23.05

**ORDER TODAY**
**COMPLETE LINE OF 3M DATA RECORDING PRODUCTS**
Bulk Diskettes sold in multiples of 50, Boxed Diskettes, multiples of 10.
**Shipping & Handling:** $3.00/100 or fewer Diskettes, $3.00/5 or fewer data cartridges ..... Continental U.S.A.
MI Residents, add 4% Sales Tax C.O.D. — add $2.00
MINIMUM ORDER: $50.00


A well-rounded product, *Habadex* also includes a calendar, which gives the user the option of seeing a whole month or a single day, as well as a report generator for producing mailing lists, memos, and form letters.

After *Habadex* for the Apple III failed to set the world on fire, Haba started the wheels rolling on a version of the program for the Apple IIe. That version should be out sometime this summer. A version for the IIc is also in the works.

Late last year, Haba "met with the Mac guys." After seeing one of Apple's new machines, he realized that Macintosh "would turn *Habadex* into a real system," enabling the user to "mouse around" within the program. In a flurry of activity that began in January this year and culminated on May 18, Haba Systems rushed out a version of *Habadex* for Mac. The company has already shipped more than 20,000 copies of the program and is planning more products for Macintosh.

**III's on Fire.** Haba Systems made a smart move when it picked up Rupert Lissner's *III E-Z Pieces*, a product similar to *AppleWorks* but tailored for the Apple III. The story goes that Lissner had more or less finished *III E-Z Pieces* when Apple decided not to release it, returning the rights to Lissner. Chaz Haba and Lissner met and signed an agreement, and the rest is history. *III E-Z Pieces* is currently a runaway bestseller in the III market.

"Rupert has been a big influence on this company," says Haba, "and will continue to be." Lissner's program design of *III E-Z Pieces*, with its ease of use and condensed code, has influenced Haba's in-house programmers. Both versions of *Habadex*, for Mac and the III, were originally written in Pascal; the III version has already been converted to assembly language and the Mac version is going through that process now.

"Pascal is great for getting a product out fast," explains

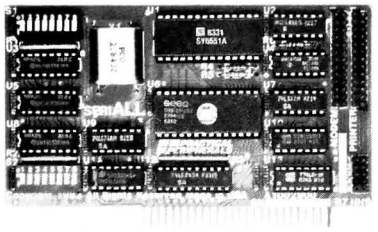
# REPORT ON NEW PERIPHERAL HARDWARE:

# CHOOSING A SERIAL INTERFACE FOR YOUR APPLE* COMPUTER.

**The "Second Serial Hardware Decision"...**

Once you've selected the right serial printer or modem for your Apple* system, your hardware decisions are over for a while. Right?

Wrong, of course! You still have to decide on an interface card. This "second serial hardware decision" is an important one—one made much simpler

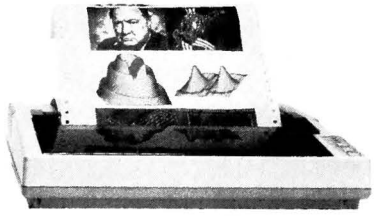


**SERIALL Printer/Modem Interface**

by SERIALL™, the new serial interface for Apple computers.

At a significantly lower cost than Apple's own serial card —$159.00 vs $195.00—SERIALL gives you a bunch more features. Practical, everyday features, not useless extras.

For one, SERIALL is the only interface that provides graphics capabilities for serial printers including Apple's new dot matrix Imagewriter™.



**Graphics capabilities for serial printers**

SERIALL also offers 27 easy commands for text formatting and screen dumps, making it the most intelligent serial interface you can use with an Apple.

Equally important, SERIALL gives you complete communications interfacing capability. You can use it for modems or in the special terminal mode for timesharing and talking to other computers.

In fact, SERIALL completely emulates the Apple serial card as a communications interface. No additional software or hardware modification is required.

Finally, consider the quality. SERIALL's five-year warranty is proof that this interface is built to work long and hard. No other serial card is backed by a guarantee like this.

After comparing SERIALL feature-for-feature with other serial interface products, we think you'll agree—SERIALL truly is the Do-It-All serial card for Apple computers.




Available from Practical Peripherals—makers of MICROBUFFER™, PROCLOCK™, PRINTERFACE™, and GRAPHICARD™.

*Apple and Imagewriter are registered trademarks of Apple Computers, Inc.



See us at NCC '84 Booth D3100!

PRACTICAL PERIPHERALS

31245 La Baya Dr., Westlake Village, CA 91362 • (818) 991-8200 • TWX 910-336-5431

Haba. "But it's better to go back and optimize the product."

The heavy involvement of such a young company with software and hardware might surprise some industry watchers. Later this summer, the company is bringing out a 3.5-inch external drive for the Macintosh and a like device for the IIc.

With a couple of certified winners and a whole bunch of products in the wings, Haba Systems would seem to be a dream come true for Chaz Haba and his growing cast of characters. There's no shakeout talk on Stagg Street. Haba Systems is on the rise, benefiting from Chaz Haba's experience and knowledge—his perspective, marketplace guts, leadership, and financial know-how. But it takes more than an inspired leading player to make the dream last, to make a "box office smash."

Who are Haba Systems's supporting players? What roles do they play in this Angeleno dream of success, this inspired assault on a tangled high-tech jungle of a marketplace?

**No Surrender.** Rob Jordan, Haba Systems's vice president of marketing and sales, is The Kid. Jordan has known Chaz Haba for close to fifteen years and has worked with him on and off for ten. He started out as a "sales support grunt" at Micro Z and learned how to "cover a territory." Jordan came to Haba Systems a little over a year ago, after having worked in the real estate business on his own—where he learned what it's like to "sell by commission."

Haba Systems's approach to marketing is a bit off the beaten path. Under Jordan's watchful eye, a dozen and a half new marketing personnel have been brought on in the past few months to make contact with each of Apple's two thousand dealers and national account representatives. Each member of this troop of crack recruits ("fanatics") spends every other week on the road "pounding the pavement," says Jordan.

The philosophy of keeping a very personal, direct-sales relationship with all those dealers has filtered down from founder Haba. But Jordan himself remembers his venture into real estate.

"In that business, there are no distributors. There's no other way to sell real estate" but on a person-to-person basis. Besides, says Jordan, "this is more fun."

Jordan is excited about Haba Systems's promising new hardware products—the external, 3.5-inch disk drives for the Macintosh and IIc. According to Jordan, one out of every two Mac owners wants another drive. "The marketplace is hungry," he says. "The marketplace can absorb a second source." The IIc drive should start to ship in July, with the Mac drive slated for an August release. A series of hard disk drives is also on the agenda, as is a network system.

Rob Jordan's brother Tony is involved with Haba's advertising and public relations. The company just hired the Criterion Group and gave them plenty of money to spend on advertising and promotion for the rest of the year.

As a company, says Rob Jordan, Haba Systems is "young and enthusiastic. We're not old and set in our ways. We're an upstart and late on the scene, but we're going to work hard and have fun."

**Riding in Electric Cars.** Ron DeBry, Haba Systems's vice president of engineering and operations, is the Hardware Man. In a war movie he'd be the guy who plants the sticks of dynamite to blow up the bridge.

Born in Utah, DeBry spent much of his life in Sunnyvale, California. He owned a tape recording instrumentation company in Kentucky. His technical knowledge in the audio industry, his background in electrical engineering, and his experience in running assembly plants and supervising the day-to-day activities of an industrial company have all come to a head at Haba Systems.

DeBry has been involved with all the hardware aspects of Haba Systems's product line, including the *Habadex* Habaphone attachment and the *Habatel* hardware. By no means a mass market product, *Habatel* is a computerized telephone billing system for hotels and hospitals.

DeBry says that in the Los Angeles area, Haba Systems has installed twenty-five *Habatel* systems. DeBry is really satisfied with the product, which the company has marketed "very cautiously."

DeBry is in charge of the design of the disk drives for the Macintosh and the IIc. "We look at the drive as systems hardware. It fits with our software. We're not trying to be a me-too company."

The assembly work on the drives has been contracted out to another firm, he says. Haba Systems's present quarters are so jammed already that the thought of assembling hundreds of thousands of drives is a one-way ticket to a nightmare.

DeBry has known Haba since the pair was involved in a project to build electric cars. In a small parking lot in back of the Haba Systems building are five or six curious-looking cars, all with the label Electric somewhere on the body. Lifting the hood of one of the cars, DeBry nonchalantly points to a conglomeration of batteries and wire where the engine should be.

"Chaz and I maintain two joint investments in electric cars. Right now, these things aren't cheap. We're waiting for the next

FOR APPLE II PLUS, FRANKLIN, APPLE IIe

**Font Down Loader**

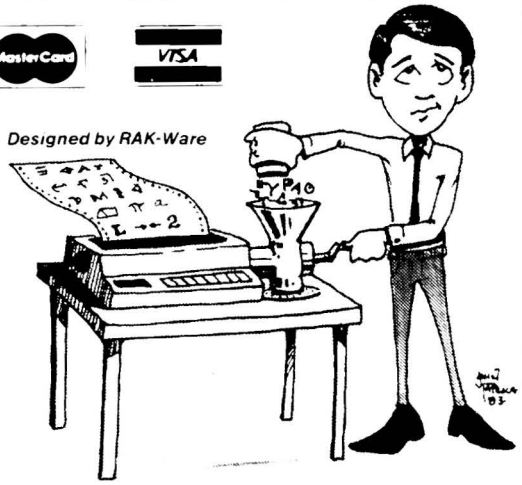
**Expand the capacity of your printer hundreds of times**

Load custom fonts into your Apple® Matrix Printer, Prowriter™ 8510A, OKI® Microline 92, 93, 84 Step II, and Epson® FX and use them with virtually every word processor to turn your printer into a **custom typesetter.** After the fonts are loaded, they will stay in your printer until it's turned off. A font editor is also provided to allow you to create your own graphics, text, foreign language letters, math and electronics symbols to load into your printer. On-Disk (Specify Printer)

. . . . . $39.00

New improved versions with drivers for Grappler, Pkaso, Wizard and most other intelligent parallel boards

MasterCard VISA




"There's got to be a better way to load fonts!"

**$100 REWARD**

Submit the best or most unique font using the above software and we will make you $100 richer. Other prizes for the first 25 runners up.

**MICRO WARE**
P.O. Box 113
Pompton Plains, N.J.
07444

*Dealer and Distributor Inquiries Invited*

**CALL (201) 838-9027**

# SCRG

## SWITCH-A-SLOT




The **SWITCH-A-SLOT** is an expansion chassis, which allows the user to plug in up to four peripheral cards at one time. One of these cards is selected for use, and only that card draws power.

This product is especially useful where the software requires the printer to be in a particular slot, and the user wishes to choose between two or more printers.

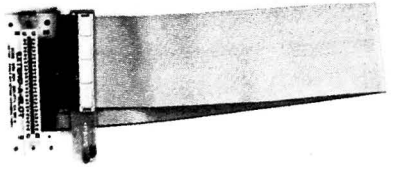
- Allows up to four peripheral cards to be plugged into one peripheral slot.
- User selects desired card by front panel rotary switch.
- Only selected card draws power.
- Plugs into any peripheral slot.
- Saves wear and tear on delicate connectors.
- 18" cable connects Switch-a-slot to computer.

**New—resistive terminations for better response**

**$179.50 36" Cable $189.50**

**SWITCH-A-SLOT and EXTEND-A-SLOT work well with all slow to medium speed cards, such as Modems, Printers, Clock, 80 Column, Music, etc. They are not recommended for high speed data transfer devices such as disk drive controllers, alternate processor, and memory cards. These products may be incompatible with some alternate processor cards.**

## EXTEND-A-SLOT



The **EXTEND-A-SLOT** brings a slot outside your APPLE™, allowing an easy change of cards. The 18" flex cable is long enough to allow placement of the card in a convenient location. The high quality connectors are gold plated for reliability.

The perfect accessory for:

Owners of large numbers of I/O expansion cards—keep your frequently used cards installed. Use the EXTEND-A-SLOT for the others.

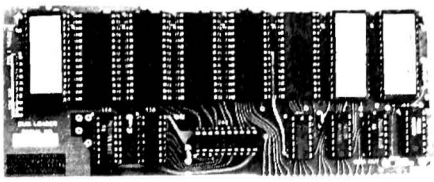
Technicians—easy access to test points on accessory cards under actual operating conditions.

Experimenters—make easy changes to cards while card is installed.

EASY TO USE—just plug it in as you would any expansion card, then plug your card in. When you want to change cards, do it easily outside the computer, without the wear and tear on the computer expansion slot.

**$34.95**

## quikLoader™



*Designed by Jim Sather*

### SPEED

The quikLoader is the *fastest* way to load programs, ***BAR NONE!*** Applesoft, Integer, or machine language programs can be loaded in fractions of a second. More importantly, DOS is instantly loaded every time the computer is turned on. Integer is even loaded in the language card. This process takes less than a second, saving valuable time. The quikLoader operating system can keep track of over 250 programs stored in **PROM**s (Programmable Read Only Memory). The user simply transfers any of these programs to PROM using the instructions packed with the unit, and any PROM programmer, or we will provide this service.

### CONVENIENCE

How many times have you started to work with a frequently used program, only to find that you have misplaced the disk, or worse, had the disk damaged, or the dreaded "I/O ERROR" message flash on the screen. With the quikLoader, these nightmares can be a thing of the past. Frequently used programs are available *instantly* when you need them, without having to look for the disk, or hoping that the lengthy disk loading procedure goes smoothly. If you do need to use standard disks, the quikLoader even speeds up that process. For example, to catalog a disk, just press ctrl-C Reset. To run the "HELLO" program, press crtl-H Reset.Other "one-key" commands include entering the monitor, booting the disk, calling up the mini-assembler, etc. The major difference between the quikLoader and the other ROM cards is the complete operating system (in PROM). This enables you to get the quikLoader catalog on the screen (by pressing ctrl-Q Reset), allowing you to see what programs are available. Loading or running of the desired program requires one keypress. Program parameters, such as starting address and length of machine language programs can be seen on the catalog screen, if desired.

### VERSATILE

The quikLoader will accept any of the popular PROMS available on the market, 2716, 2732, 2764, 27128 and 27256. These types may be freely intermixed on the card. Long programs can take up more than one PROM, or several short programs may be stored on one PROM. The quikLoader operating system even handles multiple cards, so you can easily double or triple the amount of PROM memory available. The ultimate memory capacity of one card is 256K, so many frequently used programs and utilities can be stored. We even start your library of programs with the most popular utilities on the card, FID and COPYA. Now, if you have to copy a disk, you don't have to search for the master disk. You can start copying within 3 seconds after turning on the computer.

### INCREASED DISK CAPACITY

Since DOS is loaded from the quikLoader every time the computer is turned on, it is not necessary to take up valuable disk space with DOS. This will give you more than 10% additional space for programs and data on your disks.

### SYSTEM REQUIREMENTS

The quikLoader plugs into any slot of the APPLE ][+ or //e. If used in a ][+, a slightly modified 16K memory card is required in slot 0. A disk drive is required to save data.

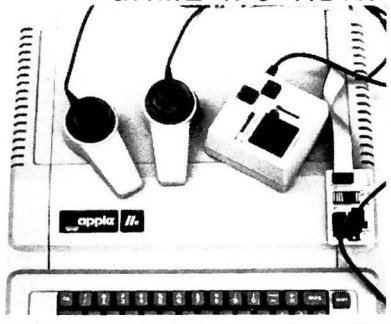
DOS, INTEGER BASIC, FID, and COPYA are copyrighted programs of APPLE COMPUTER, INC. licensed to Southern California Research Group to distribute for use only in combination with quikLoader.

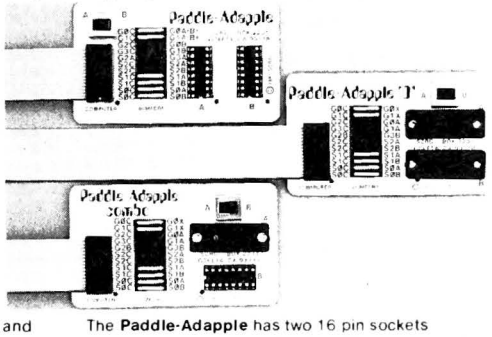
**$179.50**

**NOW AVAILABLE FOR quikLoader:**
**DOUBLE-TAKE By Beagle Bros. Inc.**
**COPY ][ PLUS By Central Point Software, Inc.**
***More Programs Coming Soon***

## Paddle-Adapple

### GAME I/O ADAPTOR and EXTENDER




- Works with all Apple compatible joysticks, paddles and other I/O devices.
- Select one of two devices or . . .
- Use 4 paddles simultaneously.
- Unique "Jumpers" socket allows you to configure to meet your needs.
- BPI™ users can have BPI™ device and paddles plugged in simultaneously. (**Paddle-Adapple** and **Paddle-Adapple Combo** only).
- Gives you four push-button inputs.
- Supports shift key modification.
- Exchange X & Y joystick axis.
- Small and compact — adheres to computer with supplied foam tape.
- All Strobes, annunciators and power available on all 16 pin connectors.
- Supplied with 18" cable

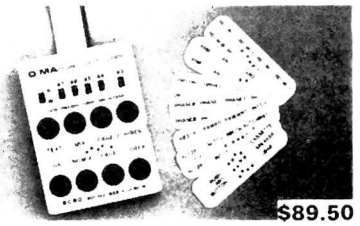
**$29.95**

The **Paddle-Adapple** has two 16 pin sockets.

The **Paddle-Adapple "D"** works with the subminiature D connectors.

The **Paddle-Adapple Combo** has one 16 pin socket and one subminiature D connector.

### D MAnual controller



**$89.50**

## See us at the Computer Expo — Portland, Oregon, June 14-17

**SIX MONTH WARRANTY • TEN DAY RETURN PRIVILEGE**
**TOLL-FREE ORDER LINES**
in CA (800) 821-0774
**(800) 635-8310**
all other states (Including AK, HI, VI, & PR)
Information & technical questions (805) 685-1931

**Available at your local dealer or direct from:**
**So. Calif. Research Group**
**P.O. Box 2231-S**
**Goleta, CA 93118**
**(805) 685-1931**
**VISA, MASTERCARD accepted** APPLE is a trademark of APPLE COMPUTER, INC.

**Add $2.50 for shipping**
**$5.00 outside U.S.A. & Canada, CA add tax.**

gas shortage. They are not a needed item at this time." Demand or no demand, the fact that Haba and DeBry have their hands in such an exotic, potentially revolutionary technological breakthrough points out the fact that this is not just a one-good-idea-in-a-lifetime gang of hip, sun-tanned businessmen. These guys are serious.

**Out of the Darkness.** In the Haba Systems cast of characters, programmer Gary Crandall is Roy Hobbs—the Natural. He says he's uneducated in the ways of computers, in that he never went to school to learn how to program. Crandall believes this has given him a huge advantage. He hasn't had to unlearn the EE (electrical engineering) way of doing things.

A native of Los Angeles, Crandall attended college for two months and then dropped out. "I couldn't stand it." He had his own business once, designing and building circuit board prototypes. He met Haba when he went to work at Micro Z.

Crandall says he thrives on starting from scratch. His masterpiece to date, *Habadex* for the Macintosh, wasn't started until January this year. Even then, he had a false start wherein he programmed himself "into a corner." He had to pretty much throw out the first month's worth of work and start over.

"I was caught between a rock and a hard spot. The future of the product and the company was based on my getting out *Habadex* for the Mac. Yet Mac is one of the hardest computers I've had to program."

But it was worth the effort, says Crandall. "If someone had *Habadex* on the Mac without a manual, they could still use it within an hour. When people just copy old programs, where you have to prompt this and prompt that, it'll kill it. In a Mac program, if you have to use the keyboard for anything other than to enter data, it's a design flaw."

To show his appreciation for the feat that Crandall pulled off, Chaz Haba rewarded him with a new Ford Thunderbird on May 18—the first day *Habadex* for the Macintosh shipped.


LISTEN to
"The Voice of Experience"

SynPhonix™

Electronic Speech Articulator for the Apple!

**Hear at last,** hardware synthesis at software prices. SynPhonix™ produces unparalleled voice quality using the ***all new SSI263*** phoneme synthesizer with 64 phonemes, 100's of allophones, plus software controlled pitch, amplitude, rate and filter. The SONIX™ 65© Speech Operating System puts you in control of it all. SynPhonix™ is brought to you by professionals with more than a decade of experience in speech synthesis products. Applications are abundant. SynPhonix™ features include:

- SSI263 Phoneme Synthesizer
- Unlimited vocabulary
- High Quality Phonetic Voice
- Low Data Rate
- Singing/Sound Effects
- Comprehensive User's Manual
- Demo Software Included
- Free Spelling Program
- Transparent to User's Software
- SONIX™ 65©
  - Speech Operating System
  - Speech Editor
  - Preprogrammed Vocabulary
  - Vocabulary File Manager
  - EASY TO USE
- 90 Day Limited Warranty
- Suggested Retail $125.00

Artic Technologies
"The Voice of Experience"

*Dealer inquiries welcome!*
2234 Star Ct.-3A (313) 852-8344
Auburn Heights, Michigan 48057

Apple is a Trademark of Apple Computer, Inc.


"I program fast because I don't know better," says Crandall. "Nobody told me. Another thing is I don't print listings. You can waste hundreds of hours bringing up listings."

Gary Crandall's brother Ron also works at Haba Systems and is also a programmer. Currently, Ron Crandall is working on the Apple II version of *Habadex*.

The next challenge for Gary Crandall is to translate the *Habadex* program for the Macintosh into assembly language. He says 68000 assembly is easier than 6502 assembly. Crandall is glad to get away from Pascal. He started working on *Habadex* for the Apple III in October 1982 and calls that machine's Pascal language "totally unacceptable. Assembly is the only way to go. You can get monster programs into a tiny bit of memory."

Every inch an individual, Crandall disconnects his phone when he is on a really hot programming roll. Crandall is adamant in his belief that a lone, star programmer is worth more than a dugout full of heavy-hitting university-taught programmers. "No group has ever turned out something that is worth anything. Whether it's art or literature, the best things always are done by an individual. The fewer people involved with the creation of a software program the better."

**Among the Believers.** Of the top five Haba Systems players, only The Professor remains unintroduced.

Doug Redding, Haba Systems's vice president of finance and administration, grew up in southern California and attended Stanford. He worked at Price Waterhouse for seven years. About five years into this stint he began attending the UCLA business school.

In '81 he was attending a class at night for small business management, wherein local businessmen came in regularly and spoke to the students. One night the professor of the class asked Chaz Haba to come in and speak. According to Redding, Haba spoke for an hour and a half and was "head and shoulders above the others." Redding was so impressed, and so looking for a way out of the Price Waterhouse doldrums, that he wrote Haba a letter.

Haba called Redding in to do a financial forecast a little over a year ago. At that time, Haba Systems had only seven or eight employees and was badly in need of a financial man. Redding took the wheel and got the company's payroll, inventory, and other financial concerns in gear. "We've gone from no system to a pretty sophisticated one," he says.

But Redding came in early enough that he got involved with other things in the company as well, such as product manuals and packaging. "Rob Jordan and I co-wrote the manual for the Macintosh version of *Habadex*."

Haba, Jordan, DeBry, and Redding get together on most product decisions. "We all get our two cents in and then Gary Crandall does the final design," says Redding. "We give him our input and let him go at it."

**Glory Days.** Busting down the walls of its current space, financially healthy (the company just received $2 million in venture capital), and bubbling over with creativity, Haba Systems seems destined to get its name in lights. And they don't give a damn about IBM. It's a refreshing change from the usual "go with IBM or be left behind" attitude.

Haba and others in the company make no compromises. "We are totally dedicated to Apple," says Haba. "Apple is a people kind of company. If you need to, you can talk to Jobs, Sculley, Campbell, Kawasaki. They will help you. They have what I call E.T., emotional technology. They are people-driven."

So the stage is set; the drama is unfolding. The dream of one man to build a very successful company—of, say, a $100 million in sales per year—has a chance to come true.

"The reason I'm doing this is that it's fun," says Haba. "I enjoy it. Haba Systems is the first company I've put my name on. I figure it's my turn." ■

# Flight Simulator II

For Apple II, Apple II+, & Apple IIe



Put yourself in the pilot's seat of a Piper 181 Cherokee Archer for an awe-inspiring flight over realistic scenery from New York to Los Angeles. High speed color-filled 3D graphics will give you a beautiful panoramic view as you practice takeoffs, landings, and aerobatics. Complete documentation will get you airborne quickly even if you've never flown before. When you think you're ready, you can play the World War I Ace aerial battle game. Flight Simulator II features include ■ animated color 3D graphics ■ day, dusk, and night flying modes ■ over 80 airports in four scenery areas: New York, Chicago, Los Angeles, Seattle, with additional scenery areas available ■ user-variable weather, from clear blue skies to grey cloudy conditions ■ complete flight instrumentation ■ VOR, ILS, ADF, and DME radio equipped ■ navigation facilities and course plotting ■ World War I Ace aerial battle game ■ complete information manual and flight handbook.

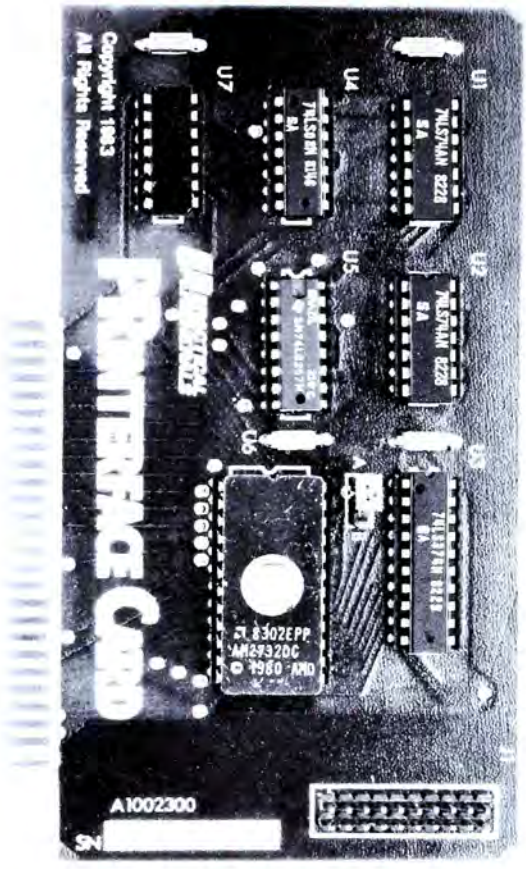
## *See your dealer . . .*

or write or call for more information. For direct orders please add $1.50 for shipping and specify UPS or first class mail delivery. American Express, Diner's Club, MasterCard, and Visa accepted.

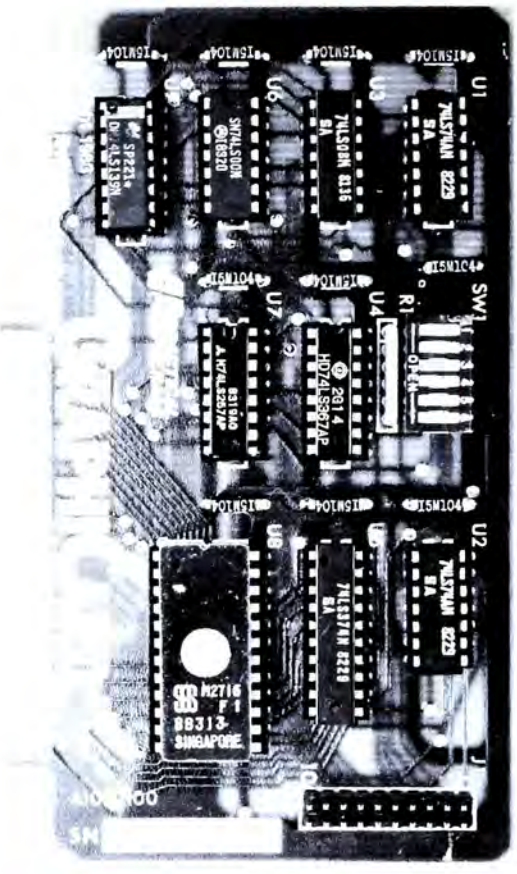
**Order Line: 800/637-4983**


subLOGIC Corporation
713 Edgebrook Drive
Champaign IL 61820
(217) 359-8482 Telex: 206995

# $75
## PRINTERFACE CARD




# $99
## GRAPHICARD



# RIGHT FACE. RIGHT PRICE.

At $75 and $99 * respectively, PRINTERFACE™ and GRAPHICARD™ are the right parallel interface products for your Apple** II, II+, IIe or Apple compatible system.

But don't be fooled by those low prices. High performance features and high reliability make them the right choice for serious printing requirements.

PRINTERFACE, for example, offers 27 easy commands that let you format text, send controls to the printer. You can even dump 80-column text screen from your Apple IIe.

GRAPHICARD gives you all that, plus graphics capabilities for 37 of the most popular printers. Eight additional commands permit a variety of graphics, screen dumps, including side-by-side, top-to-bottom, double size, inverse, emphasized, rotated and mixed text and graphics. For Apple II owners, the GRAPHICARD will give 80-column screen dumps from the Videx™ 80-column board.

By the way, if you buy PRINTERFACE and decide later that graphics would be nice, there's an easy-to-install upgrade kit that'll do the trick just fine.

Both cards clearly give you more for your money. And both are warrantied for five years. That's right, **five years.**

So drop into your local dealer and ask about PRINTERFACE and GRAPHICARD today. Two more practical products from Practical Peripherals.

**PRACTICAL PERIPHERALS**

31245 La Baya Drive, Westlake Village, CA 91362
(213) 991-8200 • TWX 910-336-5431

*Suggested retail price. **Apple is a registered trademark of Apple Computer, Inc.

See us at NCC '84 Booth D3100!




## IIc Blues and Text File Reviews

*The May DOStalk listing on pages 164 and 165 showed how one missing character can hold up the whole show. In line 500, there should be a space between the quote and the N, like so:*

```
500 C$ = C$ + " N D9C6G"
```

You read DOStalk. Your friends and colleagues think of you as something of an Apple expert. Imagine your embarrassment, then, when the kid down the block shows you his new Apple IIc and you can't get the disk drive door open. In an effort to protect our readers' reputations, this month's DOStalk begins by revealing a few secrets about the IIc. After that we'll review DOS text file commands.

**Apple's Open-Door Policy.** Apple introduced the IIc in May. It's a compact, advanced addition to the Apple II family. Unlike the other computers in the II family, the IIc doesn't have any slots. You're not even supposed to open it! On the other hand, it comes with the equivalent of several standard cards built into the computer. These include a 64K extended eighty-column card, two of Apple's Super Serial Cards, a mouse card, an RGB (red-green-blue) video card, and a disk drive card.

An Apple IIe equipped with the same cards costs considerably more than a IIc. However, you might not want those exact cards, and the IIe's slots will accept clock cards, sound/voice cards, parallel printer interfaces, Z-80 and 68000 microprocessor cards, large RAM cards, hard disks, and some other stuff that you may not be able to use with a IIc.

The IIc's built-in floppy disk drive uses the same kind of 5 1/4-inch disks as other drives in the Apple II family. However, Bo-bo, to get the drive's door open you have to *press in* on it.

When you push in on the door, it will pop up. If there is a disk inside the drive, its label area will jump out of the drive so you can grasp it.

When you insert another disk into the drive, push the disk in until it sticks. If it jumps back out, you didn't push it in far enough. Once the disk is seated inside the drive, you can close the drive door by gently pressing down on it.

The IIc comes with six disks. There are five demonstration disks (Introduction, Basic, Logo, *AppleWorks*, games) and one disk called *System Utilities*. The utilities disk has just one program on it, but it's quite a program. It can manipulate disks from any of the three common Apple operating systems—DOS 3.3, Pascal, and ProDOS.

Using this single menu-driven program you can copy files and disks, convert disks from one operating system to another, and do just about anything else you're used to doing with system utilities. This single program gives you all the major features of DOS 3.3's *Fid*, *CopyA*, and *Muffin*; Pascal's *Filer*; and ProDOS's *Filer* and *Convert*—all in a single program.

Unfortunately, there is a price to pay for all this. Copying a disk using the IIc's single built-in drive requires that you open the drive door to switch disks eighteen times. This is on a 128K computer! An I/O error (drive door open, disk not centered, or whatever) on any of the eighteen passes requires you to start over at the beginning. *CopyA* can do a single drive copy on a 48K Apple with ten insertions. It's technically feasible for a single-drive copy program running on a 128K Apple to require only four insertions, but perfection, apparently, isn't easy.

**Now for the Review.** This month DOStalk is going to review the basics of text file programming for you old-timers and introduce the basics of text file programming to you new-timers. We'll start with our little friend control-D.

A high proportion of all problems Applesoft programmers have with DOS are associated with *D$*. As discussed in previous columns, the reason DOS 3.3 often fails to execute commands we send from inside programs is that DOS commands must follow a *return* and a control-D. If there are *any* other characters between these two, DOS 3.3 will ignore the command.

When a *print $d* DOS command appears on your display screen rather than being intercepted by DOS, there is a problem with this sequence. The problem could be that you forgot to define D$ or that you accidentally changed it. But usually the problem is that the control-D is not following a return.

This can happen in several ways. One is the semicolon-ending print command. A semicolon at the end of a print statement suppresses the return normally added at the end of the line. This feature is often used when creating screen displays. A DOS command following such a print statement is always ignored.

Another culprit you should immediately suspect when having problems with control-D is the Basic *get* statement. This statement causes the control-D to go unrecognized *even when the last printed character was a return*. For example, try this goodie:

```
10 PRINT
20 GET A$
30 PRINT CHR$(4);"CATALOG"
```

When you run this three-liner you will learn, if you didn't already know it, that *get* gets a single keypress from your keyboard but *doesn't print it*. If you want the key you get to appear on the screen, you have to print it yourself (*print A$;*). Since the keystroke we pick up in line 20 is never sent to the screen, it seems quite clear this program should work—line 30's control-D immediately follows line 10's return—but it doesn't . . . not even if you press return in response to the get command.

The reason for this is extremely complex—it has to do with how DOS 3.3 sets its internal flags as it intercepts the characters you get and print. Just figure DOS commands never work after get unless you add a return (via *CHR$(13)* or *print*) before the DOS command.

**The All-Powerful CHR$(13).** In earlier columns DOStalk has often recommended that you solve these problems permanently, like this:

```
D$ = CHR$(13) + CHR$(4)
```

For most programmers, this is the best solution for avoiding trouble with control-D. The technique has two minor limitations, however. First of all, it absolutely does not work with ProDOS. ProDOS *doesn't require a return* before the control-D. In fact, putting one there with this method actually causes ProDOS to assume that what follows couldn't possibly be a DOS command (after all, it doesn't *begin* with a control-D).

**NOW APPLE IMAGEWRITER* COMPATIBLE!**

# Go From Screen to Paper at the Touch of a Button!



**The new Apple* - compatible ~~parallel~~ SERIAL AND PARALLEL printer interface card from Textprint is the ONLY way to get fast, easy printouts of ANY screen, at ANY time, with ANY program – in color and black & white.**

Push the red button that comes with PRINT-IT!™ – Your program pauses instantly; touch RETURN and whatever is on your screen – text, graphics or both – is printed in color or black & white.

Whether your Apple II, II+, //e or "look-alike" is for business or pleasure, you'll want the ability to pause and take snapshots of your screen displays and then continue from exactly where you paused, all at the touch of a button – games, business data, menus, educational instructions, graphics – even CP/M***. PRINT-IT!™ will print your screen at any time no matter what program you're running, as well as perform every function you expect of an intelligent printer card.

PRINT-IT!™ supports:

- Graphics – Low, high, double low, and double high resolution
- Text – 40 column as well as Apple //e and Videx** 80 column cards
- Printers – All of the most popular printers, including color, are easily selected with a dip switch

PRINT-IT!™ is available at your local computer store now! If they don't have it in stock, ask them to get it for you.

PRINT-IT!™ is also available for $199 directly from Texprint with an unconditional money-back guarantee. Just return it in good condition within 30 days of purchase, post-paid, for a full refund. Qualified educational and dealer discounts available.

Texprint's Model 2 (with most PRINT-IT!™ functions, except the push button pause/print feature) is the next best printer interface available anywhere, and for only $149.

TEXPRINT

8 Blanchard Road
Burlington, MA 01803
Tel. (617) 273-3384

Subsidiary of Computer Products Inc.

**To Order Call Toll Free**
**1-800-255-1510**

*Apple Computer
**Digital Research
***Videx, Inc

When using this technique with DOS 3.3, define D$ in the first few lines of your program. If you later convert your program to ProDOS, simply remove CHR$(13) from the D$ definition.

A more difficult problem to work around is the effect of *CHR$(13)+CHR$(4)* when writing to text files. If you have opened a file and written to it with a standard print statement, the last character in the file is the return at the end of your print. If the next DOS command begins with CHR$(13), that return will *also* be put in your file. In some situations this double return can cause problems—particularly when writing carefully measured random-access records. So use CHR$(13)+CHR$(4) with care when writing to text files.

Someday you may find yourself in a programming situation where, for whatever reason, you *can't* follow a get or a return-suppressing print with a return. Yet you need to send DOS 3.3 a command. The all-powerful method for this is a simple:

```
POKE 43602,0
```

This poke resets memory location 43602 ($AA52), the flag inside DOS 3.3 that keeps track of what the last printed character was. A zero here means it was a return. After you make this poke, DOS will always respond to a simple control-D. This technique works as long as you're sure DOS is at its normal 48K location.

**An Open Question.** Beginning programmers quickly get the hang of using *load* and *save* with program files and *bload* and *bsave* with binary files. The *open*, *read*, *write*, and *close* commands associated with text files, however, are a different story. These commands have far more options, and far more quirks, than the others. In addition, these commands can't be typed directly on the keyboard; they can only be used within programs.

Whenever you want to deal with a text file, the first thing you have to do is open it. The DOS *open* command performs several functions. First it sets aside some memory space, called a *DOS buffer*, that is used to store information about the file itself while the file is open. Then it looks for the file you specified; if the file doesn't exist, DOS creates a new one.

When the file you specified does exist, on the other hand, *open* checks to make sure it is a text file and sends you a *file type mismatch* error if it's not. You can override this feature with ProDOS, *if* the file already exists, by using the T parameter and the file's type (BIN, BAS, DIR, and so on), like this:

```
400 PRINT D$;"OPEN WEATHER, TDIR"
```

Once you get a non-text file open with this technique, you can read it normally if the file contains ASCII characters. You can also write ASCII characters to any type of file except a directory. If you use the T parameter with *open* and the file doesn't exist, you receive a *path not found* message (equivalent to DOS 3.3's *file not found*).

You can also override DOS 3.3's insistence on opening only text files, but it involves a slight DOS modification. After the modification, DOS will no longer check the opened file's type. If the file doesn't exist, it will be created as a text file. Use the following pokes:

```
POKE 41637,141    ($A2A5,8D; was 76 or $4C)
POKE 41638,194    ($A2A6,C2; was 213 or $D5)
POKE 41639,181    ($A2A7,B5; was 163 or $A3)
```

If you try to open a file that is already open, DOS 3.3 closes it first and then reopens it. ProDOS, on the other hand, refuses to proceed and sends you a message DOS 3.3 doesn't have, *file busy*. Similarly, DOS 3.3 allows you to lock, unlock, verify, rename, exec, and delete files that are open. In each case the file is closed before the requested command is executed and remains closed after execution. ProDOS, on the other hand, allows this kind of shenanigan only with lock, unlock, and verify. ProDOS leaves the file open.

There are a number of other error messages you might see when you try to open a file. With most of them it's clear what's wrong, but a few deserve special mention. *No buffers available* means there is no memory space left for DOS buffers. With DOS 3.3 you can usually fix this with the *maxfiles* command. With ProDOS, on the other hand, this message usually means your program has outgrown your Apple's memory.

*Syntax error* is a message we're all used to but with ProDOS you may end up insisting there is no error. When this happens, you probably have a bad file name. Remember ProDOS file names can use only letters, numbers, and the period. Spaces between words, symbols, and all other punctuation marks are forbidden.

**It's Not Polite To Point, But....** The final feature of the open command, under both versions of DOS, is that the position-in-file pointer is set to the first byte of the file.

The position-in-file pointer is like a pointing finger that holds your place in the file. Every open file has one. The pointer actually points to the *next* character to be read. When writing, it points to the position where the next written character will go. There are several ways you can move the pointer to other parts of a file.

One place people commonly want the pointer to be is at the *end* of the file. This makes it easy to add new material to a file without overwriting what's already there. Both DOS 3.3 and ProDOS include an *append* command that works just like open, except that the position-in-file pointer ends up pointing just beyond the last byte in the file.

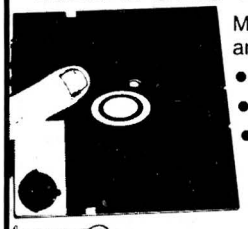
Because ProDOS writes down the exact length of each file in the file's directory entry, the ProDOS append command is fast and accurate. In addition to opening the file you specify (or creating it if it doesn't exist) and setting the pointer, the ProDOS append command also executes an automatic *write*. If the file being opened is a random-access file, the pointer will automatically be set to the beginning of the record immediately following the last record in the file.

The DOS 3.3 append command, on the other hand, is slow. DOS 3.3 has no idea where the end of the file is; it just starts reading and stops when it gets to the first empty byte. If the file is very long, this can take a while. If the file is a random-access file, there's a good chance that the first empty byte won't be the end of the file; there's an even better chance that it won't be at the beginning of the next record.

But besides all that, the DOS 3.3 append command has some significant bugs in it, as we've discussed in this column before (April 1983). If you really need to use append, read that column. Otherwise, forget it exists.

**The L Parameter.** When you open a random-access file, you can use the L parameter to specify how long the file's records are. We'll look at


*REDUCES DISKETTE COST 50%!



Make use of the back of your 5¼" Diskettes and SAVE

- NIBBLE NOTCH tools make it easy.
- Adds the precise notch where you need it.
- Doubles diskette space or MONEY BACK!

NIBBLE NOTCH 1
Cuts square notch for Apple, II, II+, IIe, III, Franklin and Commodore.
only $14.95 each
add $1.50 each P&H ($4.50 each foreign P&H)

DISK OPTIMIZER© SYSTEM
SOFTWARE FOR APPLE, II, II+, IIe, III & Franklin

- 469% FASTER Than Similar Programs!
- Certifies your "new" disk 100% Error Free
- Removes Bad Sectors • Adds 36th Track
- Performs Disk Drive Speed Check
- Adds DOS and More

only $24.95 each
add $1.50 each P&H ($4.50 each foreign P&H)

— OR BUY BOTH —
only $29.95
add $2.50 each set P&H ($6.50 foreign P&H)
*Florida Residents Add 5% Sales Tax*

SATISFACTION GUARANTEED OR YOUR MONEY BACK!
ORDER TODAY!
SEND CHECK OR MONEY ORDER TO:
NIBBLE NOTCH COMPUTER PRODUCTS
DIVISION OF CORTRAN INTERNATIONAL
4211 NW 75th TERRACE • DEPT. 1 0 • LAUDERHILL, FL 33319
PAT. PEND. ALL TRADEMARKS ARE ACKNOWLEDGED

this in detail next time, but for now note the differences between DOS 3.3 and ProDOS. If you omit L from your open command, DOS 3.3 automatically sets it to 1. ProDOS, on the other hand, defaults to whatever length was specified when the file was created. Only when the file is a new one does ProDOS default to 1.

ProDOS also allows the use of the L parameter with append; DOS 3.3 does not.

**Controlling File Births.** As mentioned already, both open and append will create a new file for you if the file you specify doesn't exist. In some situations this isn't much help. For example, consider what happens when a user of your program misspells the name of a preexisting data file he or she wants to use. If you accept the spelling and open a file by that name, you will create a new, empty file. Moreover, as soon as your program tries to read the new file, it will expire with an end of data error.

To avoid this problem, you must take some action to assure that the file actually exists before opening it. One way to do this with ProDOS is to use the T parameter. As mentioned earlier, whenever you use the ProDOS T parameter with open, only preexisting files can be accessed. This is true even if you specify *ttxt*. Another way to guarantee a file exists is to *verify* the file before opening it. With ProDOS, this works great. All the ProDOS verify command does, in fact, is tell you whether the file exists. If you don't get a *path not found* message, then the file is present and accounted for.

With DOS 3.3, however, the verify command also checks to make sure the file is readable. If the file is a long one, this can take a while. Another problem with the DOS 3.3 verify command is that if you use the May DOStalk's *type* command, which is *very* handy when writing programs that use text files, you don't have verify anymore.

In this situation, try using *lock* or *unlock*. For example, if you leave your files unlocked anyhow, you can quickly establish whether a file exists by trying to unlock it. Unlocking an unlocked file does nothing. Unlocking a nonexistent file, on the other hand, gets you a *file not found* message.

**Read, Write, and Null.** The *read* and *write* commands have been well documented by Apple and others, but unless you've been reading your manuals quite carefully you've probably never heard of the *null* command. Nonetheless, a good understanding of the command is critical to getting your reads and writes to work correctly.

The read and write commands don't actually do any reading or writing. Instead, the read command tells DOS to use the specified file as the source of characters for any subsequent *input* or *get* commands. Likewise, write tells DOS to send any characters subsequently printed to the specified *file* rather than to your screen or printer.

Both read and write supposedly stay in effect until another DOS command is issued. However, *print*ing to the screen while reading a file, or trying to *input* or *get* characters from the keyboard while writing to a file, will also, almost always, mysteriously turn your read or write off.

The null command consists of a simple control-D followed by a return. It is used to turn off reads and writes on purpose, without mystery. Unnecessarily active and mysteriously inactive reads and writes are probably the biggest contributors to intractable Applesoft bugs. You can avoid all this by taking just one simple step—always use the null command to turn off reads and writes immediately after using them.

For example, say you didn't have access to the *type* command presented here in DOStalk the last couple of months. You need a program that will simply read lines from a text file and print them on the screen. To do this reliably you have to turn off the *read* before trying to *print*. For example:

```
 5  REM *** READ.A.LINE ***

10  D$=CHR$(4)
15  INPUT "FILENAME? ";F$
20  IF LEN(F$)=0 THEN END
25  PRINT D$;"OPEN",F$
30  ONERR GOTO 70

40      PRINT D$;"READ";F$ : REM turn read on
45      INPUT A$           : REM get a line from the file
50      PRINT D$           : REM turn read off
55  PRINT A$               : REM print the line on the screen
60  GOTO 40                : REM repeat until END OF DATA

70  PRINT D$;"CLOSE" : POKE 216,0 : END
```

Look carefully at line 50. It turns off line 40's read. If you leave out line 50, what you print in line 55 often never makes it to the screen. Just like the problem we saw earlier with *get*, this one is caused by the way DOS sets its flags as it intercepts characters being printed.

Just as you can't *print* and *read* at the same time, you can't simultaneously *write* to a file and get *input* from the keyboard. Lines like these never work:

```
25  PRINT D$;"WRITE";F$
30  INPUT "-";A$ : REM get a line from the KEYBOARD
35  IF LEN(A$)=0 THEN 60
40  PRINT A$ : REM print the line to a FILE
50  GOTO 30
60  REM program continues here
```

Solve the problem by organizing the program lines like this instead:

```
 5  REM *** WRITE.A.LINE ***

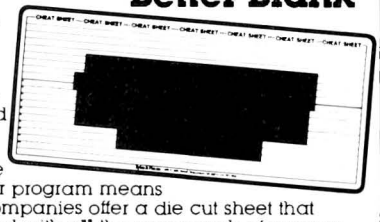
10  D$=CHR$(4)
15  INPUT "FILENAME? ";F$
20  IF LEN(F$)=0 THEN END
25  PRINT D$;"OPEN",F$

30  INPUT "-";A$           : REM get a line from the keyboard
35  IF LEN(A$)=0 THEN 60
40    PRINT D$;"WRITE",F$  : REM turn write on
45    PRINT A$             : REM print the line to the file
50    PRINT D$             : REM turn write off
55  GOTO 30

60  PRINT D$;"CLOSE" : END
```

If you make a habit of using this technique to turn off reads and writes *immediately after using them*, you will save yourself hours of bug hunting over the course of your life.


**Why Blank "Cheat" Sheets? Because They're Better Blank**



You've got the best computer in the world, and lots of software to run on it. One problem. Unless you work with these programs everyday, it's hard to keep all those commands straight. "F5" in one program means one thing, and "F5" in another program means something else. A few companies offer a die cut sheet that attaches to your keyboard with **all** the commands of one program printed on it. Great idea, unless you only need a few easy-to-find "hints," or you need them for 10 or 20 programs. Our solution? Simple. A pack of 12 lined cards, die cut to fit your keyboard and just waiting to be filled with those problem commands **you** forget most often. Simple? Yes, but effective. Now you can have **all** your program commands right at your finger tips on YOUR VERY OWN, custom designed "cheat" sheets. Great for offices and schools. Order a couple packs today!

**Please send me the following:** Check computer type: ☐ Apple II ☐ Apple IIe

| Qty. | Item | Price |
|---|---|---|
| ___ | Sets of 12 Keyboard Cheat Sheets @ $16.95 | $ ___ |
| ___ | 2 Packs (24 Sheets) for $27.95 | $ ___ |
| | Shipping and Handling | $ 2.00 |
| | 5% State Tax (WI Residents only) | $ ___ |
| | TOTAL ENCLOSED | $ ___ |

☐ Please Charge to: ☐ MasterCard ☐ VISA

Number _____ Expires _____

SHIP TO: Name _____

Address _____

City _____

State/Zip _____

Dealer Inquiries Invited

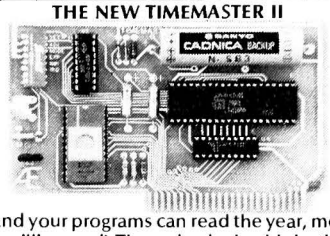
**Bytes & Pieces, Inc.**

550 N. 68th Street
Wauwatosa, WI 53213
414/257-1214

# Apple Peripherals Are All We Make
## That's Why We're So Good At It!

### THE NEW TIMEMASTER II

Automatically date stamps files with PRO-DOS



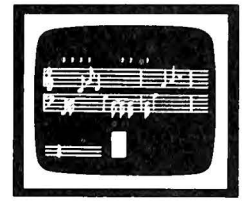

NEW 1984 DESIGN
An official PRO-DOS Clock

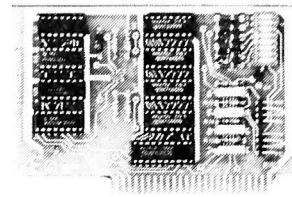
- Just plug it in and your programs can read the year, month, date, day, and time to 1 millisecond! The only clock with both year and ms.
- NiCad battery keeps the TIMEMASTER II running for over ten years.
- Full emulation of ALL other clocks. Yes, we emulate Brand A, Brand T, Brand P, Brand C, Brand S and Brand M too. It's easy for the TIMEMASTER to emulate other clocks, we just drop off features. That's why we can emulate others, but others CAN'T emulate us.
- The TIMEMASTER II will automatically emulate the correct clock card for the software you're using. You can also give the TIMEMASTER II a simple command to tell it which clock to emulate (but you'll like the Timemaster mode better). This is great for writing programs for those poor unfortunates that bought some other clock card.
- Basic, Machine Code, CP/M and Pascal software on 2 disks!
- Eight software controlled interrupts so you can execute two programs at the same time (many examples are included).
- On-board timer lets you time any interval up to 48 days long down to the nearest millisecond.

The TIMEMASTER II includes 2 disks with some really fantastic time oriented programs (over 40) including appointment book so you'll never forget to do anything again. Enter your appointments up to a year in advance then forget them. Plus DOS dater so it will automatically add the date when disk files are created or modified. The disk is over a $200.00 value alone—we give the software others sell. All software packages for business, data base management and communications are made to read the TIMEMASTER II. If you want the most powerful and the easiest to use clock for your Apple, you want a TIMEMASTER II.

**PRICE $129.00**

### Super Music Synthesizer
### Improved Hardware and Software

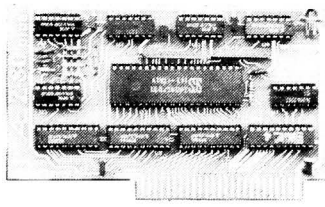




- Complete 16 voice music synthesizer on one card. Just plug it into your Apple, connect the audio cable (supplied) to your stereo, boot the disk supplied and you are ready to input and play songs.
- It's easy to program music with our compose software. You will start right away at inputting your favorite songs. The Hi-Res screen shows what you have entered in standard sheet music format.
- Now with new improved software for the easiest and the fastest music input system available anywhere.
- We give you lots of software. In addition to Compose and Play programs, 2 disks are filled with over 30 songs ready to play.
- Easy to program in Basic to generate complex sound effects. Now your games can have explosions, phaser zaps, train whistles, death cries. You name it, this card can do it.
- Four white noise generators which are great for sound effects.
- Plays music in true stereo as well as true discrete quadraphonic.
- Full control of attack, volume, decay, sustain and release.
- Will play songs written for ALF synthesizer (ALF software will not take advantage of all our card's features. Their software sounds the same in our synthesizer.)
- Our card will play notes from 30HZ to beyond human hearing.
- Automatic shutoff on power-up or if reset is pushed.
- Many many more features.

**PRICE $159.00**

### Z-80 PLUS!



- TOTALLY compatible with ALL CP/M software.
- The only Z-80 card with a special 2K "CP/M detector" chip.
- Fully compatible with microsoft disks (no pre-boot required).
- Specifically designed for high speed operation in the Apple IIe (runs just as fast in the II+ and Franklin).
- Runs WORD STAR, dBASE II, COBOL-80, FORTRAN-80, PEACHTREE and ALL other CP/M software with no pre-boot.
- A semi-custom I.C. and a low parts count allows the Z-80 Plus to fly thru CP/M programs at a very low power level. (We use the Z-80A at fast 4MHZ.)
- Does EVERYTHING the other Z-80 boards do, plus Z-80 interrupts.

Don't confuse the Z-80 Plus with crude copies of the microsoft card. The Z-80 Plus employs a much more sophisticated and reliable design. With the Z-80 Plus you can access the largest body of software in existence. Two computers in one and the advantages of both, all at an unbelievably low price.

**PRICE $139.00**

### Viewmaster 80

**There used to be about a dozen 80 column cards for the Apple, now there's only ONE.**

- TOTALLY Videx Compatible.
- 80 characters by 24 lines, with a sharp 7x9 dot matrix.
- On-board 40/80 soft video switch with manual 40 column override
- Fully compatible with ALL Apple languages and software—there are NO exceptions.
- Low power consumption through the use of CMOS devices.
- All connections are made with standard video connectors.
- Both upper and lower case characters are standard.
- All new design (using a new Microprocessor based C.R.T. controller) for a beautiful razor sharp display.
- The VIEWMASTER incorporates all the features of all other 80 column cards, plus many new improvements.

| | PRICE | BUILT IN SOFTSWITCH | SHIFT KEY SUPPORT | LOW POWER DESIGN | 80 COLUMN HOME | 7x9 DOT MATRIX | LIGHT PEN INPUTS | 40 COLUMN OVERRIDE | INVERSE CHARACTERS |
|---|---|---|---|---|---|---|---|---|---|
| VIEWMASTER | 179 | YES | YES | YES | YES | YES | YES | YES | YES |
| SUPRTERM | MORE | NO | YES | NO | NO | NO | NO | YES | YES |
| WIZARD80 | MORE | NO | NO | NO | NO | YES | NO | YES | YES |
| VISION80 | MORE | YES | YES | NO | NO | YES | NO | NO | NO |
| OMNIVISION* | MORE | NO | YES | NO | NO | NO | NO | YES | YES |
| VIEWMAX80 | MORE | YES | YES | NO | NO | YES | NO | NO | YES |
| SMARTERM | MORE | YES | YES | NO | NO | NO | YES | YES | NO |
| VIDEOTERM | MORE | NO | NO | YES | NO | YES | YES | NO | YES |

The VIEWMASTER 80 works with all 80 column applications including CP/M, Pascal, WordStar, Format II, Easywriter, Apple Writer II, VisiCalc, and all others. The VIEWMASTER 80 is THE MOST compatible 80 column card you can buy at ANY price!

**PRICE $179.00**

### MemoryMaster IIe 128K RAM Card

- Expands your Apple IIe to 192K memory.
- Provides an 80 column text display.
- Compatible with all Apple IIe 80 column and extended 80 column card software (same physical size as Apple's 64K card).
- Can be used as a solid state disk drive to make your programs run up to 20 times FASTER (the 64K configuration will act as half a drive).
- Permits your IIe to use the new double high resolution graphics.
- Automatically expands Visicalc to 95 K storage in 80 columns! The 64K config. is all that's needed, 128K can take you even higher.
- PRO-DOS will use the MemoryMaster IIe as a high speed disk drive.
- Precision software disk emulation for Basic, Pascal and CP/M is available at a very low cost. NOT copy protected.
- Documentation included, we show you how to use all 192K.

If you already have Apple's 64K card, just order the MEMORYMASTER IIe with 64K and use the 64K from your old board to give you a full 128K. (The board is fully socketed so you simply plug in more chips.)

| | |
|---|---|
| **MemoryMaster IIe with 128K** | **$249** |
| **Upgradeable MemoryMaster IIe with 64K** | **$169** |
| **Non-Upgradeable MemoryMaster IIe with 64K** | **$149** |

Our boards are far superior to most of the consumer electronics made today. All I.C.'s are in high quality sockets with mil-spec. components used throughout. P.C. boards are glass-epoxy with gold contacts. Made in America to be the best in the world. All products work in the APPLE IIE, II, II+ and Franklin. The MemoryMaster IIe is IIe only. Applied Engineering also manufactures a full line of data acquisition and control products for the Apple; A/D converters and digital I/O cards, etc. Please call for more information. All our products are fully tested with complete documentation and available for immediate delivery. All products are guaranteed with a no hassle **THREE YEAR WARRANTY.**

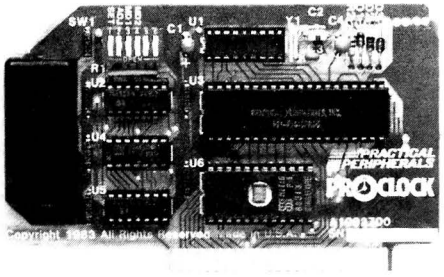
**Texas Residents Add 5% Sales Tax**
**Add $10.00 If Outside U.S.A.**
**Dealer Inquiries Welcome**

Send Check or Money Order to:
**APPLIED ENGINEERING**
**P.O. Box 798**
**Carrollton, TX 75006**

**Call (214) 492-2027**
8 a.m. to 11 p.m. 7 days a week
MasterCard, Visa & C.O.D. Welcome
No extra charge for credit cards

# A TIMELY ANNOUNCEMENT FOR ProDOS™ USERS:

Congratulations! You not only have a powerful new operating system in Apple's* ProDOS, you can now get an incredibly versatile Clock/Calendar card to use with it. PROCLOCK™.



PROCLOCK is the first Clock/Calendar designed for ProDOS-based systems as well as other Apples running DOS 3.3, CP/M**, Pascal, Applesoft*, and BASIC.

What's more, PROCLOCK fully emulates Superclock II, Thunderclock Plus and Apple Clock*. So programs written for these products can be used without any modification.

Of course, PROCLOCK will time- and date-coding files. And consider how much money you could save by timing your modem to transmit when the phone rates are cheapest. You can even use PROCLOCK as part of an automatic appliance control system.

Plus, PROCLOCK's powerful interrupt capabilities are invaluable to programmers working with time-sensitive routines and multi-tasking. It can generate interrupts at intervals of 1 millisecond, 1 second, 1 minute, 1 hour, or any combination of those. And all interrupts are software-controlled and handled through PROCLOCK's on-board PIA.

Speaking of software, you also get a diskette full of sample programs, utilities and applications like our Time-Clock II job/time logging program.

PROCLOCK even includes one feature we don't expect anyone to take advantage of—a 10-year lithium battery that keeps the clock running even if your computer is left off for long periods of time.

But just try to keep away from your Apple long enough to put that to the test! With PROCLOCK, you'll have a whole new world of applications to explore. And plenty of time to explore it. Because PROCLOCK is a reliable, well-built piece of hardware. So well-built, it's backed by a five-year warranty.

Ask your dealer about PROCLOCK. It's perfect timing for ProDOS users!

Another practical product from Practical Peripherals—makers of MICROBUFFER™, PRINTERFACE™, GRAPHICARD™, and SERIALL™.

PRACTICAL PERIPHERALS

31245 La Baya Drive, Westlake Village, CA 91362
(818) 991-8200 • TWX 910-336-5431

*ProDOS, Apple, Applesoft and Apple Clock are registered trademarks of Apple Computers, Inc. **CP/M is a registered trademark of Digital Research, Inc.

**What Buffers Are Good For.** When you begin to read a file with an input command, a small piece of the file is loaded into the DOS buffer that your *open* command created. DOS sends characters to your input statement from this buffer rather than directly from the disk. When all the characters in the buffer have been passed to you, DOS loads the next section of the file into the buffer and the process continues.

You may have noticed when reading text files that your disk drive constantly turns on and off. This is because it takes Applesoft a while to collect the contents of the buffer with input statements. By the time it's done, the drive has stopped. DOS then restarts it to retrieve the next section of the file.

With DOS 3.3, the DOS buffer holds one *sector* of your file—256 bytes. With ProDOS, the buffer holds a *block*—512 bytes.

When you are writing to a file, DOS collects the stuff you print and puts it in the buffer. Only when the buffer is full are its contents actually written on the disk.

**The Little Commands That Could.** Here's something you never read in your DOS manual. Go back to our Read.a.line program and delete line 25—the one that opens the file. Okay, DOS 3.3 wizards—what error message are you going to get when you run this program?

Here's the surprise—under DOS 3.3 the program will continue to work flawlessly. Though the DOS 3.3 manual denies it, *read*, *write*, and *position* can all open files. (This trick doesn't work with ProDOS; you'll get a *file not open* message.)

When read, write, or position opens a file, the position-in-file pointer is set to the beginning of the file, just as usual. Since none of these commands can use the L parameter, the opened file will always have the standard sequential-file record length of one. If the specified file doesn't exist, you'll get a *file not found* message. Under DOS 3.3, this provides yet another method to make sure a file already exists before opening it. Don't open it at all. Just start reading it or writing to it.

The read, write, and position commands include parameters that allow you to move the position-in-file pointer. This is a big, interesting subject we'll get to next time.

**Closing Comments.** The *close* command is used to tell DOS you are done working with a file. When DOS receives the close command it finishes processing the file and releases the file's DOS buffer. If you have been writing to the file, it's possible the buffer will contain the last few lines you have written—the close command gets these written on the disk.

Unlike the other text file commands, close can be entered directly on the keyboard. If close is used with a file name, only the specified file is closed. You can also use close without a file name, in which case *all* open files are closed.

ProDOS includes a command called *flush*, which is similar to close. Flush is used when writing to files. It forces ProDOS to send the contents of the file buffer to the disk. Flush doesn't release the buffer, however, so writing can continue later without reopening the file.

The most mysterious thing about close is that files can get closed without your ever entering the close command. With DOS 3.3, this happens after all DOS errors except an end of data caused by *position*.

If your program subsequently tries to read or write to a file after an error, the read or write will reopen the file, as we saw earlier. But now the position-in-file pointer will be at the beginning of the file. And if your file was a random-access file, its record length will now be set to one. The potential for tragedy in this situation is massive.

With ProDOS, on the other hand, it appears that most errors leave the file open. ProDOS will also send you a handy *file(s) still open* message if your program ends without closing everything.

If you don't close an open file, several bad things can happen. The file's DOS buffer won't be released and will take up precious memory. If the file was just created, the DOS 3.3 free space bit map will get messed up. If you've been writing to the file, the last bufferful of information won't be written on the disk. These kinds of things happen most often when you turn your computer off or reboot while files are still open.

Next time we'll continue this review of text file commands, with emphasis on moving the position-in-file pointer around with the B, R, and F parameters and the *position* command. With a good understanding of that and of what's been presented here this month, you can do some fancy dancing. ■


## What members say about A.P.P.L.E. World's Largest Apple User Group

"... my question was answered, you are aware of my needs."
MFM/Charlotte, N.C.

"... appreciation for the continued high quality of Call—A.P.P.L.E., I look forward monthly to getting my next issue."
RVM/Gallup, N.M.

"... I have purchased several in-house products, and have been amazed at the quality and price."
JL/Milton, WI.

"This was my first experience with the Call—A.P.P.L.E. consultant system, and it really worked for me!"
PP/Camarillo, CA.

### Get These Comprehensive User Support Services

- the international magazine - Call—A.P.P.L.E.
- troubleshooting 10 hours a day, seven days a week-HOTLINE
- major discounts on HARDWARE & SOFTWARE & COMPUTER PUBLICATIONS LIBRARY
- discount subscriptions to SOURCE DATABASES
- 24 hr. BULLETIN BOARD

ADDITIONAL POSTAGE

Call -A.P.P.L.E. magazine is mailed FREE third class bulk. Additional postage required for 1st class and foreign memberships as follows:

- ☐ U.S. First Class add $15.00 ($66.00 total)
- ☐ Canada, W. Indies, C. America, Columbia, Venezuela and Mexico - Add $15.00 ($66.00 total)
- ☐ All S. American countries (except above), Europe and N. Africa - Add $21.00 ($72.00 total)
- ☐ Asia, Mid East, S. Africa, Australia and Pacific Islands — Add $27.00 ($78.00 total)

All orders must be prepaid in U.S. funds only

### Official A.P.P.L.E. Membership Enrollment Application

Mail this coupon to: A.P.P.L.E. 21246 - 68th Ave. S. • Kent, WA 98032 or Call Toll Free 1-800-426-3667

$25 one-time application fee + $26 annual dues = $51

Name _____ Phone _____

Address _____

City _____ State _____ Zip _____ (STC)

for first class postage and foreign mailing please refer to postage chart

M/C # _____ exp ___

Visa # _____ exp ___



JOIN NOW AND RECEIVE TEN DISKETTES FREE!!! (5¼ INCH)

Free disk specials expires 8/31/84

# How Apple Put Training On a DISK

by JONATHAN PRICE

You've heard of "naive users." You probably fell into that category yourself once, no matter what your current level of expertise may be. A lot of people buying Apples these days come to them with no computer experience. So these days, it's not enough to create great software. You really have to show people how to use it.

Sure, you can throw in a manual. But a lot of folks don't like reading. School ruined it for them.

They just bought this package. They want to play with it—on-screen. They didn't buy the program as an excuse to spend a few hours pondering the reference manual. Many would rather peruse the tutorial section, which promises them a chance to use the software. Others get impatient with tutorials that lead them step by step through hundreds of features. They look at the book, then they scan the keyboard for the next key to hit; they find the key, pound it, and look up at the screen. Something changes. To make sure they did it right, they look back over the book. But now they've lost their place.

And, if the tutorial makes even one ambiguous suggestion, thousands of readers plunge into the darkest reaches of the program, seeing screens that the book never even dreamed of. Many get frightened, and some never do figure out how to escape and start over. It's not their fault; the writers just never thought someone would take a left turn when it's so obvious you should go straight.

The User Education group at Apple has seen this happen even with its best tutorials. Jon Butah, a teacher and writer, says, "We were watching people at the keyboard with the conventional paper tutorials, and the problem there was that they look at the keyboard, look at the book, look at the screen—bouncing around between those three things. We thought, 'We've got to get it on-screen so they don't have to struggle with the books.' "

**Getting It On-Screen.** Paperless tutorials (known as "computer-assisted instruction," or CAI) can get people going fast. No hunting for their place, no long introductions. They get to use the computer rather than read a book. And most studies show that with CAI they learn faster.

The *AppleWorks* team—including Don Field, who was in charge of launching the software; Sherri Morningstar and Kelly Stirn, supervising and testing the actual program; Rupert Lissner, writing *AppleWorks* itself; Chris Kelly, writing; Jon Butah and Meg Beeler, shepherding and coordinating all the documentation; and this writer—decided to provide some CAI along with a book. That way, readers could read, and everyone else could put in a



# Picture it!

***Graphics processing that's easy, flexible and fun!***

You don't have to be an artist or programmer, just select from Baudville's complete line of compatible graphics software. The possibilties are infinite.

*Whether you've just started, or you're a seasoned hi-res hacker, you'll appreciate the unmatched power and simplicity of Baudville's graphics software.*




***Create motion picture shows.***

**TAKE 1**

*Stunning Animation that's fast, smooth, and flicker free!*

*Write, produce, and direct your own computer movies. No programming skills are needed to create superb full-color animation. With easy to use TAKE-1, you define animation shapes and movements, "shoot" scenes frame-by-frame, add text at any time, and then combine the scenes to make a complete movie. Perfect for presentations and demos.*

***Premiering:***

- *True sprite capability for multi-layered action without additional hardware.*
- *No size restriction on animated objects.*
- *Complete editing at all stages of production. Can use hi-res pictures, shapes, and fonts from PIXIT or other graphics utilities for background scenes and animation shapes.*
- *A convenient selection of animation libraries are available.*
- *Moving objects can have "windows" that allow background to show through.*
- *Optional programmer's "tool kit" lets you put the power of TAKE-1 animation in your own programs.*

***$59.95 Requires 64K***

*Productive tools for home, education, business, and the arts.*

©Copyright 1984 Baudville

***The complete color graphics package.***

**PIXIT**

***Includes these integrated features:***

***Create A Shape***
*using simple keystroke commands.*

***Shape Table Editor***
*allows up to 128 shapes placed anywhere in table.*

***Shape and Font Library***
*provides a convenient selection of pre-drawn shapes and text fonts.*

***Picture Editor***
*creates hi-res pictures using mixed text and graphics, circles, lines, colorfill, and shape tables.*

***Slide Show***
*displays hi-res pictures like a slide projector.*

***Printer Dump***
*Supports a wide variety of dot matrix printers and interface cards. No additional software required.*

*Uses standard hi-res picture and Applesoft shape table files which are compatible with other graphics utilities.*

***Optional Shape Libraries***
*greatly reduce the time required to generate computer art. Each library contains a wide variety of artist drawn shapes for specific areas of interest.*

***$49.95 Requires 48K Optional Libraries @$20 each.***

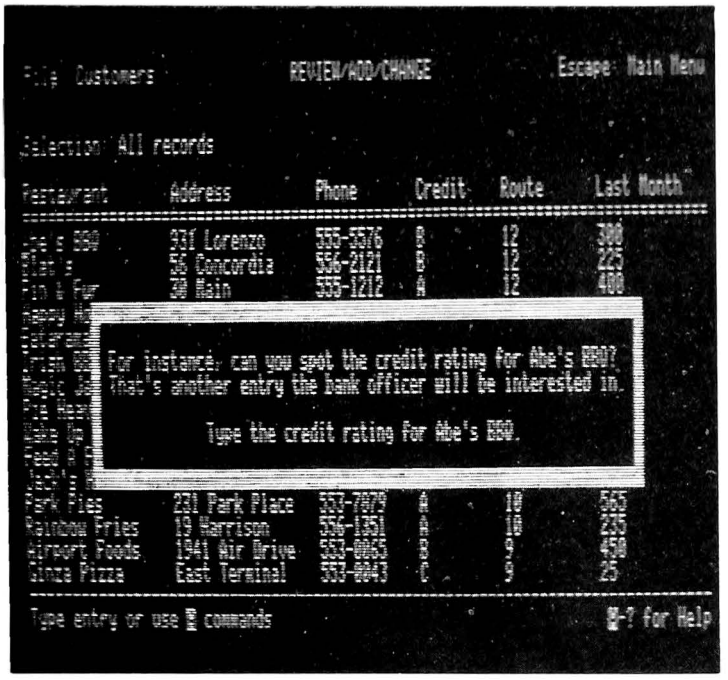
*For Apple II, Apple II+, Apple IIe or compatible computers.*

Apple is a registered trademark of Apple Computer, Inc.

***Available at your local software store or direct from BAUDVILLE.***
***Visa and Master Charge accepted, Michigan residents add 4% sales tax.***

*BAUDVILLE, 1001 Medical Park Dr., S.E.*
*Grand Rapids, Michigan 49506 Phone (616) 957-3036*

**BAUDVILLE**




The disk-based tutorial for *AppleWorks* simulates the real program. A hypothetical problem is set up and dialog boxes appear on the screen to guide the user in solving the problem with *AppleWorks*.

disk and just work with the computer. The first step: We went out and bought a dozen popular training programs on disks. We wanted to see what kind of CAI was out in the marketplace.

We fell asleep pressing return. We got a lot of previews ("Now you will learn about the x,y and z"). That's good pedagogical practice: Tell 'em what you're going to teach, teach it, and then tell 'em what you've taught. But too much previewing makes for no learning at all. We read many screens full of somewhat valuable information, and to move forward we pressed return. We saw some spectacular graphics and some crude ones; we read clear prose and gobbledygook; and, in general, we pressed return.

It's very easy to learn to press return, but it's rarely germane to the material being taught. In the *AppleWorks* training disk, we wanted people to use the program, not read about it. We wanted people to be able to use—actually use—some of the most common commands in *AppleWorks*. Instead of training people to press return, we wanted to train them to give actual commands to the program. We decided to show what the software really looks like and to imitate its peformance. And we wanted a plot. That was missing from a lot of the CAI we looked at. An imaginary situation.

We imagined a company, Mom's Apple Pie Company. They're doing so well that they've decided to build a new plant in the shape of a giant pie. So they have to apply to a bank for a loan. The loan officer has asked for a list of their customers (on the database, naturally), a current budget, and sales projections (spreadsheets). The person running the tutorial becomes an employee writing the letter to the loan officer. The scenario was devised to fit the material being taught: Because the situation required information to be moved from the database and the spreadsheet into the word processor, the user learns about all of *AppleWorks*'s elements and how they are integrated.

Suspense. Drama. Excitement. Well, a little, anyway. We were trying to simulate a typical problem in information management, in which one has to do a little of everything. Teaching a different kind of program would require a different plot. Having a realistic context for the tutorial helps people learn the actual commands better. They have more of a reason to.

Too many training programs disintegrate into a thousand "microskills." Each microskill may be useful, but it's hard to see how, when you're bombarded by all of them in a row and without any context.

Another important teaching technique for CAI is to show people what you're talking about. With the plot invented, we hired programmer Paul Trueblood to take portions of *AppleWorks* and re-create them on the screen. When a person running the tutorial holds down the open apple key and presses M, the paragraph really moves—just as it would on the real software. In this way, the person can see—not just know intellectually—what the results will be. That helps learning, too.

We put the instructional text for the tutorial in front of the imitation of the software on the screen. The words fit into little boxes, setting them off from the background without totally obscuring it. That meant we had to write short sentences. As I wrote, I began to dream of a career in telegrams.

But the important thing was that the weight of the tutorial was shifting toward physical activities—pressing keys, watching the display change—and away from "just" reading.

**Flash!** With a lot of information on the screen at once, it's crucial to keep the user's attention focused. We had a fairly complex screen, with the reproduction of the real software in the background and the comments in front, so we asked Trueblood to help us highlight the areas the comments were talking about.

For instance, when the tutorial introduces the database portion of *AppleWorks*, a list of the restaurants that Mom sells pies to appears. We wanted to point out a typical "entry." Look at the database screen in the accompanying photograph for a moment and see how long it takes you to find the entry for the credit rating of that barbecue ribs joint, Abe's BBQ.

There's a lot to read, particularly if you're not familiar with




**INNOVATION THROUGH EXPERIENCE**

Rems understands that today's professional needs timely and useful information, improved analysis and control, and flexibility in a changing environment.

***VERSATILE AND POWERFUL SOLUTIONS***

Rems offers a broad range of software attractively priced from $75. to $295. including:

- **Real Estate Investor II**
- **Rems Financial Package**
- **Real Estate Appraiser 1004**
- **Real Estate Rent Versus Buy**

**Rems programs and services are backed by our 30 Day Money Back Guarantee.**
**Free sample diskette available.**

**Rems Software**
**Real Estate Microcomputer Systems, Inc.**
526 NW Second Street
Corvallis, OR 97330
(503) 757-8887

***GIVING YOU CONFIDENCE TO MEET TOMORROWS CHALLENGES***

databases. Some of the people we tried this out on got confused. To make it easier to spot the entry, Trueblood set it flashing. The first B under Credit just lit up and blinked. That way, nobody could miss it, up there in the top row.

Other times, we placed the box right under the phrase being talked about. We learned to talk about only one subject per box. Whenever the text rambled on, people started to get an overload of information.

Even when you can't use an illustration from the program, it pays to reinforce anything you're trying to teach with some kind of display. We hired Bob Roberts, an architect who has used the Apple II graphics tablet for years, to draw some illustrations for those sections of the tutorial that discussed theory. To show how data can flow from the database and spreadsheet into the word processing part of *AppleWorks*, he came up with three cubes—one with a Rolodex in it, another with a handy home calculator, and the third with a pencil—symbolizing the three applications. Then Trueblood animated numbers and words rising out of the spreadsheet and database boxes, floating over to the word processing box, and entering it.

Nothing fancy—we didn't have room on our disks for more than a dozen images. There was enough information in the pictures to get across the idea with fewer words than it took to describe it here.

**The Point of No Return.** There's a "Press return" mentality to a lot of the CAI we looked at. After you've pressed return a dozen times, you no longer think; you just read and then lean on the return key to see the next boring screen. The reading becomes as habitual as pressing return. This is not educational. We wanted to get people doing and thinking, so we made it a rough rule: no more than three returns before you have to look at the screen, make a decision, move the cursor, enter a command, change some data, or accept or reject some option.

In the first draft, we included the order "Press the down arrow fourteen times" to demonstrate scrolling. Well, what we found was that some people just go click-click-click-click-click-click-click-click-click-click-click-click-click-click. As a result, they get a new screen, but they have no idea why they were doing all that clicking. In the next draft, we changed that to "Use the arrow keys to highlight the phrase you want to delete."

That way, you have to be awake enough to figure out where the phrase is, which arrow key will get you there, and how many times to press it. (Of course, if someone absolutely can't figure this out, the program will provide a helpful hint. In CAI jargon, that's known as "remediation"—as if you needed some home remedy.)

**How About a Review?** Many people fear that they won't remember much after CAI. After all, they're not taking notes at a lecture; they don't walk away with a book.

Well, that's part of the reason we provided Chris Kelly's paper tutorial. It goes into the advanced functions that the disk only hints at. And, at first, it offered an extensive review of the disk material.

But when we tested the disk with the paper tutorial, seeing how real people used them, we found that almost everyone remembered the commands and the key concepts so well after the disk-based training that they had no need for book reviews. In fact, the reviews just slowed them down. So Kelly axed them.

We thought, too, that people might like to consult the quick-reference card that comes with the reference manual as they went through the disk. No one did. Seemed unnecessary.

In lieu of these things, we put in a little review on the disk. After each of the main sections (one each on the database, spreadsheet, and word processing applications, plus one on how you cut and paste information from one application to another), we included a five-question self-quiz. It was a self-quiz because no one


# ALF COPY SERVICE

1315F Nelson Street Denver, CO 80215 (303) 234-0871

**FAST • RELIABLE • LOW COST**

If you produce software, ALF's disk copying service is the quick, convenient answer to your duplication needs. Most orders are shipped in less than a week. Every disk we copy is verified bit by bit and guaranteed 100% flawless.

We can copy virtually any soft-sectored mini format. Standard formats: Apple II (including nibble-copy proof, double-boot, and fast load), Apple III, Atari, IBM PC, Kaypro, NEC PC8000, Osborne, TRS-80 I and III, Zenith Z-90 and Z-100, and more. Copy protection is available for most formats.

Our "no frills" pricing means you don't have to buy extras you don't need—set-up charges start at $10, and copying charges are 30¢ to 40¢ per side. (See blank disk prices at right. Minimum: 50 copies.) Quantity discounts available for large orders.

Of course, we have the frills too: label application, 3-hole vinyl pages, printing of labels and sleeves, shrink packaging, heat sealing, and much more. We can put your product in a customized package—vinyl folder or IBM-style binder/slip case—for a low price in small or large quantities.

ALF is one of the oldest and most trusted names in the duplication business. ALF designs and manufactures copying machines that other copying services and software publishers around the world rely on every day. Our complete understanding of duplication technology assures you of the finest reproduction available.

We're eager to solve your duplication and packaging problems—whether you want one service or a total package. Give us a call today!

## BLANK DISKS

ALF buys large quantities of disks for our disk copying service — and we can pass our savings on to you. If you're buying hundreds of disks, ALF is your ideal source for top quality disks at a reasonable price. We buy our disks in bulk packages, avoiding the expense of fancy printing and labeling.

The disks listed below are 5 1/4", soft sector, double density, unlabeled, with hub reinforcement ring. Other disks are available, call for details.

**SINGLE SIDED**

| | |
|---|---|
| MEMOREX | $160 per 100 |
| NASHUA | $160 per 100 |
| VERBATIM | $160 per 100 |

**DOUBLE SIDED**

| | |
|---|---|
| MEMOREX | $185 per 100 |
| VERBATIM | $195 per 100 |

**OTHER BRANDS AVAILABLE.**

**Without sleeves:** add $2.50 shipping per 100.

**With tyvek sleeves:** add $7 plus $2.50 shipping per 100.

**Packed in boxes of 10** with tyvek sleeves: add $15 plus $3.00 shipping per 100.

# PROGRAMS Plus

429 Honeyspot Road • Stratford, Connecticut 06497

***Corporate and School Purchase Orders Accepted***

Mon.-Fri. 9-6; Sat. 10-6

**ORDERS ONLY**
**TOLL FREE 1-800-832-3201**

Inquiries & Conn. residents call (203) 378-3662 or 378-8293

## 30% to 50% off retail

**MACINTOSH COMPUTERS ..... Call**
**APPLE //c COMPUTERS ..... Call**
**APPLE //e COMPUTERS ..... Call**

### Macintosh Software

| | Our Price |
|---|---|
| **MICROSOFT** | |
| Mecintosh Basic | 110.00 |
| Macintosh Multiplen | 145.00 |
| Mecintosh Chert | 92.00 |
| **SOFTWARE PUBLISHING** | |
| PFS: File | 87.00 |
| PFS: Raport | 67.00 |
| PFS: File/Report Combo | 136.00 |
| **PENGUIN SOFTWARE** | |
| Grephics Megician | |
| Pictura Peinter | 56.00 |

### Entertainment

| | Our Price |
|---|---|
| **ELECTRONIC ARTS** | |
| Hard Het Meck | 26.00 |
| Axis Assassin | 26.00 |
| The Lest Gledietor | 26.00 |
| The Stending Stones | 30.00 |
| Pinball Constr. Set | 30.00 |
| Qne-Qn-One | 30.00 |
| Skyfox | 30.00 |
| Archon | 30.00 |
| **OTHER HITS** | |
| Lode Runner | 24.00 |
| Choplifter! | 24.00 |
| Spera Change | 22.00 |
| Ultime III: Exodus | 36.00 |
| Cevarns of Callisto | 25.00 |
| Sargon III | 34.00 |
| Air-Sim 3 | 28.00 |
| Flight Simulator II | 35.00 |
| Night Mission Pinball | 24.00 |
| The Quest | 22.00 |
| The Coveted Mirror | 22.00 |
| Minit Man | 19.00 |
| Tha Spy Strikes Back | 19.00 |
| Expedition Amazon | 22.00 |
| Masquerade | 28.00 |
| Cubit | 27.00 |
| Zaxxon | 28.00 |
| Pooyan | 23.00 |
| Q'Riley's Mine | 23.00 |
| Moon Shuttle | 23.00 |
| Wizardry | 32.00 |
| Knight of Diamonds | 22.00 |
| Legacy of Llylgamyn | 26.00 |
| Crypt of Media | 22.00 |
| Zork I, II, or III | 25.00 |
| Deadline | 32.00 |
| Starcross | 25.00 |
| Suspended | 32.00 |
| Witness | 32.00 |
| Planetfall | 32.00 |
| The Enchanter | 32.00 |
| Infidel | 32.00 |
| Sorcerar | 32.00 |
| Time Zone | 62.00 |
| The Dark Crystal | 27.00 |
| Mr. Cool | 29.00 |
| B.C.'s Quest for Tires | 25.00 |
| Questron | 37.00 |
| Ringside Seat | 26.00 |
| Pro Golf Tour | 26.00 |
| Broadsides | 26.00 |
| Geopolitiqua 1990 | 26.00 |
| Eagles | 26.00 |
| Cosmic Balance II | 26.00 |
| North Atlantic '66 | 40.00 |
| Bomb Allay | 40.00 |
| Cerrier Force | 40.00 |
| Germany 1985 | 40.00 |
| Beyond Castle Wolfenstein | 20.00 |
| Advanced Blackjack | 35.00 |
| Intellectual Decathalon | 31.00 |
| Millionaire | 42.00 |
| Fax | 22.00 |
| Miner 2049'er | 26.00 |
| Dino Eggs | 26.00 |
| The Haist | 26.00 |
| Qdesta Chess 7.0 | 49.00 |
| Ken Uston's Bleck Jeck | 47.00 |
| Qld Ironsides | 27.00 |
| Chivalry | 34.00 |
| I.Q. Baseball | 19.00 |
| Sege Buck Rogers | 32.00 |
| Sega Congo Bongo | 32.00 |
| Stellar 7 | 24.00 |

### Hobby

| | Our Price |
|---|---|
| Disk Quick | 21.00 |
| Silicon Seled | 17.00 |
| Dos Boss | 16.00 |
| Beagle Basic | 24.00 |
| Beegle G P.L.E. | 36.00 |
| Pronto Dos | 20.00 |
| Utility City | 20.00 |
| Double Taka | 24.00 |
| Apple Mechenic | 20.00 |
| Flex Text | 20.00 |
| Frame Up | 20.00 |
| Typefeces | 15.00 |
| Alpha Plot | 27.00 |
| Fontrix | 46.00 |
| Zoom Grephics | 34.00 |
| Bag of Tricks | 29.00 |
| Applesoft Compilar (Microsoft) | 119.00 |
| Einstein Compilar | 90.00 |
| Compiler Plus (Heyden) | 45.00 |
| Merlin Pro | 52.00 |
| Merlin Combo Peck | 80.00 |
| Qrca/M | 99.00 |
| Lisa V2.6 | 59.00 |
| The Grephics Magician | 39.00 |
| Naw Complate Graphics Sys. | 51.00 |
| Visibla Computer: 6502 | 32.00 |

### Blank Media

| | Our Price |
|---|---|
| Elephant SS/DD (10) | 17.00 |
| Verbatim SS/DD (10) | 25.00 |
| Mexell SS/DD (10) | 24.00 |
| BASF SS/DD (10) | 24.00 |
| Mamorex SS/DD (10) | 21.00 |
| Wabash SS/DD (10) | 20.00 |
| Generic SS/DD (100) | 145.00 |
| 3M SS/DD (10) | 25.00 |
| Fuji SS/DD (10) | 24.00 |

### Business

| | Our Price |
|---|---|
| **ARKTRONICS** | |
| Jane | 209.00 |
| **APPLE** | |
| Apple Works | 215.00 |
| Quick File //e | 79.00 |
| **ARTSCI** | |
| Megic Window II | 95.00 |
| Magicalc | 95.00 |
| Magic Memory | 65.00 |
| **ASHTON TATE** | |
| dBase II | 299.00 |
| **BLUE BUSH** | |
| Speed File | 75.00 |
| **BPI SYSTEMS** | |
| GL, AR, AP, PR or INV, ea | 265.00 |
| **BUSINESS SOLUTIONS** | |
| The Incredible Jack | 115.00 |
| Jack 2 | Call |
| **CONTINENTAL SOFTWARE** | |
| The Tax Advantage | 45.00 |
| F.C.M./FL | 65.00 |
| G/L, A/R, A/P, Payroll ea. | 155.00 |
| **DECISION SUPPORT** | |
| The Business Accountant | 159.00 |
| **DOW JONES SOFTWARE** | |
| The Markat Analyzer | 275.00 |
| Market Manager | 230.00 |
| **HAYDEN** | |
| Pie Writer V2.2 | 99.00 |
| **HOWARDSOFT** | |
| Creative Financing | 159.00 |
| Real Estate Analyzer II | 139.00 |
| **KENSINGTON MICROWARE** | |
| Format II Enhanced | 99.00 |
| **LIVING VIDEOTEXT** | |
| Think Tank | 99.00 |
| **LINK SYSTEMS** | |
| Datafax | 129.00 |
| Datalink | 65.00 |
| **MEGAHAUS** | |
| MegaWriter | 70.00 |
| MegaFinder | 105.00 |
| **MICROLAB** | |
| Data Factory 5.0 | 215.00 |
| Payroll Manager | 215.00 |
| **MICROPRO** | |
| Wordstar | 250.00 |
| Infostar | 263.00 |
| Calcstar | 117.00 |
| Wordstar w/Z-Card | Call |
| **MICROSOFT** | |
| Multiplan | 135.00 |
| A.L.D.S. | 79.00 |
| **MIDWEST SOFTWARE** | |
| Write Away | 119.00 |
| **QUARK** | |
| Word Juggler Lexicheck //e | 145.00 |
| Catalyst //e | 110.00 |
| Terminus //e | Call |
| **SENSIBLE SOFTWARE** | |
| The Sensible Speller | 60.00 |
| Bookends | 79.00 |
| **SIERRA ON-LINE** | |
| The General Manager II | 145.00 |
| The Screenwriter //e | 62.00 |
| **SILICON VALLEY** | |
| The Word Handler II | 49.00 |
| The List Handler | 49.00 |
| The Handlers | 105.00 |
| **SOFTWARE PUBLISHING** | |
| PFS: File | 79.00 |
| PFS: Graph | 79.00 |
| PFS: Report | 79.00 |
| PFS: Write | 79.00 |
| PFS: School Record Keeper | 95.00 |
| **SOFTLINK** | |
| Practical Accountant //e | 99.00 |
| **STONEWARE** | |
| DB Master Version Four Plus | 230.00 |
| DB Master Utility 1 or 2 | 65.00 |
| DB Master Stat. Pack | 65.00 |
| **SUNDEX** | |
| Certified Personal Accountant | 79.00 |
| Certified Personal Investor | 79.00 |
| **VISICORP** | |
| Advanced Visicalc //e | 250.00 |
| VisiSchedule | 189.00 |
| VisiCalc //e | 158.00 |
| VisiDex | 158.00 |

### Educational Software

| | Our Price |
|---|---|
| **APPLE** | |
| Apple Logo | 65.00 |
| **BARON'S** | |
| Computer SAT | 60.00 |
| **CBS** | |
| Mastering the SAT | 93.00 |
| College Boards | 109.00 |
| Success w/Math (ea.) | 19.00 |
| Goren's Bridge | 52.00 |
| **COUNTERPOINT** | |
| Early Games | 22.00 |
| Matchmaker | 22.00 |
| Piece of Caka | 22.00 |
| Fraction Factory | 22.00 |
| Quizagon | 29.00 |
| **DAVIDSON & ASSOCIATES** | |
| Speed Reader II | 47.00 |
| Word Attack! | 34.00 |
| Math Blaster | 34.00 |
| **DESIGNWARE** | |
| Spellicopter | 27.00 |
| Crypto-Cube | 27.00 |
| Math Maze | 27.00 |
| **DLM** | |
| Spelling Wiz | 23.00 |
| Word Man | 23.00 |
| Demolition Division | 23.00 |
| Alligator Mix | 23.00 |
| Meteor Multiplication | 23.00 |
| **EDU-WARE** | |
| Compu-Read | 19.00 |
| Compu-Math: Arithmetic | 33.00 |
| Compu-Math: Fractions | 33.00 |
| Compu-Math: Decimals | 33.00 |
| Spelling Bee w/Reading Primer | 26.00 |
| Spelling Bee Games | 22.00 |
| Algebra 1, 2, 3, or 4 | 26.00 |
| Algebra 5 or 6 | 35.00 |
| PSAT Word Attack Skills | 34.00 |
| SAT Word Attack Skills | 34.00 |
| Hands-on BASIC Programming | 59.00 |
| **EINSTEIN CORP.** | |
| Einstein Memory Trainer | 60.00 |
| **HARCOURT, BRACE** | |
| Computer SAT | 55.00 |
| **KNOWARE** | 89.00 |
| **LEARNING COMPANY** | |
| Juggla's Rainbow | 20.00 |
| Bumble Games | 28.00 |
| Bumble Plot | 26.00 |
| Gertrude's Puzzlas | 29.00 |
| Gertrude's Secrets | 29.00 |
| Rocky's Boots | 33.00 |
| Word Spinner | 24.00 |
| Addition Magicien | 24.00 |
| Reader Rabbit | 27.00 |
| **MECA** | |
| Besic Building Blocks | 55.00 |
| The Running Program | 55.00 |
| **MICROLAB** | |
| English SAT | 21.00 |
| Math SAT | 21.00 |
| Constitution Tutor | 21.00 |
| **READER'S DIGEST** | |
| Micro Habitats | 28.00 |
| Trickster Coyote | 26.00 |
| Chambers of Vocab | 26.00 |
| Alphabet Beast & Co. | 24.00 |
| **SCARBOROUGH SYSTEMS** | |
| SongWriter or PictureWriter | 26.00 |
| Phi Beta Filer | 35.00 |
| **SPINNAKER** | |
| Trains | 26.00 |
| Kidwriter | 23.00 |
| Fraction Fever | 23.00 |
| Grandma's House | 23.00 |
| Aerobics | 30.00 |
| Snooper Troops 1 or 2 | 29.00 |
| In Search of | 26.00 |
| Kindercomp | 19.00 |
| Alphabet Zoo | 19.00 |
| Hay Diddle Diddle | 19.00 |
| Facemaker | 23.00 |
| Story Mechine | 23.00 |
| Adventure Creator | 27.00 |
| Delta Drewing | 35.00 |
| **TERRAPIN** | |
| Tarrepin Logo | 87.00 |
| **XEROX** | |
| Stickybaer ABC | 27.00 |
| Stickybeer Numbers | 27.00 |
| Stickybeer Shepes | 27.00 |
| Stickybeer Opposites | 27.00 |
| Fat City | 27.00 |
| Beech Landing | 27.00 |
| Stickybeer Bop | 27.00 |

### Accessories

| | Our Price |
|---|---|
| Kensington System Saver | 65.00 |
| Cool + Time | 89.00 |
| Hayes Micromodem //e | 239.00 |
| Hayes 1200 Baud Smartmodem | 499.00 |
| Novation Apple Cat II | 229.00 |
| Novation 212 Apple Cat II | 365.00 |
| Volksmodam 300 | 64.00 |
| Digital Research Gold Card | Call |
| Microsoft 16K Ramcard | 69.00 |
| Videx Videoterm | 179.00 |
| Videx Ultreterm | 250.00 |
| Videx Kayboard Enhancer | 105.00 |
| Hayes Mech II Joystick | 30.00 |
| Heyes Mach III Joystick | 39.00 |
| Apple Super Sarial Card | 129.00 |
| ERA 2 by Microcom | 349.00 |
| Saturn 126K Ramcard | 349.00 |
| Accelerator //e | 429.00 |
| Neptune Card | 195.00 |
| Pro-Modem 1200 | 359.00 |
| Corvus Hard Disks | Call |
| Mockingboard | 79.00 |
| Mockingboard C Board | 145.00 |
| Thunderclock Plus | 115.00 |
| S.A.M. Automatic Mouth | 69.00 |
| TG Paddles | 24.00 |
| TG Joystick | 32.00 |
| TG Select-A-Port | 26.00 |
| Kraft Joystick | 35.00 |
| Synetics Supersprite | 309.00 |
| Zoom Telefonics Modems | Call |
| Super-MX Cards (Spies Lab) | 155.00 |
| Grappler Plus | 105.00 |
| Buffered Grappler Plus | 170.00 |
| Finger Print | 119.00 |
| Print-It | 169.00 |
| Pkasko/U Interfece Card | 135.00 |
| Chalkboerd Power Pad | 75.00 |
| Chalkboard Starter Kit | 35.00 |
| Koala Ped | 65.00 |
| Kay Tronic Keyboerd | 249.00 |
| Trackhouse Key Ped | 115.00 |
| Elephant Trunk | 20.00 |
| ALS Cards | Call |
| Echo Speech Synthesizer | 110.00 |

VISA

master charge

**For fast delivery send cashier's check, certified check or money order. Personal and company checks allow 3 weeks to clear. Shipping - Software ($2.50 min.) C.O.D. add an additional $1.75. Shipping - Hardware (please call). Alaska, Hawaii, Canada, PO, APO and FPO $5.00 min. Foreign orders - $15.00 min. and 15% of all orders over $100. Mastercard & Visa (include card # and expiration date). Connecticut residents add 7.5% sales tax. We ship same day for most orders. Prices subject to change without notice. All returns must have a return authorization number. Call 203-378-3662 to obtain one before returning goods for replacement.**

### Printers

| | Our Price |
|---|---|
| **APPLE** | |
| Imagewriter | 499.00 |
| Daisy Wheel Printer | 1745.00 |
| **BROTHER** | |
| HR-25 | 749.00 |
| HR-35 | Call |
| **DYNAX** | |
| DX-15 | 439.00 |
| **EPSON** | |
| RX-80 F/T | 369.00 |
| FX-80 | 479.00 |
| MX-100 Type 3 | 525.00 |
| FX-100 | 749.00 |
| LQ-1500 | 1175.00 |
| **IDS** | |
| Prism 80 (basic) | 1065.00 |
| Prism 80 (full) | 1435.00 |
| Prism 132 (basic) | 1225.00 |
| Prism 132 (full) | 1655.00 |
| P-480 Microprism | 425.00 |
| **JUKI** | |
| 6100 | 449.00 |
| **MANNESMANN TALLY** | |
| MT-160L | 609.00 |
| MT-180L | 799.00 |
| MT-Spirit | 299.00 |
| **OKIDATA** | |
| Microline 82A | 325.00 |
| Microline 83A | 575.00 |
| Microline 92 | 425.00 |
| Microline 93 | 689.00 |
| **PROWRITER (C. Itoh)** | |
| Prowriter 8510AP | 345.00 |
| Prowriter 1550AP | 549.00 |
| StarWriter A10-20P | 549.00 |
| StarWriter F10-40PU | 995.00 |
| **SILVER REED** | |
| 500P | 419.00 |
| 550P | 519.00 |
| 770P | 879.00 |
| **STAR MICRONICS** | |
| Gemini 10X | 279.00 |
| Gemini 15X | 399.00 |
| Delte 10 | 399.00 |
| Delta 15 | 549.00 |
| Powertype | 349.00 |
| **TRANSTAR** | |
| 120 | 429.00 |
| 130 | 599.00 |
| 315 | 459.00 |
| PICS Card | 95.00 |

### Disk Drives

| | Our Price |
|---|---|
| **APPLE** | |
| Disk II Drive | 279.00 |
| Duo Disc w/Acc. Kit | 650.00 |
| ProFile Disk Drive | 1135.00 |
| **INDUS** | |
| GT-Slim Line | 265.00 |
| **MICRO SCI** | |
| A2 143K | 225.00 |
| A40 164K | 280.00 |
| A70 286K | 345.00 |
| Micro SCI Controller | 75.00 |
| **RANA** | |
| Elite I | 249.00 |
| Elite II | 385.00 |
| Elite III | 448.00 |
| Rana Disk Controller | 60.00 |
| **QUENTIN** | |
| AP100A Full Height | 219.00 |
| AP105A Slim Line | 198.00 |
| AP110A Twin Pek | 399.00 |

### Monitors

| | Our Price |
|---|---|
| **AMDEK** | |
| Color I Plus | 279.00 |
| Color II Plus | 429.00 |
| Video 300G Green | 135.00 |
| Video 300A Amber | 149.00 |
| DVM RGB Interfece (II or III) | 132.00 |
| DVM 80e RGB Interfeca | 145.00 |
| **TAXAN** | |
| Green (Hi-Res) | 125.00 |
| Amber (Hi-Res) | 135.00 |
| 210 13" Color (Lo-Res) | 299.00 |
| RGB Vision-3 (Hi-Res) | 449.00 |
| 410-64 RGB-2 Interfece | 240.00 |
| **BMC** | |
| Color Plus Monitor | 239.00 |
| BM 12 AUW Green | 75.00 |
| **SAKATA** | |
| SC-100 Color | 249.00 |
| SC-200 RGB Color | 459.00 |
| SG-1000 Green | 95.00 |
| STS-1 Stend | 39.00 |
| **USI** | |
| 12" Amber | 146.00 |
| 12" Green | 140.00 |

### Home

| | Our Price |
|---|---|
| Home Accountent | 48.00 |
| Dollers and Sense | 89.00 |
| Tha Accountent | 64.00 |
| Time is Money | 65.00 |
| Maneging Your Money (Meca) | 145.00 |
| Money Street | 75.00 |
| Financiel Cookbook | 37.00 |
| Cut end Pasta | 37.00 |
| Homeword | 45.00 |
| Benk Straet Writer | 47.00 |
| Benk Street Speller | 47.00 |
| ASCII Express: Professionel | 85.00 |
| Dete Capture //a | 67.00 |
| Softerm II | 135.00 |
| Typing Tutor II | 17.00 |
| Mestar Type | 26.00 |
| Micro Cookbook II or //e | 27.00 |
| Music Construction Set | 30.00 |
| Tha Write Choice | 34.00 |
| Gibson Light Pen | 165.00 |

***For items not listed just call. If we don't have it, we can get it.***

***Visit Our Showroom: Exit 31 off I-95***

# COMPUTER DISCOUNT PRODUCTS

**HUGE Inventories • APPLE–IBM Specialists**

**★ ASK ABOUT OUR FAIR PRICE POLICY – *IT'S GUARANTEED!* ★**

Additional 10% OFF Your Order Of Any FIVE Educational Programs
School P.O.'s! – See Below –

## CDP SPECIALS

| | |
|---|---|
| 16K UPGRADE 4116 200 NS | 9.99 |
| 64K UPGRADE 4164 200 NS (Set/9) | 79.99 |
| APPLE FAN w/Surge, 2 Outlets | 39.99 |
| PAR. PRINTER CARD & CABLE | 39.99 |
| 16K RAM CARD | 39.99 |
| POWER STRIP w/Surge | 17.99 |
| 3 RING BINDER DISK SHEET (10) | 7.99 |

## DISKETTES

| | |
|---|---|
| DYSAN 5" SS/DD (10) | 31.99 |
| DYSAN 5" DS/DD (10) | 38.99 |
| MAXELL 5" SS/DD (10) | 27.99 |
| MAXELL 5" DS/DD (10) | 37.99 |
| VERBATIM 5" SS/DD (10) | 24.99 |
| VERBATIM 5" DS/DD (10) | 36.99 |

**MEMOREX 3½" (MAC) 41.99**

## SHARPEN YOUR SKILLS THIS SUMMER!

| | |
|---|---|
| ALGEBRA I-III, Ap | 31.99 |
| ALGEBRA I, IBM | 34.99 |
| FLIGHT SIM II, Ap | 37.99 |
| FLIGHT SIM, IBM | 34.99 |
| FRACTION FEVER, Ap/IBM | 21.99 |
| MASTERTYPE, Ap | 29.99 |
| MASTERTYPE, IBM | 34.99 |



## SPINNAKER

**FOR APPLE & IBM**

| | |
|---|---|
| ALPHABET ZOO | 19.99 |
| DELTA DRAWING | 32.99 |
| FACEMAKER | 21.99 |
| HEY DIDDLE | 19.99 |
| KINDERCOMP | 19.99 |
| MOST AMAZING THING | 26.99 |
| RHYME & RIDDLE | 19.99 |
| SNOOPER TROOPS I & II | 27.99 |
| STORY MACHINE | 21.99 |

## APPLE SOFTWARE

| | |
|---|---|
| BPI (GL, AP, AR, PAY, INV) | ea289.99 |
| BRODERBUND Arcade Machine | 39.99 |
| Bank Street Writer | 44.99 |
| Disk Lode Runner | ea24.99 |
| CENTRAL POINT Copy II + | 25.99 |
| DLM Alien Addition | 27.99 |
| Alligator Mix | 27.99 |
| Demy for Division | 27.99 |
| Dragon Mix | 27.99 |
| Meteor Multiplication | 27.99 |
| Minus Mission | 27.99 |
| Verb Viper Word Invasion | ea37.99 |
| Word Radar Spelling Wiz | ea37.99 |
| EDUWARE Counting Bee | 23.99 |
| Decimals/Fractions 3.0 | ea39.99 |
| Hands on Basic | 61.99 |
| PSAT Word Attack | 39.99 |
| SAT Word Attack | 39.99 |
| JACK REPORT | 74.99 |
| KENSINGTON Format II | 119.99 |
| KOALA Spider Eater New | 23.95 |
| LEARNING CO Bumble Games | 26.99 |
| Bumble Plot Magic Spell | ea26.99 |
| Gertrudes Puzzle Secret | ea29.99 |
| Mixtower Parade Mate | ea26.99 |
| Rocky's Boots | 34.99 |
| MICROLAB Miner 20.49er | 27.99 |
| MICROSOFT Multiplan | 165.99 |
| ODESTA Chess | 45.99 |
| Odin | 37.99 |
| PFS Report | 89.99 |
| File | 99.99 |
| Graph | 99.99 |
| Write | 99.99 |
| SENSIBLE SPELLER | 87.99 |
| SUBLOGIC Night Mis. Pinball | 32.99 |
| ULTIMA III | 39.99 |

**DOLLARS & $ENSE (IIe/c) 79.99**

## ACCESSORIES

| | |
|---|---|
| FLIP'N FILE (Original) | 17.99 |
| FLIP'N FILE w/Locktray (25) | 17.99 |
| FLIP'N FILE w/Locktray (50) | 27.99 |
| HAYES 300 Baud Smartmodem | 199.99 |
| 1200 Baud Smartmodem | 474.99 |
| LIBRARY CASE | 1.99 |
| KENSINGTON PC Saver | 29.99 |
| PRINTERS CLITOH | 379.99 |
| Epson FX80 | 549.99 |
| Epson RX80 | 349.99 |
| Okidata 82,93 | $CALL |
| PRINTER STAND Sm. (plug/s) | 24.99 |
| PRINTER STAND Lg. (plug/s) | 29.99 |
| RIBBONS Brother | $Call |
| MX & FX 80 | 4.99 |
| MX & FX 100 | 7.99 |
| OKI 82, 83, 92, 93 & Gemin | 2.99 |

**FINGERPRINT: Epson Upgrade RX, FX, MX 44.99**

## IBM

| | |
|---|---|
| ½ Height DS/DD Drive | 239.99 |
| ALPHA Typefaces | 79.99 |
| ASHTON TATE dBase II | 399.99 |
| Friday | 184.99 |
| Encyclopedia | 59.99 |
| AST Mega Plus | 299.99 |
| Six Pack Plus | 279.99 |
| BRODERBUND Serpentine | 26.99 |
| Lode Runner | 24.99 |
| CA Masters | ea31.99 |
| Subjects | ea16.99 |
| CENTRAL POINT Copy II PC | 25.99 |
| CROSSTALK | 139.99 |
| HAYDEN Pfinder | 129.99 |
| HAYES 1200B Modem | 439.99 |
| KRAFT Joystick | 44.99 |
| LIFETREE Volkswriter | 119.99 |
| LOTUS 1-2-3 | $CALL |
| MICROLAB Miner 20.49er | 27.99 |
| MICROSOFT Mouse | 129.99 |
| Multiplan | 165.99 |
| MONOGRAM Dollars & Sense | 129.99 |
| NORTON Utilities | 55.99 |
| PC CRAYON | 49.99 |
| Tutor | 47.99 |
| PFS Write | 99.99 |
| File | 99.99 |
| Report | 89.99 |
| Graph | 99.99 |
| POOL 1.5 | 27.99 |
| SIERRA ON LINE Frogger | 26.99 |
| SIR TECH Wizardry | 44.99 |
| SUBLOGIC Night Mis. Pinball | 32.99 |
| TG Joystick | 44.99 |
| TITAN 64K BOARD | 499.99 |
| VISICORP Visicalc | 164.99 |
| Scheduler | ea199.99 |

**PLANTRONICS ColorPlus 375.99**

## Beagle Bros Micro Software Inc.

| | |
|---|---|
| ALPHA PLOT | 24.99 |
| APPLE MECH. FLEX TEXT | ea19.99 |
| BEAGLE BASIC, DOUBLE TAKE | ea24.99 |
| DOS BOSS | 15.99 |
| FRAME-UP | 16.99 |
| GPLE | 32.99 |
| PRONTO DOS | 19.99 |
| TIP DISK #1 | 14.99 |
| TYPEFACES | 14.99 |
| UTILITY CITY | 19.99 |

## Continental

| | |
|---|---|
| APPLE GRAPHICS BOOK | 14.99 |
| CPA (GL, AP, AR, PAY)(AP) | ea149.99 |
| FOM.PL 1st CLASS MAIL (AP) | 59.99 |
| FOM.PL 1st CLASS MAIL (IBM) | 71.99 |
| HOME ACCOUNTANT (AP) | 44.99 |
| HOME ACCOUNTANT + (IBM) | 84.99 |
| PROPERTY MGMT. (AP, IBM) | 295.99 |
| TAX ADVANTAGE (Ap) | 39.99 |
| TAX ADVANTAGE (IBM) | 49.99 |

**ULTRAFILE (IBM) 155.99**

## QUADRAM

| | |
|---|---|
| APIC (APPLE PARALLEL) | 129.99 |
| eRAM 80 column 64K IIE | $CALL |
| MICROFAZER 8K Parallel | 139.99 |
| MICROFAZER 8K Serial | 159.99 |
| QUADBOARD I or II (64K) | 269.99 |
| QUADCOLOR I | 219.99 |
| QUADCOLOR II (Board For Above) | 209.99 |
| QUAD 512+ (64K) | 219.99 |

**QUADLINK 479.99**

## KENSINGTON MICROWARE



**SYSTEM SAVER**

- Surge Suppression
- Fits Apple Stand
- Dual Outlet
- U.L. Listed

**$65**

## INFOCOM

**FOR APPLE & IBM**

| | |
|---|---|
| DEADLINE, ENCHANTER | ea32.99 |
| PLANETFALL | 32.99 |
| SUSPENDED | 32.99 |
| WITNESS | 32.99 |
| ZORK I, II, STARCROSS | ea24.99 |

**SORCERER NEW! 37.99**

## APPLE HARDWARE

| | |
|---|---|
| A.I.S. PRM 3.0 | 259.99 |
| AUTO REPEAT KEY | 19.99 |
| BASIS 108 | $CALL |
| DAN PAYMAR Lower Case 1 (rev 7 6) | 25.99 |
| Lower Case 2 (rev 7) | 19.99 |
| DARK STAR Snapshot II | 65.99 |
| EASTSIDE Wildcard | 79.99 |
| Wildcard II | 111.99 |
| FOURTH DIMENSION Drive | 219.99 |
| HAYES Micromodem IIe | 235.99 |
| KOALA PAD | 85.99 |
| KRAFT Joystick | 44.99 |
| Paddles | 31.99 |
| LEGEND 128K Ram | 359.99 |
| MICRO SCI A-2 Drive | 209.99 |
| MOUNTAIN Ramplus + 32K | 159.99 |
| ORANGE MICRO Grappler + | 114.99 |
| Buffertoard | 119.99 |
| Buffered Grappler + | 179.99 |
| PADDLE ADAPPLE | 24.99 |
| TITAN TECH 128K Ram | 379.99 |
| Accelerator II | 444.99 |
| Neptune 64K | 199.99 |
| TG Joystick | 34.99 |
| Paddles | 25.99 |

## Sierra ON-LINE INC

| | |
|---|---|
| FROGGER (Ap) | 21.99 |
| GENERAL MANAGER | 46.99 |
| HOME WORD | 49.99 |
| SCREENWRITER II | 81.99 |
| ULTIMA II | 36.99 |
| **BC QUEST FOR TIRES** | ***NEW!*** |
| **OILS WELL** | ***NEW!*** |

## Videx

| | |
|---|---|
| ENHANCER II | 99.99 |
| FUNCTION STRIP | 34.99 |
| HARDSWITCH | 16.99 |
| MICROMODEM CHIP | 24.99 |
| PSIO | 169.99 |
| PRE-BOOTS Apple Writer | 14.99 |
| Apple Writer for Ultraterm | 23.99 |
| Visicalc | 39.99 |
| Visicalc Memory Expansion | 71.99 |
| Visicalc for Ultraterm | 54.99 |
| SOFTSWITCH | 25.99 |
| ULTRAPLAN | $CALL |
| ULTRATERM | 249.99 |
| VIDEOTERM w/SS + INV. | 219.99 |

**CDP Is Your AUTHORIZED MicroPro DEALER!**

**This month We'll Match Any Published Price**
**Same Terms – At Time Of Order**
**This Issue Only $CALL**

## MONITORS

| | |
|---|---|
| PRINCETON RGB HX 12 | 485.99 |
| TAXAN 420 RGB | 499.99 |
| USI P. 1 9" Green 20 mh | 99.99 |
| USI P. 2 12" Green 20 mh | 119.99 |
| USI P. 3 12" Amber 20 mh | 129.99 |
| USI P. 4 9" Amber 20 mh | 109.99 |
| USI 1400C Color Composite | 279.99 |

## Novation

| | |
|---|---|
| 103 Smart Cat | 169.99 |
| 103/212 Auto Cat | 399.99 |
| J Cat | 99.99 |
| Access 123 (IBM) | 469.99 |
| Applecat II | 249.99 |
| Applecat Upgrade 1200 Baud | 309.00 |
| Cat Modem | 135.99 |
| Expansion Module | 29.99 |



**– SINCE 1977 –**
**RETAIL SHOWROOMS IN CALIFORNIA:**
San Jose • (408) 241-2300
San Mateo • (415) 571-1658
San Francisco • (415) 626-2244

**COMPUTER DISCOUNT PRODUCTS**
**860 S. Winchester Blvd., San Jose, California 95128**
**MAIL, PHONE, WILL-CALL SERVICE FROM FROM 6AM (PST)**
**– CALL (408) 985-0400 –**

- No Charge For Credit Cards
- Prices Subject To Change
- Software Sales Are Final
- International Orders Welcome
- Min. UPS Chg. $4 + Ins.
- Min. US Postal Chg. $10
- P.O.s Welcome – Call First

VISA AMERICAN EXPRESS MasterCard

but the user would ever know the results.

Anyone who is afraid of tests can skip the quiz. But we found that most people felt confident enough to try it out, just for review. Here's a sample question:

Question #3:
What is the fastest way to delete a whole record?
A. Press the delete key until the row is wiped out.
B. Throw a shoe at it.
C. Hold down the open apple key and press D, then press return.
Type the letter of the correct answer, and press return.

Now answer A does delete the record, but it's slower than the other two methods. Answer B requires good aim; you have to hit the power switch, or destroy your video monitor, short-circuiting the system, to succeed. So we figured C would look like a pretty good guess.

If someone guesses wrong, the quiz apologetically asks for another try. With only two other choices, most people get the right answer quickly. They don't get to move on to the next question until they get it right, so people always score 100 percent on every quiz. Nobody flunks the course.

**Is It Enough?** Most people spend about an hour and a half going through this "interactive" training. Afterward, one of our testers said, "It's like using the real program, but I didn't have to worry about getting into trouble."

A few of the more timid decided they would still go through the paper tutorial to try the real software out under Chris Kelly's careful eye. They said the disk had shown them how they could use the program and had taught them the basic commands, but they wanted to take advantage of every minute of training before launching out on their own.

Most people, though, felt brave enough to pick up the program, as well as the notes for their next report, and start using *AppleWorks* to do real work. Sometimes they had to hold down the open apple key and press the question mark to find out which command did what; occasionally, they actually looked something up in the reference manual. But the disk had given them a feel for "the way things go" in *AppleWorks*, so they could build on what they had already learned.

**Learning about Teaching.** On-disk documentation shouldn't be thought of as something to replace a well-written manual. You can't consult a tutorial on one disk while you're running a program on another, after all, and a tutorial of any kind shouldn't preclude a reference book for a professional application program. Besides, some people enjoy reading, and maybe get more out of it.

A disk-based tutorial should complement the written documentation. As such, we decided that it should be handled differently. It shouldn't be overloaded with text—a book is still easier to read and "thumb through" than a computer display is. It should take advantage of those things that a computer can do better than words on paper, like provide feedback and reinforce concepts through animation, examples, practice, or the more traditional educational technique of the quiz.

The *AppleWorks* tutorial disk uses each of these techniques. Which of them another tutorial might use should depend on the nature of the material being taught. The greatest influence on the final form of our tutorial was that we treated its creation as a learning process in itself. ■

---

*Jonathan Price is a senior technical writer for the User Education Group in Apple's Apple II division. His book,* How To Write a Computer Manual, *will be published this fall by Addison-Wesley. He lives in a lime-green bungalow, where he writes with the television on.*


# NEW *IIc* OWNER?

**Apple PugetSound Program Library Exchange has the programs and support that you need!**

**A.P.P.L.E. is the world's largest Apple user group, with international membership.**

**programs for the *IIc* now in stock include:**

Graphics
Word Processing
Utilities
Database

**Get These Comprehensive User Support Services**

- the international magazine - Call—A.P.P.L.E.
- troubleshooting 10 hours a day, seven days a week-HOTLINE
- major discounts on HARDWARE & SOFTWARE & COMPUTER PUBLICATIONS LIBRARY
- discount subscriptions to SOURCE DATABASES
- 24 hr. BULLETIN BOARD

**ADDITIONAL POSTAGE**

Call -A.P.P.L.E. magazine is mailed **FREE** third class bulk. Additional postage required for 1st class and foreign memberships as follows:

- ☐ U.S. First Class add $15.00 ($66.00 total)
- ☐ Canada, W. Indies, C. America, Columbia, Venezuela and Mexico – Add $15.00 ($66.00 total)
- ☐ All S. American countries (except above), Europe and N. Africa – Add $21.00 ($72.00 total)
- ☐ Asia, Mid East, S. Africa, Australia and Pacific Islands — Add $27.00 ($78.00 total)

All orders must be prepaid in U.S. funds only

**Official A.P.P.L.E. Membership Enrollment Application**

Mail this coupon to: A.P.P.L.E. 21246 - 68th Ave. S. • Kent, WA 98032 or Call Toll Free 1-800-426-3667

**$25 one-time application fee + $26 annual dues = $51**

Name _____ Phone _____

Address _____

City _____ State _____ Zip _____ (STC)

for first class postage and foreign mailing please refer to postage chart

M/C # _____ exp ___

Visa # _____ exp ___

**JOIN NOW AND RECEIVE TEN DISKETTES FREE!!! (5¼ INCH)**

Free disk specials expires 8/31/84

**EVERY MONTH IS DIFFERENT!**

**All of these programs were on a single recent issue!**

**MIDDLE EARTH QUIZ**
Tolkien fans' delight

**FAMILY TREE SURGEON**
Trace your roots (genealogy).

**HI-RES IMAGE MOVER**
A graphics tool to rival the high-price brands.

**HUNGARIAN LIGHT SHOW**
What else could we say?

**DOUBLETALK**
Records voices and music on disk and plays them back from BASIC.

**TRI-SOLITAIRE**
A hi-res card game (electronic cards don't wear out or become lost).

**ANSWER SHEET GENERATOR**
The answer to a teacher's prayer.

**MESSAGE CENTER**
A disk based bulletin board system (worth twice the cost of the whole issue).

**BRAILLE WRITER**
The blind need mental stimulation as much as you.

**HEX WINDOW**
Does hex decimal conversions without leaving your program.

**SCREEN DESIGN TOOL**
Bat out the "look" of a screen before you program it

**GENERAL LEDGER — PART THREE**
This installment covers record deletes and account number assignments.

**SAINT PAT**
Timely green music

**COMPUTER HISTORY — PART FOUR**
The incredible shrinking text!

**DOS 'N' STUFF — PART THREE**
Learn everything you always wanted to know about disk files.

**VISICALC 1040A TEMPLATE**
This one is deductible.

**BASICGRAPH**
Generate bar and pie charts (courtesy of SOFTALK magazine).

**T-DUMP**
Adds a new command to DOS. Now you can dump text files anytime, anywhere.

As if that weren't enough...

This SOFTDISK issue also includes graphics, music, miscellaneous programming hints and tips and even 4 program listings from SOFTALK magazine!

**Now available at dealers everywhere**




SOFTDISK comes on two double-sided diskettes. It is a bonanza of unprotected games, tutorials, utilities, educational software, and articles. You keep one disk and return the other after copying it. We pay the postage and furnish a mailer. What's more, you become part of the action when you send us comments and programs on the disk you return.

"Great in the classroom, too!"
APPLESOFT DOS 3.3

I HAVE ENCLOSED:
- ☐ $10 for Issue #29 shown above
- ☐ $10 for the next regular issue
- ☐ $69.95 for 12 monthly issues

Name _____

Address _____

City/State _____ ZIP _____

Visa/Mastercard # _____

Exp. _____

3811 St. Vincent, Shreveport, LA 71108 318-868-7247



# BEGINNERS' CORNER

BY TODD ZILBERT

## A Disk DOS It

Get your shoes off and put your feet up and we'll begin by saying that programming isn't for everybody; most people can find commercial or public domain software to fulfill their needs. If it weren't for this column, you would probably never have to write another program. It is important that you know what programming is so you can decide intelligently whether or not it's the sport for you. If you read the column last time and thought you'd rather be weeding a vacant lot, don't be overly concerned. The purpose of Beginners' Corner is to introduce you to the different aspects of personal computing, not to make you into a hacker.

Last month you wrote a short program and, if it was available, you took a look at a much more sophisticated program, *Apple Presents . . . Apple* (the *Introduction* disk on the IIc). If you used *Apple Presents . . . Apple*, you're probably pretty comfortable with the Apple keyboard and you have some idea of what a computer can do. (You also know something more about yourself, depending on whether you chose to assist the bunny or the business.) You also know what a disk is and what a disk drive is. We will take a closer look at disks and disk drives shortly.

You can enter Applesoft Basic by turning on the computer and pushing control-reset. While starting the computer this way is a fast way to get to Applesoft, it is not a good way, for a reason that will be clear to you by the time you finish this article.

Applesoft is resident in Apples (except for early Apple IIs), which means that if you turn on the computer you can use Applesoft. Applesoft resides in the read-only memory, or ROM, in your computer. The ROM is analogous to a book inside your computer. You can read from the book, and what you read is always there, but you cannot write in the book. Because Applesoft is in ROM you can use Applesoft to write a program as soon as you turn the computer on.

However, if, after you've written the program, you turn the computer off, you will have lost it. Forever. The memory that accepts the program while the computer is on is called the random access memory, or RAM. If ROM is like a book, RAM is like a chalkboard. RAM remembers what you type in Applesoft, but only as long as the computer is on. Once the computer is turned off, RAM is wiped clean.

This can be pretty upsetting if you've written a long program. After all, you don't want to have to type in a program each time you want to use it. What you need is some kind of memory that will remember the program after you turn the computer off. Which is what the disk drive is for.

The disk drive is a mass-storage peripheral. Peripheral because it is not part of the computer itself. It is easy to see that it is a peripheral on a II Plus or a IIe because it is a separate entity from the computer, a satellite attached by a umbilical cord. On the IIc a disk drive is built into the computer's case, but it is still a peripheral. The computer can function without the disk drive. A disk drive can provide the computer with storage space limited only by the number of blank disks you have. If you've written a program that you think you'll want to use later, you can save it from RAM onto a disk via the disk drive. When you want to use it, you can load it back into RAM from the disk via the disk drive.

Turn your computer on. You will hear the disk drive whir. Press and hold both the control and reset keys. The Applesoft prompt and cursor should appear. You are now in Applesoft. Enter the following program:

```
10 HOME
20 LET X=1
30 PRINT X
40 LET X=X+1
50 IF X<100 THEN GOTO 30
60 END
```

Now type *run*.

Briefly, let's look at this program. The numbers 10 through 60 on the left margin are called line numbers. They are the names for the lines of a program; they make it easy for the programmer and the computer to identify the

MEMOREX
FLEXIBLE DISCS

BUY THE BEST FOR LESS. Lowest prices. **WE WILL NOT BE UNDERSOLD!!** Buy any quantity. Call free (800) 235-4137 for prices and information. Dealer inquiries invited and C.O.D.'s accepted.



VISA

PACIFIC EXCHANGES
100 Foothill Blvd
San Luis Obispo, CA 93401. In Cal. call (800)592-5935 or (805)543-1037

steps the program will take. The commands *home*, *print*, and *end* you know from last time. Line 20 introduces a new concept—a variable. In this program, the variable is the letter X, but we could have chosen any letter, or many combinations of letters, to serve as a variable. We assign a value to the variable—in this case, one. Line 30 tells the computer to print the variable, and it prints the number one. Line 40 increases the value of the variable by adding one. Line 50 introduces two new commands, *if-then* and *goto*. If-then functions in Basic as it does in English. It requires the computer to make a decision—is X less than 100?—and to act on that decision. The goto command instructs the computer to continue the program at the line number identified. In this case the computer is instructed to continue the program at line 30 if X equals a number less than 100. Line 40 prints the number again. The computer goes through the loop from line 30 to line 50 until X reaches 100. When at line 50 the computer realizes that X is not less than 100, it does not go to line 30 but continues to line 60, which is the end of the program.

Although this program doesn't have a lot of usefulness, let's pretend that we'll need it next week. Because we are going to turn off the computer in the interim, it will be lost from RAM, so we'll have to save it onto a disk.

Get a blank disk. If you don't have one, go to the computer store and buy a small box of single-sided single density 5 1/4-inch floppy disks. You'll need them later on in life, so you might as well get some now. The disk is a round piece of brown-gray Mylar inside a rectangular black jacket. The inner disk looks like a thin 45 rpm record, but it works more like recording tape. Like recording tape, the plastic disk has a magnetic coating. When you save a program to a disk, the disk drive head magnetizes places on the coating, arranges it, and it stays arranged until it is rearranged, which would happen if you erased the disk.

This coating is one of the weakest links in your computer system, by the way. Heat, dust, oily fingertips, or a magnetic field can damage the disk, causing the loss of your information. When they are not in the disk drive, keep disks in their paper sleeves. Keep them cool. Don't put them near an electric motor, which can create a magnetic field, and don't put them on top of or beneath your monitor.

The recording surface is visible in two places on the disk. The big hole in the center of the disk is called the hub. Like a record player, the disk drive uses the hub to spin the disk. Below the hub is a wide elliptical slit. The disk drive reads the disk through this oval, spinning the disk so that it can read it all. Try not to touch the recording surface. Next to the hub is a very small circle where the disk is exposed; that's the timing hole—some disk drives use it to measure the speed of the revolving disk, but Apple disk drives just ignore it.

You'll find that one side of the disk is smooth, and the other side has folded edges. The smooth side is the front, or top, side. Disks almost always go in the drive with this side up. Hold the disk with the oval pointing down and the label facing you. (If there is no label, you might want to put one on the smooth side of the disk.) On the upper right-hand side there is a notch in the disk. This is the write-enable notch. If this notch were not on the disk, you could not save anything—the computer would refuse to write on the disk. Sometimes commercial software will come on disks with no write-enable notch, so that you won't accidentally write over the program. Sometimes you will want to ensure that you cannot write to your own disks, even though they are notched. You should find the package of stickers that came with your disks (sometimes two kinds of stickers—the bigger ones are labels, but it's the little ones we're interested in). These are called write-protect tabs, and they are used to cover the write-enable notch. When in place, they protect what is stored on the disk from being written over, just as if there were no notch.

Put the disk in the disk drive with the long slit going in first and the label facing up. It's now time to save our program, but to save it we first have to name it. Call it *Add*. Type *save Add* and press return. Disappointingly, either nothing happens or, if you're working on a IIc, you get an incomprehensible bunch of numbers and letters and a new prompt that looks like an asterisk. Either way, if you push control-reset again you will retrieve the Applesoft prompt, and your program should still be intact. List it to make sure.

Which brings us to the disk operating system, or DOS. The computer requires instructions to tell it what to do; it can do very little on its own. Applesoft is built into ROM, so you can write instructions in Basic just by turning the computer on. But the computer cannot interact (or interface, if you like) with the disk drive without instructions. The instructions that tell the computer how to interact with the disk drive are collectively called an operating system. There are four main operating systems that will let an Apple II communicate with the disk drive: DOS, ProDOS, CP/M, and Apple Pascal (not all of these will work with all Apples). We'll concern ourselves with DOS this month, and investigate ProDOS next time; if you want information on the others, you'll have to go elsewhere.

DOS has gone through many transformations during its short life. The version we're interested in is DOS 3.3, the version that came with new Apple II Pluses and IIes up until January 1984. Apple IIes sold in 1984 (and IIcs) come with another operating system, ProDOS, but DOS 3.3 is available in computer stores and can be used by all Apple II machines. If you have a 1983 IIe, you received a couple of disks with your computer. One is called the DOS System Master; the other is a companion disk called DOS Sample Programs. Before that, Apple II Pluses came with a similar System Master and a disk called Basics. If you have a IIc, you received five sample disks but no System Master. Instead you have a disk called System Utilities. The next several paragraphs will discuss use of the System Master disk; read along even if you own a IIc, because much of the information pertaining to DOS is equally pertinent to




ProDOS.

DOS (pronounced doss, not dues, dohs, or duzz, although you can go ahead and mispronounce it any way you like) is a program that tells the computer how to interact with the disk drive. Unlike Applesoft, it must be loaded into RAM each time the computer is turned on. DOS provides commands for saving information on a disk and for retrieving, or reading, it. DOS also arranges the information on the disk, using the storage space on the disk as efficiently as possible.

Unlike Basic, DOS is not a language and has no prompt of its own. Rather, DOS augments Basic, allowing you to save your Basic programs on a disk. For our purposes, it is enough to know when DOS is present; how it works is relatively unimportant. The only time you notice DOS is when it is missing—which is the beauty of it. The DOS System Master disk contains DOS and a lot more, but it is not the only place to find DOS. Many commercial programs include DOS, so that a person using the program can also use DOS commands. We'll learn a method for putting DOS on your own blank disks, too.

The DOS System Master disk is a startup disk. That means that when you turn the computer on with the System Master disk in the drive, the computer will automatically read DOS from the disk and put it into RAM. Put the System Master into the disk drive and close the drive door. Then type *pr#6*. This command does the same thing as turning the computer on with a startup disk in the drive—it goes to the disk drive, searches for DOS, and puts DOS into RAM. This is called booting a disk—short for bootstrap, as in pulling yourself up by. The drive makes a clicking sound, whirs a bit, and then some words appear on the screen informing you that DOS is loaded. Many disks can be booted—that is, some disks contain programs, and some disks contain data used by the programs. The disks with programs are (usually) the startup disks. Data disks (usually) are not startup disks and cannot be booted.

Remove the System Master from the disk drive; DOS is in RAM, and we don't need to leave the DOS disk in the drive. Put in your blank disk. Type in the Add program again: When we booted the System Master disk, we obliterated the program in memory. List it and run it to make sure that it works right. If it doesn't, check for typing mistakes. Then type *save Add* and press return. The disk drive should whir, and, if you're using a brand-new disk, you'll be rewarded with an error message. We do seem to be taking the long way 'round, don't we?

Because the disk manufacturer doesn't know what operating system you will be using, new disks are unprepared disks. In order to use them, we have to prepare them. Preparing a disk is called formatting, or initializing. Before a brand-new disk can be used, it must be formatted, but we are prepared. Remove the disk from the disk drive. Reinsert the System Master disk and type the DOS command *catalog*. You'll see several columns. In the first column will be asterisks. The next column will contain single letters. The next column contains three-digit numbers, and the last holds a list of semi-recognizable English words.

Each entry in this catalog is read across, from left to right, and is called a file. The asterisks in the leftmost column show whether or not a file is locked. If there is an asterisk present, it is locked, and vice versa. The second column holds a single letter. This column tells you what kind of file you are looking at. If the letter is an A, the file is an Applesoft file. If it is an I, it is an Integer Basic file. If it is a B, the file is a binary file. And if it is a T, it is a text file. There are others, but these are the main ones and the only ones we will concern ourselves with for now. The numbers in the next column tell you how big a file is—that is, how much storage space it fills up on the disk. The rightmost column—the one that looks like English—is the file name.

Look at the catalog listing. You should see a file name that says *HELLO*. If not, hit return until you are back to a prompt, type *catalog*, and look again. Hello is a locked Applesoft file that takes up six sectors on the file. The Hello file shows that the System Master was initialized. We will use the DOS command *init* to put a hello file on your new disk.

Remove the System Master from the disk drive and insert your new disk. Type *init Hello* and press return. Init is a very powerful DOS command. Init formats a new disk, preparing it to accept information. If the disk is not new, init still formats the disk, but in doing so it bulldozes through everything stored on the disk. Init also reproduces DOS on the formatted disk; a disk initialized with DOS will function as a startup disk. Finally, init saves the Hello program on the initialized disk. The Hello program that is saved will depend on what is in RAM when you type *init Hello*. In this case our addition program was in RAM; when you use the new disk as a startup disk, the Add program will automatically run. Try this: Turn off the computer. Insert the newly initialized disk in the drive and turn the computer on. The Add program should run. List the program—just as you remembered it. You probably don't want so useless a program as the Hello program on your disk. You can save another program in place of it by entering the program and typing *init Hello*, or you can reinitialize the disk with no program in memory, and no program will run when the disk is booted. Later, when and if you're writing programs of your own, you'll find this feature of init quite handy.

Hello is the standard name used when initializing a disk, but you don't have to use Hello. Actually, you're free to call the initial program anything you want. You can type *init Skid Row* and that's what your initial file will be called. It's up to you. Hello is just a convention—it's easy to remember what a file called Hello is for.

If you did not want the Add program as your Hello program—that is, you don't want it to run when the disk is booted—but you do want to have it saved for later, you can put it on the disk with the save command—the one that did not work earlier. Once you have a formatted disk, all you have left to do to save the program is type *list* to make sure that the Add program is still available, and then type *save Add*. The program is now saved on the disk. Catalog the disk just to make sure.

Now, any time you want to use the Add program you can boot the disk, type *load Add*, and run it. Another method would be to boot the System Master disk, remove it from the drive and insert the disk with the Add program on it, and then load and run it.

Now that it's safely saved, try changing the program. See what happens when you change the goto in line 50 from 30 to 20. Try changing the less-than sign in line 50 to an equal sign. Put a comma after the X in line 30; try a semicolon. Fun, isn't it?

If you don't have a DOS System Master disk, everything that we've done here can be done, in slightly different form, with ProDOS. Next time we'll see how. For now, look at the ProDOS System Utilities manual for a lesson in duplicating, or backing up, the System Utilities disk. See if you can use System Utilities to format a new disk, and then see if you can put the Add program on it.

There's a lot of jargon associated with computers. Learning words like DOS, boot, utilities, list, initialize, hacker, user, and so on gets to be confusing. Because computers introduce many new concepts, products, and methods, and because we have to name them to talk about them, there are many new words. The words are not important—pronounce DOS as you like, or don't pronounce it at all; disk, diskette, floppy—who cares? The only reason for learning them is that, as you continue along in the computer parallel universe, you'll encounter the same words, and many new ones, all the time. We want you to leave the Corner prepared. ◨

THE GENEALOGY PROGRAM

What You've been missing...

The Ancestry Link™

Featuring the Innovative LINKAGE ANALYZER™

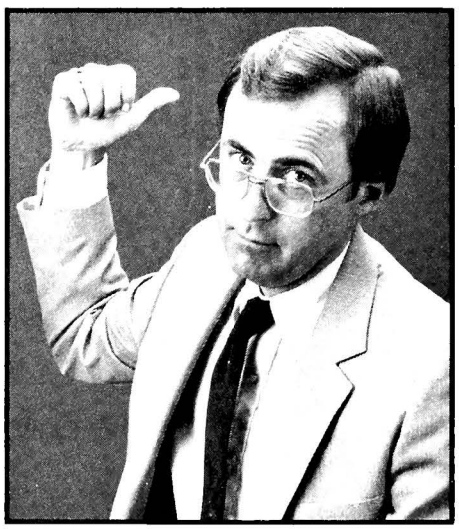
An Easy to Use Professional and Family System used Worldwide. 1000 Ancestor Storage. Fast In-Memory Scrolling. 100 Entry Fields. Sorting and Indexing. Customize Your own Reports. Automatic Proofreader Report. A Self-teaching Tutorial. Uses 1 or 2 Disk Drives. Works with the Apple II+, IIe, ///, the IBM PC & XT & PCjr and any Compatibles for both. Backed by SEVEN years of Genealogical Computing.

TO ORDER SEND $69.95 SHIPPING INCL. FOR MANUAL AND DISKETTES.
PLEASE SPECIFY APPLE™ OR IBM™
VISA & MASTERCHARGE ACCEPTED
SEND CARD NUMBER, EXP DATE, AND SIGNATURE

ACCELERATED LOGIC, INC.
108 East 38th Street Suite 902 New York, N.Y. 10016
(212) 683-7127

*TM APPLE **TM IBM

# SPEND 5 MINUTES WITH OUR ACCOUNTANT AND YOU'LL FIRE YOURS



Introducing **TIME IS MONEY.™**
*A simpler, faster, more flexible personal accounting software package.*

While people have been overjoyed by the prospect of having their very own personal computer accountant, so far they've been underwhelmed by the products. Some are too complicated; others are little more than toys; still others are too slow and rigid in format.

Finally what you hoped for in a personal computer accounting package, TIME IS MONEY delivers.

**IT'S SIMPLER.**

TIME IS MONEY uses no codes and no special accounting terminology. Simple checkbook balancing with a full statement on-screen.

**IT'S FASTER.**

TIME IS MONEY runs with machine language speed so there's instant access to any transaction or balance. No complex or tedious setup prior to use.

**IT'S MORE FLEXIBLE.**

TIME IS MONEY defines, changes or deletes categories and accounts at any time. It grows as your needs grow.

**IT'S MORE POWERFUL.**

Tracks up to 240 separate assets and liabilities. 240 types of income from 240 different sources. 240 expense categories with tax deductions.

And all you need is an Apple II, II+, //e, or compatible computer.

Find out why TIME IS MONEY is the best personal accounting software package on the market. Call or write for a data sheet today. Even better, visit your dealer and try it out for yourself.

If you have a spare 5 minutes.

TURNINGPOINT™ SOFTWARE

11A Main Street, Watertown, MA 02172 **(617) 923-4441**

© Copyright 1983 Turning Point Software, Incorporated
Apple is the registered trademark of Apple Computer, Inc.

# Mind Your Business

BY PETER OLIVIERI



## Of Spreadsheets and Database Manners

Let's begin this month with a bit about spreadsheets. As you know, a spreadsheet is an electronic representation of a table of data. The applications that use a spreadsheet in their design are often referred to as "models." A model is, essentially, a mathematical representation of the problem you want to solve. The actual physical structure of a model within the program is called "template."

A spreadsheet program can remember the model that represents the foundation of the problem you're working on. Therefore, it can solve all problems that fit a particular template, without your having to do any of the math. This design is a perfect one for addressing the "what if" questions that managers so often want to ask.

*VisiCalc* was the very first spreadsheet program for micros, and it took the marketplace by storm. It's been several years now since *VisiCalc* was introduced. Because its authors thought so much about what we'd want and find useful, *VisiCalc* was essentially without competition for the first two years. But as we became more sophisticated, we began to want more, and VisiCorp's attempts to provide more within the framework of *VisiCalc* weren't enough. Realizing that the time had come to break the venerated oldsters' hold on the spreadsheet market, other astute manufacturers did their homework, surveyed users, discovered weaknesses, and devised programs to address the needs and problems they'd uncovered. As a result, there are some very sophisticated spreadsheet packages to choose among today.

Here are some questions that are worth asking if you're considering the purchase of your first spreadsheet program or contemplating an upgrade to a more sophisticated one. Remember, though, that you may not require all the items and capabilities described; only you can determine which features are "musts" for your working environment.

1. Can portions of the spreadsheet be protected so that a user can't erase important data or formulas by accident?

2. Does the package provide for hidden cells or columns that can be seen only by users who possess the appropriate password?

3. Is it easy to copy or move a cell or group of cells? A feature that can be helpful here is the ability to "name" a cell or a group of cells. Once you've named a cell or cell group, you can refer to it by its name. This capability significantly simplifies the design of a spreadsheet model.

4. Can the copying of formulas (sometimes called "replication") be done with ease? This will have a significant effect on the amount of time required to create a spreadsheet template. Consider also: When a formula is being copied to several other columns (to get their sums), do formulas automatically adjust themselves to reflect their new positions (that is, their new columns) on the worksheet? And if you want some part of a formula to remain unchanged (this is often called an "absolute reference"), how do you indicate this choice?

5. Does the spreadsheet do its calculations (solve all of its formulas) every time you enter a change, or only when you instruct it to do so? Does the spreadsheet you're considering allow you to choose the option you prefer?

6. Can you format the worksheet to look just the way you want it to? In other words, can you left- or right-justify the contents of a cell? Can you center them? Can you use the percent sign, express numerical data in dollars and cents format, automatically insert commas in numbers where appropriate, display negative numbers in parentheses, and select the number of decimal places displayed? Can you specify the width of individual columns on your sheet, freeze row and column titles so that they stay on-screen, and divide the screen into two or more "windows"? Is it easy to insert new rows or columns and to delete unwanted rows or columns? Can you sort the information in the worksheet?

7. Are there a number of built-in functions to simplify the creation of mathematical formulas in your models? Functions worth looking for include net present value, internal rate of return, financial ratios, averages, standard deviations, sums, maximum, minimum, and square root.

8. Are you planning to develop sophisticated applications? If so, you may want a spreadsheet that provides lookup, if, true/false, and error functions.

9. Does the package allow you to save data in a format that other programs can read? If you plan to tie your spreadsheet together with a graphics package, a database system, or a word processor, you'll need this feature.

10. Can different worksheets you build be tied together?

11. Is cursor movement easy? And is it possible to move quickly around the cells in the worksheet?

12. Are you warned when your model has almost exhausted the amount of memory in your machine?

13. Can you print out any portion of the spreadsheet you specify?

14. Is the user guide readable? Does it contain plenty of "worked-out" examples? Is a tutorial provided? Do you have access to help screens while you're using the package?

**Dee Database.** If you're a regular reader of this column, you know that we've discussed database management systems in the past. In the course of things we've focused on the concept of a database management system, talked about the homework a user needs to do before selecting such a system, and described several popular packages. You may also recall that a while back, we promised to take a brief look at another of the leading database managers on the market, *dBase II*. Let's do that now.

Since its introduction about four years ago, *dBase II* has sold more than 220,000 copies. This figure represents a reasonably substantial database of database users. *dBase II* requires that you run your Apple (II or III) under CP/M. Many Apple owners already have CP/M. For those who don't, using *dBase II* means buying additional hardware.

Essentially, *dBase II* has two main sections. The first is the actual database management sys-


We Help Bring Your Family Together

6 Types of Charts and Sheets
Indices
User Fields
Notes, Footnotes and Sources
No Limits
Adapts to Your Hardware
Comprehensive
Easy to Use

And Much, Much More

Send for brochure and sample printouts.

Family Roots includes detailed manual and 2 full diskettes of programs for your Apple II * or IBM PC **

Other genealogy software also available.

Price: $185 plus $3.50 Postage

American Express, Visa & Mastercard Accepted

* TM Apple Computer, Inc.
** TM International Business Machines

Family Roots™

QUINSEPT, INC.
P.O. Box 216, Lexington, MA 02173
(617) 862-0404

tem, and the second is a programming language that allows users to write programs of their own to access the data they've created.

*dBase II* allows 65,535 records per file, thirty-two fields per record, 254 characters per field, 1,000 characters per record, and a numeric field length of ten. Brief descriptions of some of this system's built-in commands should give you a pretty good idea of its capabilities. The commands and statements we'll look at are append, use, edit, change, read, browse, recall, update, replace, for, while, find, locate, goto, skip, copy, and join. In many cases the command word describes what the command does.

Append allows you to add records to a file with ease.

Use tells the system which file you wish to use. *dBase II* allows you to work with two files at once, something most database managers don't permit.

Edit is used to call up any record of interest and change any information within it.

Change, read, browse, recall, update, and replace are all commands that can be used while entering, deleting, or editing data in a file.

A for statement aids you in searching through all the records to find a particular item. A while command is used to limit the length of such a search.

The find command helps you locate records of interest.

Locate, goto, and skip provide options for moving around within a file.

Copy gives you the ability to create a second file based on some subset of the first. Join combines files.

Commands such as these offer their greatest utility when used in combination. Thus, within *dBase II*, it is possible to issue a command such as:

```
Replace all Unitcost with Unitcost * 1.05
for type = "tie"
```

This command sequence would look through your data file for all records whose type fields contained the word tie. Then the corresponding unit cost field would be increased by 5 percent. Obviously, the capability for this kind of interaction with the system is what makes the program so powerful.

*dBase II* also allows you to sort records into any order you specify. The sort command creates an entirely new file to hold your sorted records, however, and it is therefore space-consuming. In addition, like most sorting algorithms, *dBase II*'s sort command works rather slowly—using it is faster than doing the same thing by hand but slow enough to be annoying. If you need speedier access and sorting, you can create "indexed" files. In fact, with an indexed file, you can find any record within two seconds. An indexed file is one that has an index stored along with it to facilitate rapid retrieval of information. An index to a file contains one of the key fields in the data file.

If you use a particular sequence or combination of commands quite often, you may wish to create a command file to remember them for you. Once you've created such a file, you simply invoke it, rather than entering a number of individual commands.

*dBase II*'s built-in programming language, ADL (Advanced Development Language), is a major plus of the program. ADL allows you to develop programs that can use the data contained in your data file; in some ways it's easier than Basic.

This package does have some drawbacks. The first is the documentation, which is not as clear as it could be. Fortunately, tutorials are provided and help screens are available. In addition, interested users should have little trouble locating books and seminars designed to help them learn to use this system effectively (although, as you might expect, this learning process is likely to require the investment of a fair amount of time). Another drawback of *dBase II* has to do with its speed; it is sometimes slow, particularly when it comes to sorting. Finally, this system is relatively expensive, especially if you don't already have CP/M. These considerations notwithstanding, *dBase II* certainly merits your consideration if you're serious about managing your data; it's a powerful system.

**That's All, Folks.** Well, we've reached the end of another column. Before next time, why not send along your thoughts on the problems faced by those who have to choose between an Apple IIe, IIc, Mac, or Lisa? While you're at it, please include any suggestions you might have for users who want to make the transition from one machine to another.

*Ashton-Tate (9929 West Jefferson Boulevard, Culver City, CA 90230), 213-204-5570. VisiCorp (2895 Zanker Road, San Jose, CA 95134), 408-946-9000.*


# SPECIAL PROGRAMS FOR SPECIAL APPLICATIONS

## BULK MAILER $99.

A professional mailing list program that includes a sophisticated duplication search and an incredible 32,000 name capacity with hard disk (up to 2400 with Apple/floppy version – up to 5400 with IBM/floppy version). Very straight-forward and easy-to-use, includes many marketing features. Now with Mail Merge utility and a new low price!

"BULK MAILER is both a technological and functional advance for the Apple II and as such represents a significant breakthrough." "rife with features". SOFTALK, June 1983.

- •Duplication Elimination
- •Broad Coding Capability
- •32,000 Name Capacity with Hard Disk version - $350.
- •Zip and Alpha sorts
- •Mail Merge Utility
- •1-up through 4-up labels
- •Remarks line

## INVENTORY MANAGER II $199.

Newly revised and enhanced. Perfect for retailers, distributors or any business involved with sales. Can track up to 2200 items on Apple, and up to 10,000 on IBM, and provides numerous management reports.

"INVENTORY MANAGER is among the most complete programs of its type on the market today." "no stone unturned" SOFTALK, Dec. 1982

- •Detailed Sales Reports
- •Prints Suggested Orders
- •Sorts by Vendor, Dept., Profit
- •Many More Features
- •Ave/Cost & Ave/Sale Price
- •Up to 99 Vendors
- •Prints Purchase Orders
- •Easy Stock Updating

## LEGAL BILLING $399.

Very friendly, fast and complete legal billing system. Features our exclusive "Video Time-Slip" for "magic quick" record entries. Prints detailed, user-controlled client statements. Very easy-to-use and straight-forward.

- •Prints Lawyer Time Reports
- •Prints Aging Reports
- •Up to 200 Clients (220/IBM)
- •Up to 3500 Time Slips (6500/IBM)
- •User Designated Codes
- •Automatic Interest Added
- •40 Character Remarks Line
- •Includes Trust Accounts

Available at your dealer or order directly from:

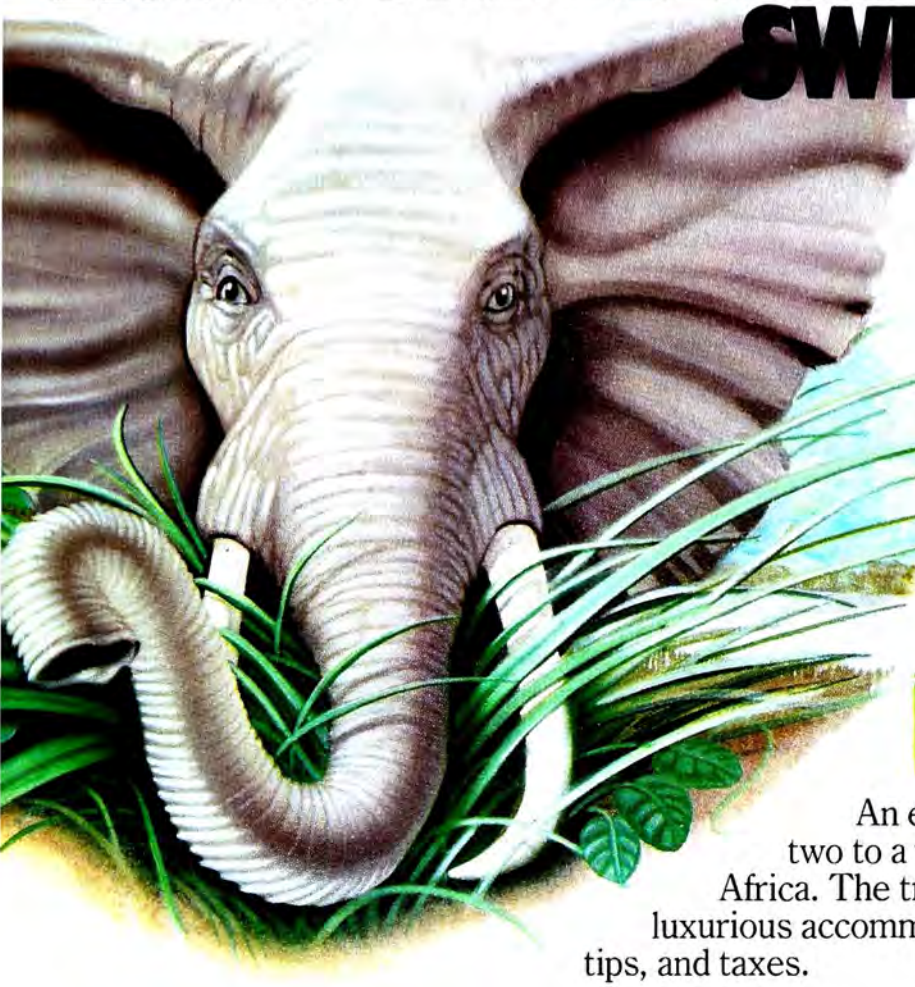
SATORI SOFTWARE
5507 Woodlawn Ave. N.
Seattle, WA 98103
206•633•1469

MasterCard VISA

Satisfaction Guaranteed

SATORI SOFTWARE

# ENTER THE ELEPHANT™ SAFARI SWEEPSTAKES.



## GRAND PRIZE
*(1 winner)*




An exciting two week adventure for two to a wild game preserve in Kenya, Africa. The trip includes airfare, luxurious accommodations, meals, tips, and taxes.



## SECOND PRIZE
*(25 winners)*

A Bell & Howell 35mm camera. The 35J complete with fine Lumina lens completely eliminates complicated focusing.

## FIRST PRIZE
*(5 winners)*

A Deluxe Camping Package featuring an 8′ x 10′ Wenzel Cabin Tent, four Wenzel sleeping bags, plus a Coleman lantern, stove and cooler.





## THIRD PRIZE
*(100 winners)*

Camouflage Nylon Duffle Bag. This handsome bag is water repellent and double reinforced at all stress points.

*And thousands of Elephant Safari camouflage T-shirts featuring the Elephant logo.*

## HOW TO ENTER

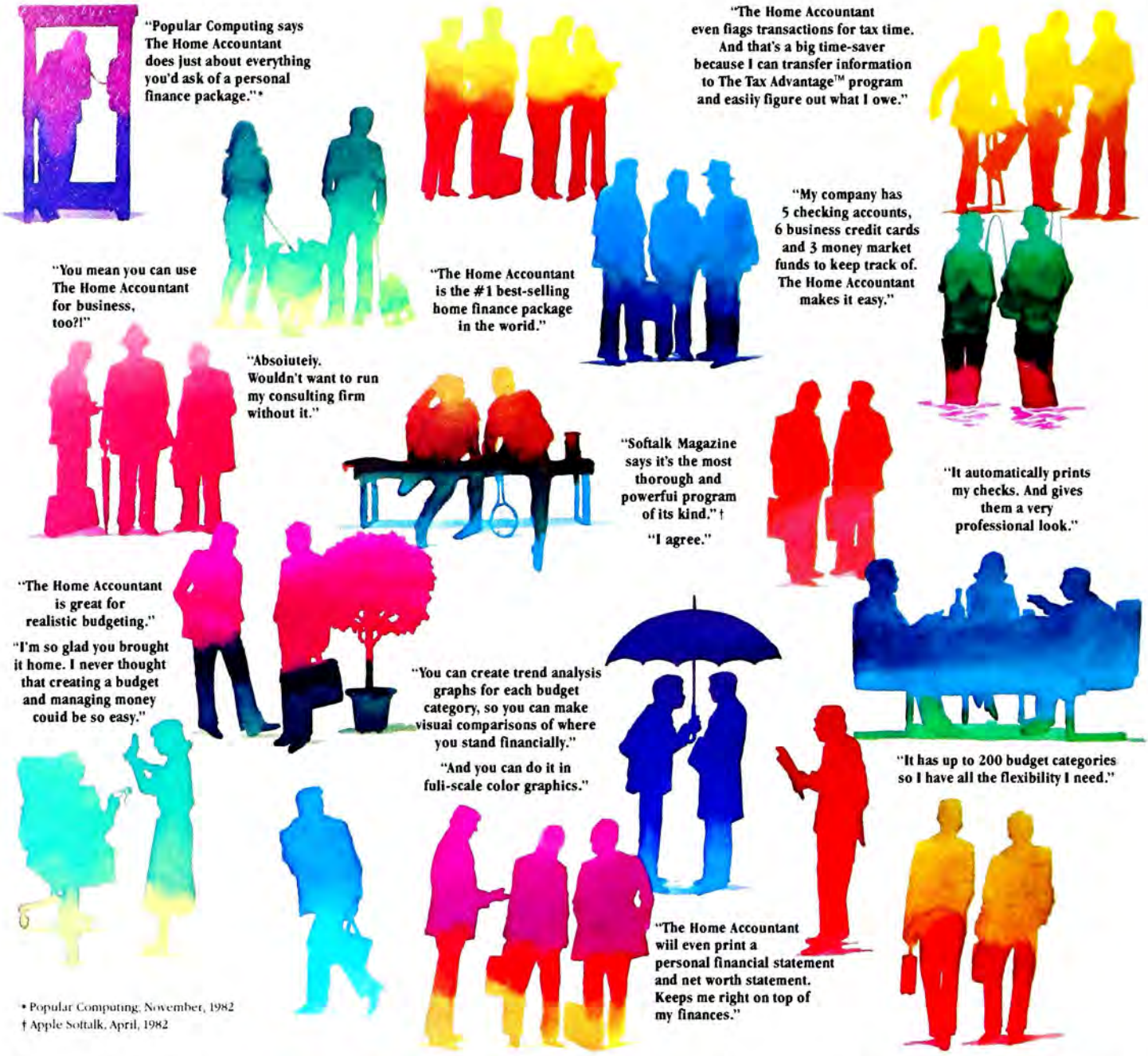
No purchase necessary. Just come into a participating Elephant Safari Sweepstakes dealership where you'll find free entry blanks and official rules. While you're there, check out our full line of quality Elephant memory disks and accompanying products. Entries must be received by July 31, 1984. Void where prohibited.

Dennison

For the Elephant dealer nearest you, call 1-800-343-8413. In Massachusetts, call collect 617-769-8150.

ELEPHANT MEMORY SYSTEMS™

**ELEPHANT NEVER FORGETS**




* Popular Computing, November, 1982
† Apple Softalk, April, 1982

# Everyone's talking about The Home Accountant.™

Is it because it's the #1 bestselling home finance package in the world? Or because it's extremely thorough and powerful and easy to use? Or because it's great for home and business use? Or because it has up to 200 budget categories and handles up to 5 checking accounts?

Yes. But there are a lot more reasons why people buy The Home Accountant. And why you will, too.

Because The Home Accountant can literally save you hours of time. And take the headache out of handling your finances. Whether it's setting up a budget, cataloging your expenses, balancing your checkbooks or handling your credit cards and money market funds. For personal or business use.

The Home Accountant will even print net worth and financial statements. Not to mention being a lifesaver at tax time. Especially when you're able to transfer information onto Continental's The Tax Advantage™ program and figure out what you owe. Quickly.

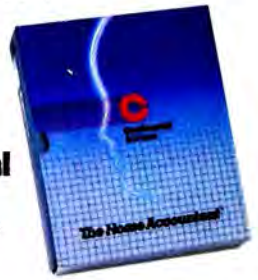
In short, The Home Accountant is the most effective software program there is for managing your money. And managing it easily.

Stop by your Continental Software dealer today and pick up The Home Accountant. You'll see what everyone's talking about.

The Home Accountant is available for Apple II/IIe, IBM PC/XT, Atari 400/800/1200XL, Osborne® TRS-80 Models III/4, Commodore 64, Texas Instruments Professional, Zenith Z-100/110, Compaq and KayPro computers. Actual budget capacities will vary with each computer.

**For your free 64 page booklet, "Tips For Buying Software," please write Continental Software, Dept. STA, 11223 South Hindry Avenue, Los Angeles, CA 90045, 213/417-8470.**

**Continental** Software
A Division of Arrays, Inc.




The Home Accountant and The Tax Advantage are registered trademarks of Continental Software. Apple IIe is a registered trademark of Apple Computer Inc. IBM PC/XT are registered trademarks of IBM Corp. Atari 400/800/1200XL are registered trademarks of Atari, Inc., a division of Warner Communications Inc. Osborne is a trademark of Osborne Computer Corp. TRS-80 Models III/4 are registered trademarks of Tandy, Inc. Commodore 64 is a registered trademark of Commodore Business Machines, Inc. Zenith Z-100/110 are registered trademarks of Zenith Data Systems. Texas Instruments Professional is a registered trademark of Texas Instruments Inc. Compaq is a registered trademark of Compaq Computer Corp. KayPro is a registered trademark of Non-Linear Systems Inc.

# MARKETALK News



*Unless otherwise noted, software can be assumed to run on any Apple II with 48K and one disk drive. Programs that meet these minimum requirements will usually run on the III.*

☐ *The Write Choice* is a word processor and typing tutor combined into one package from **Roger Wagner Publishing** (10761 Woodside Avenue, Suite E, Box 582, Santee, CA 92071; 619-562-3670). The word processor features on-screen formatting and user-defined page breaks. The Tut's Typer instruction program includes a hi-res game and twenty-four lessons each for the Dvorak keyboard and the standard Qwerty keyboard. A copy of Strunk and White's *Elements of Style* is included with the software. $44.95. Tut's Typer available separately. $19.95.

☐ **Bantam Books** (666 Fifth Avenue, New York, NY 10103; 212-765-6500) has published *The Apple IIc Book*, by Bill O'Brian. The how-tos of configuring a new system, adding peripherals, and ProDOS are discussed. Softback. $12.95. The Bytes Brothers (Brent and Barry) are the heroes of *The Bytes Brothers Input an Investigation* and *The Bytes Brothers Program a Problem*, two volumes of short mysteries for children that can be solved with the aid of a computer and some Basic skills. Adaptation information, program explanations, and a dictionary of terms are included in the books. $2.25 each.

☐ Programs can run ten to twenty times faster than Basic using *TeleForth* from **Telekinetics** (11 Julie's Walk, Halifax, Nova Scotia B3M 2Z8; 902-443-1813). The package features the Forth-79 word set, screen editor, 6502 macro assembler, hi-res turtle graphics, floating-point arithmetic, and more. A cross compiler is provided, enabling the user to relocate and modify programs or move the language to another computer. Not copy-protected. $75. The source code and cross compiler are $100. Complete package costs $150.

☐ **Softkey Software Products** (411 Shaw Street, Toronto, Ontario M6J 2X4; 416-537-0792) has announced *Keyprint*, software that helps you make use of the different character sets and font type styles of the Epson MX, RX, and FX dot-matrix printers. *Keyprint* has features for compressing spreadsheet output, double-striking, and italicizing. More than twenty other options are included in the package. $59.95.

☐ The 1984 ECN catalog of educational software, primarily for the Apple, is available from **Educational Computer Network** (Box 8236, Riverside, CA 92515; 714-687-3333). The courseware featured has been developed and selected by ECN members—curriculum experts, teachers, computer programmers, and computer enthusiasts worldwide. The courseware titles are listed according to subject disciplines. Free.

☐ Machine-to-machine language conversion utilities and file transfer capabilities are featured in the *Keyword Fix-up Utility* from **Personal Computer Products** (1400 Coleman Avenue, Santa Clara, CA 95050; 408-988-0164). The package helps with the spacing of Basic programs and converts Basic code from the Apple so it can be run on an IBM PC or compatible. A Cobol program helps convert RS Cobol source code to a form acceptable to the PC's Cobol. The file transfer programs will transfer ASCII files, embedded control codes, compressed binary formats, and more. $129.95.

☐ The Math Master Series of Basic enhancement packages may make Basic as powerful as any other programming language for science and engineering work. Some of the more than twenty packages handle matrix, polynomial, and vector arithmetic, as well as stats, signal processing, and FFTs. The series is available from **PAB Software** (Box 15397, Fort Wayne, IN 46885; 219-485-6980). Both double precision and complex versions of most of the packages are available. Those dealing with arrays of data have single call I/O routines for storage and recall. $24.95 each.

☐ Musicians can compose, play, and record percussion sounds and riffs with the Drum-Key, an electronic music interface board and software package from **Peripheral Visions** (Great Valley Parkway, Malvern, PA 19355; 215-647-3930). The package uses digital recordings of twenty-eight actual drum and other percussion instruments, including bass drum, four different tom-toms, a variety of cymbals, a cowbell, and more. Features include multitrack recording and programmable pattern length. Demo patterns and songs included. $139.95.

☐ *Teach Yourself Apple Basic*, by Dr. Peter Mears, is a book and disk tutorial from **Addison-Wesley General Publishing Group** (Jacob Way, Reading, MA 01867; 617-944-3700). Each chapter of the book covers a key aspect of Basic, from examining simple system commands to fine-tuning programs and using advanced techniques. Practical exercises are supplied on disk. Softback. $34.94 with disk. $12.95 without.

☐ **Realty Software** (1926 Pacific Coast Highway, Suite 229, Redondo Beach, CA 90277; 213-372-9419) has introduced the *Property Management Plus* system for tracking income and expense on rental property, providing both management and accounting information. A mixture of property rentals including single-family homes, multifamily housing, and industrial buildings can be managed by one or more owners. Tenant information is kept on-line, variations in rental income are automatically calculated, and detailed reports are easily generated. Requires eighty columns. $450.

☐ Calc/Pad is a twenty row by eight column form that allows a user to work out a spreadsheet template on paper before transferring it to the screen. Calc/Pad is available from **Compu-Quote** (6914 Berquist Avenue, Canoga Park, CA 91307; 818-348-3662). There is room in each sheet's 160 cells for penciling in text, values, and formulas. Fifty double-sided sheets per pad. Printed in erasable green paper. $4.75 per pad.

☐ Designed to be compatible with the mouse on the IIc, an enhanced series of popular home and small-business software has been released by **Arrays/Continental Software** (11223 South Hindry Avenue, Los Angeles, CA 90045; 213-410-9466). Titles include: *Home Accountant*, $74.95; *Tax Advantage*, $59.95; the CPA series (general ledger, accounts receivable, accounts payable), $250 each; and *Property Management*, $495. With these new versions, a user can move from module to module within a program without having to return to a main menu. Mouse not required. A series of "quick and easy" paperback guides that explore various applications for the Apple are available from the **Arrays/Book Division**. The series includes separate volumes on database management, spreadsheets, educational software, and word processing. $4.95 each.

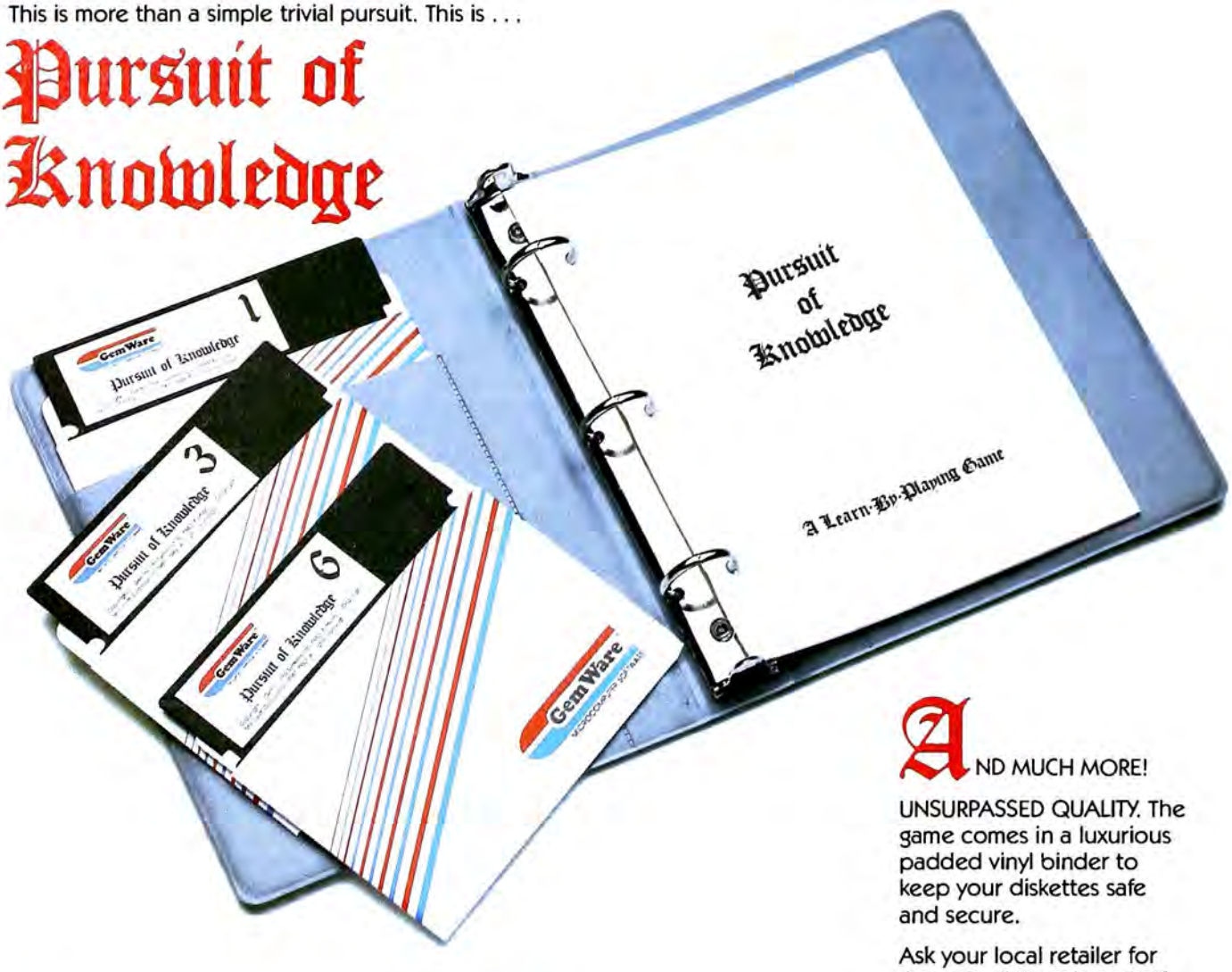
☐ Plug yourself into your computer and learn about stress control with the help of *Calmpute I*, a biofeedback relaxation control package from **Thought Technology** (2180 Belgrave Avenue, Montreal, Quebec H4A 2L8; 514-489-8251). A hand-held galvanic skin response unit, included with the software, plugs into the joystick port and provides the input information. Personal stress profiles can be charted and several biofeedback games are included to help users in their quest to control stress. The calmer you are during a game, the better your score. $89.95.

☐ There's a new magazine aimed at the more than 500,000 people who write their own software. *Computer Language*, published by **CL Publications** (131 Townsend Street, San Francisco, CA 94107; 415-957-9353), is a technical reference journal covering major developments in the software design field. All levels of microcomputer programming are covered, from assembly language to high-level languages like C, Pascal, Basic, and Forth. Applications and systems programming are also discussed. $19.95 per year (twelve issues).

☐ From **Standard & Poor's** (25 Broadway, New York, NY 10004;

This is more than a simple trivial pursuit. This is . . .

# Pursuit of Knowledge




**A Learn-By-Playing Game for Apple II*, Apple II+*, and Apple IIE* computers**.**

**Pursuit of Knowledge has over 7000 carefully selected and researched questions.**

**It can be played by one player, or up to 6 players, or teams.**

Numerous playing options are available as parameters vary from game to game. Some of these parameters are:

TIMER may be set anywhere from 15 sec. to 3 minutes or not used at all.

LENGTH OF GAME - you predetermine how many questions will be asked or how many points will be required to win.

ASSESSING PENALTIES - you choose point deductions for incorrect answers.

**S**PECIAL FEATURES:

**Pursuit of Knowledge** has numerous special features built into the program! The game will be enjoyable for many years. A few of these features are:

STATISTICS - each player or team has their own screen of how they are progressing statistically in the game.

RANDOM SELECTION - the computer randomly chooses which diskette side, as well as the questions that will be asked.

NUMBER OF PLAYERS OR TEAMS can be changed during the game.

CHANGE OF SCORE FEATURE - the computer allows for handicapping or to continue games (which can last for weeks or months).

**A**ND MUCH MORE!

UNSURPASSED QUALITY. The game comes in a luxurious padded vinyl binder to keep your diskettes safe and secure.

Ask your local retailer for "**Pursuit of Knowledge**". If they do not carry it, telephone or write us.

**Gemini Info Systems Ltd.**
**Box 1629**
**Great Falls, Montana**
**59403**
**(403) 251-3393**

**or in Canada**
**Gemini Info Systems Ltd.**
**Box 817 Station T**
**Calgary, Alberta**
**T2W 2H7**

* Apple is a registered trademark of Apple Computer

** Soon to be available for the MacIntosh, PC jr., and other computers.

Also soon available, "JUNIOR" Pursuit of Knowledge and "GENIUS" Pursuit of Knowledge.

GemWare™
MICROCOMPUTER SOFTWARE

Enjoy the **Pursuit of Knowledge!** It really is fun!

212-208-8000), *Stockpack II* is a fast and comprehensive stock analysis system for the monitoring of investment sales and earnings. Information can be accessed in several ways and graphically charted for comparison. An updated database disk is sent to the user each month so that information on up to 4,500 companies can be kept current. Annual subscriptions are available in four areas, including NYSE, ASE, and OTC companies only, or a composite containing selections of the three. A data-integrity card is included. NYSE, ASE, and composite: $275 each. Two all-OTC disks, $520.

☐ A catalog of titles available in the Data Communications book series—with volumes covering such topics as standards, protocols, theory, tools, and practical applications of data communication—has been published by **McGraw-Hill Publications** (1221 Avenue of the Americas, New York, NY 10020; 212-512-2015). Free.

☐ Restaurateurs, bookkeepers, and accountants can keep track of four separate restaurant businesses with the *Food-Ware* and *Pay-Ware* systems available from restaurant accounting specialist **Bob Martin, CPA** (9705 Via Roma, Burbank, CA 91504; 818-393-9494). A flash report function of the *Food-Ware* software allows a user to determine on a week-to-week basis how well an operation is doing. $395. *Pay-Ware* provides any restaurant business with a complete payroll program that handles meals, declared tips, and tip allocation reporting. $295.

☐ A 112-page catalog from **Black Box** (Mayview Road at Park Drive, Box 12800, Pittsburgh, PA 15241; 412-746-2910) contains more than 300 problem-solving products designed to enhance data communications and computer operations capabilities. For micros as well as mainframes, the catalog features information on cables, data switches, modems, protocol converters, interface test sets, breakout boxes, printer interfaces, spoolers, and station protectors. Free.

☐ Editing functions that make it easier for a novice to enter songs and play them back have been added to new software now available for the nine-voice Music Card MC1 and the three-voice Music Card MC16 from **ALF Products** (1315F Nelson Street, Denver, CO 80215; 303-234-0871). Music can be generated by simply matching symbols on regular sheet music with those on the screen. New playback routines allow the tempo to be changed at any point. Songs can also be played in sequence, and a program has been created for experimenting with sound envelopes. MC1 card: $169. MC16 card: $179. Software update also available.

☐ With the aid of a data encryption algorithm, file security for the III can be created with *Password III, The Four Billion Year Code* from **Grebar** (Box 83, Station C, Winnipeg, Manitoba R3C 3X5; 204-942-3301). The program will password-protect any type of Apple III file, including spreadsheet database, DIF, text, and binary files, Basic, Pascal, and Cobol programs, object codes, and even operating systems. Protected files are compatible with SOS and are treated as ordinary files. $55.

☐ **Broderbund Software** (17 Paul Drive, San Rafael, CA 94903; 415-479-1170) has released *The Print Shop*, a software package that helps users write, design, and print greeting cards, stationery, letterheads, signs, and banners. A built-in graphics editor can be used to create original pictures or modify those provided with the program. Eight different typestyles are provided in two sizes and various formats, including some that are shaded and three-dimensional. Twelve kaleidoscopic animations can be frozen and printed. Supports many popular printers and is joystick-compatible. $49.95. Special printer paper refills are $14.95.

☐ Amway distributors can now computerize their operations with a series of programs from **Blechman Enterprises** (7217 Bernadine Avenue, Canoga Park, CA 91307; 818-346-7024). The *Ambiz-Pak* includes such specialized functions as order verification and generation (with 400-plus products and prices in memory), monthly bonus calculation, monthly gross profit, distributor family tree, twelve-column general ledger, mailing labels, and telephone programs. $100. Demo disk: $2.

☐ Canadian dentists can now use their Apples for billing clients with the *Dental Billing System* from **Apt Data Processing** (1525 East Fifty-Third Street, Suite 1001, Chicago, IL 60615; 312-947-0727). The program handles accounts receivable and prints statements, preauthorizations, labels, lists, and Canadian Dental Association-approved insurance claims. A dictionarylike file of a doctor's standard fees and procedures is also maintained. Requires two disk drives or hard disk. $595.

☐ *Scribe* is a design system for in-plan and section modeling and evaluation of building design, as well as the production of detailed two- and three-dimensional drawings. Available from **3-D Scribe International** (1000 South Grand Avenue, Box 15606, Santa Ana, CA 92705; 714-558-3316), *Scribe* uses a joystick or hand controllers for input. Drawings can be rotated, reflected, moved, expanded, and more. At any stage of the drawing process, various 3-D projections can be produced. A special module provides the data on multizone dynamic thermal calculations for plotting solar heating activity. Drawings can be printed or plotted. $1,400. Hi-res version requires Digisolve vector graphics processor. $1,800. Digisolve card: $600.

☐ New software for the Ufonic voice system allows instructors to add human-sounding voice synthesis to their courseware. The *Ufonic Speech Composer*, from **Borg-Warner Educational Systems** (600 West University Drive, Arlington Heights, IL 60004; 312-394-1010), is a utility with a vocabulary of 2,000 of the most frequently used words, pronounced in standard American English. Voice synthesis can be added to programs in development as well as those already finished. Four disks. $225.

☐ Software for counselors, mental health workers, and administrators is available from **Educational Media** (Box 21311, Minneapolis, MN 55421; 612-636-5098). The Self-Exploration Series of interactive personal guidance programs focuses on personal and career exploration. $39.95 each. The *Counselor Accountability System* includes the Counselor Log for identifying the types of persons a counselor sees. $59.95. The *Counselor Goals System* is used for comparison of clients and problems. $99.95. *Job Stress and Burnout: Coping and Prevention* begins with a stress test and then helps the user explore options through various exercises. $39.95. Catalog is free.

☐ The *E Z Contribution System* is a new module designed to work with the *E Z Church Membership System* from **E Z Systems** (Box 23190, Nashville, TN 37202; 615-269-6428). Churches can enter up to 3,300 pledge or contribution records for any household or individual. Contri-


**NEVER FAT AGAIN**

Tired of being overweight? Tried every diet in the book? Weary of gaining back all those lost pounds? Then this program is for you! Now a way of losing weight safely and permanently through BEHAVIOR MODIFICATION. This program clearly directs and guides you. Even subliminal messages are given to program your subconscious mind for weight loss. This is not a calorie counting, food measuring diet program. It is a way to learn about your eating habits and to change HOW you eat, not WHAT you eat ... to be NEVER FAT AGAIN. $49.50

**PERSONALITY PROFILE**

What makes you tick? What kind of person are you? If you have ever wanted to know how you function get this program. It will give you some brilliant insights into who you really are. PERSONALITY PROFILE was written by professional psychologists and is used by psychologists and counselors throughout the world. $39.50

**INTIMACY, THE ART OF COMMUNICATION**

Look at your own personal relationships and ask yourself: "How's it going?" If there are problem areas, the information this program provides can literally keep your relationships from falling apart. Is your marriage boring, or a romantic adventure? By using this program you can tune-in and turn-on to the person you love. $39.50

**ON BECOMING A HERO**

Every parent is concerned about the well-being of his children. Yet these children are living in a world where drugs, sex, and violence are taken for granted. How can your children survive? They need all the help they can get to become winners. With this program young people can identify their ideals and choose their life values. This program is a must for all teenagers as one of their essential life tools for growth and development. $39.50

ALL PROGRAMS FOR 48K APPLESOFT 3.3 DOS. Check or money order must accompany your order (no credit cards, please). Add $1.50 for shipping on any size order. From California add 6% sales tax.

**PSYCHOLOGICAL PSOFTWARE CORPORATION**

4757 Sun Valley Road • Del Mar, California 92014 • (619) 481-4182

bution and pledge statements, as well as a variety of reports, can be generated at any time. One report will list a twelve-month history of giving activity for one of the twelve user-defined funds available. Password-protected. $75. *Membership System* with *Contribution* module, $359.95.

☐ The *Dental Computer Newsletter* (1000 North Avenue, Waukegan, IL 60085; 312-223-5077) is published for dentists, physicians, and office managers who have interests in office micros and minis. Membership includes newsletter, software exchange, advice and experience, hardware and software news, and reviews. $15 per year.

☐ The Printer Mate is a two-piece, wire-design printer stand with a foam rubber and thermoplastic base that's designed to hold all sizes of printers at an angle. Available from **Data Grip** (Box 91306, Cleveland, OH 44101; 800-321-1740), the stand reduces printer vibrations. $19.95.

☐ A new professional graphics library is now available for the Robo Systems CAD-1 drafting system from **Robo Graphics** (111 Pheasant Run, Newton, PA 18940; 215-968-4422). The software features predrawn symbols, components, and typefaces. Symbols can be changed in size, orientation, color, and line type as well as squeezed, stretched, mirrored, or personalized. Library disks currently available are Futura and Helvetica alphabets, analog schematic symbols, printed circuit board artwork, business graphics, world sketch maps, and more. $100 to $250 per disk.

☐ Liberally spiced with cartoon gags starring Johnny Hart's Wizard of Id, *WizType* is a typing tutor package from **Sierra On-Line** (Sierra On-Line Building, Coarsegold, CA 93614; 209-683-6858). With six modes and twenty levels, the software helps users create their own lessons. A game is included to test typing skills. Can also be used with the Dvorak keyboard on the IIc. $34.95.

☐ A series of plotter pens in several colors has been announced by **Inmac** (2465 Augustine Drive, Santa Clara, CA 95051; 408-727-1970). The pens come in foil-sealed packs of five. $4.95. Special designs such as fiber tip pens, hard nib fiber tip pens, and ball-point pens can be ordered. $6.95 to $19.95 per pack. The new 110-page Inmac catalog of computer supplies is free.

Money Street

$10 Demo

Try Money Street for only ten dollars! Test it on your own computer with your own data. See how it can cut taxes, save accounting fees, and capture money-saving data.

You'll agree it's the fastest, easiest-to-use office/home checking account program yet. You'll discover how Money Street works for the little guy...small businessmen and accountants; doctors and retailers; lawyers and repairmen; home-computer users and owners of real estate; anyone doing business with a checking account.

Money Street sells for $99.95. We guarantee 100% satisfaction or your money back. Try the demo and get $10 credit toward purchase.

To get your $10 demo copy, call 24 hours (702) 832-1001 with Visa or M/C card number. An after-hours call to our answering maching costs less than 28 cents from anywhere in the U.S. Or send check to: Computer Tax Service, Box 7915, Incline Village, NV 89450. We'll ship the next day. Apple 48K; 1 drive okay.

☐ *Metalogic* is software compatible with SubLogic's 3-D graphics package. Released by **Artemis Systems** (41 Parkview Drive, Millburn, NJ 07041; 201-564-9333), the program embeds "&" statements into a regular Basic program, allowing individual objects or animated scenes to be generated with no hex math, pokes, or byte-swapping. Also includes file and memory management routines. Requires SubLogic graphics package. $75. With graphics package: $180.

☐ Members of the Aircraft Owners and Pilots Association can obtain the latest aviation news and government affairs updates and leave messages with other members through the AOPA Forum. Available on **CompuServe** (5000 Arlington Centre Boulevard, Box 20212, Columbus, OH 43220; 614-457-8600), the on-line service contains information in three sections: a message center, a conferencing area, and a reference library. Information may be downloaded off the service. Requires CompuServe. $6 to $12.50 per hour.

☐ A variety of educational and school management software has been released by **Dynacomp** (1427 Monroe Avenue, Rochester, NY 14618; 716-442-8960). *Earn It/Play It* is an automated contingency management program for the classroom. Access to the game is contingent on a student's behavior, with up to nine objectives identified for each student to be able to play. $29.95. *Coach's Corner* is a computer football game that allows a player to coach rather than play. It's your team against the computer's, with ten levels of play. $29.95. *Track and Field* is a complete data-handling system for maintaining athletic event records. $39.95. *Primer 83* is a learning package for people with impaired reading skills that was first created for use with dyslexia patients. Requires paddles and Echo speech synthesis board. $99.95. *School Discipline Manager* keeps accurate records on discipline information for the assistant principal. The software tracks twenty-nine different infractions in up to fifteen different locations. $149.95. Large school version, $199.95. *School Attendance Manager* keeps attendance records on 800 to 2,400 students. $239.95. Large school version, $299.95. The new 124-page Dynacomp catalog is free.

☐ Children make decisions that lead to twenty-five different story endings with *Starship Captain*, a reading game from **Tuvela Software** (Box 3002, Santa Clara, CA 95055; 408-985-8285). Players from eight to fifteen years of age can enjoy the challenge of becoming a starship captain and learning from the results of their own decisions. $19.95.

☐ Apple Armor II encloses any Apple II series computer, disk drives, and fan in a heavy steel, locked cabinet that fastens securely to any wood or metal surface. Manufactured by **Omni Tech** (1455 North Barker Road, Brookfield, WI 53005; 414-784-4178). Ideal for school, library, industry, and home use. $175.

☐ An interactive program designed to help medical, nursing, and paramedic students learn ACLS (advanced cardiac life support) therapeutic algorithms has been created by the **University of Osteopathic Medicine and Health Sciences** (3200 Grand Avenue, Des Moines, IA 50312; 515-271-1400). The *ACLS* program provides unlimited cardiac arrest practice simulations using clinical scenarios, EKG graphics, and patient management questions. A review lesson of American Heart Association protocols is included. $42.

☐ **Millennium Software** (24 East Twenty-Second Street, New York, NY 10010; 212-674-0040) has announced a series of educational and general-interest software titles. *The Three Bears* is the classic fairy tale told in graphic form. For ages three to seven. $39.95. *1 Hunter* is a graphic journey through the jungle that teaches counting from one to ten. $34.95. *Kidware Concentration* is a memory-building game for ages five to adult. $34.95. *The Brain Game* uses the computer to test and stimulate your IQ, logical progressions, vocabulary, and memory. $39.95. *The Millennium Electronic Almanac: 1984* is an interactive reference to the facts, figures, and events of the year. This four-disk package can be customized to include messages on various days of the year. Special interest information disks are also available on the Olympics, presidents, space exploration, travel tips, and more. $49.95.

☐ *The Software Writer's Marketplace* is a "where-to" directory of software buyers published by **Running Press Book Publishers** (125 South Twenty-Second Street, Philadelphia, PA 19103; 215-567-5080). The 228-page book contains listings and thumbnail profiles of more than five hundred American software buyers and how they do business. Includes tips on successful soliciting, documentation, negotiating contracts, copy-

righting, and more. Softback. $9.95.

☐ Two sports games are available from **Gamestar** (1302 State Street, Santa Barbara, CA 93101; 805-963-3487). *On Court Tennis* is a graphic simulation of a tennis match in which a player chooses one of four players, each with his own strengths, weaknesses, and temperament. Anticipation control allows you to gain a step on your opponent, and racket control makes ground strokes, drop shots, and smashes possible. $29.95. *On Field Football* provides graphic three-on-three action. Players choose their starting quarterback, wide receiver, and linebacker, and can make substitutions. Multiple formations allow for a wide variety of play possibilities. $29.95.

☐ Reduce screen glare and enhance contrast by using PerfectView, a computer screen filter with circular polarization available from **Perfectdata/Polaroid** (9174 Deering Avenue, Chatsworth, CA 91311; 818-998-2400). The filter screen is made from lightweight, durable, antireflective-coated polyester and is available in five screen sizes. Can be mounted without tools. $49.95.

☐ The Data Defender 070 Tray is a large, molded copolymer plastic container than can hold up to seventy floppies. Manufactured by **Ring King Visibles** (2210 Second Avenue, Muscatine, IA 52761; 800-553-9647), the smoke-colored, sculptured unit has a hinged lid, lock, and built-in handles. Also comes in red and blue translucent plastic. $24.95.

☐ *Attach.Driver* gives the III or III Plus user a screen dump with one simple command. Released by **Soft-Line** (2950 Los Feliz Boulevard, Suite 103, Los Angeles, CA 90039; 213-660-7940), the utility is useful for producing hard copies of menus, help screens, and so on. Also allows single keystroke command that toggles a printer from normal to condensed print. Works with all printers. $31.45.

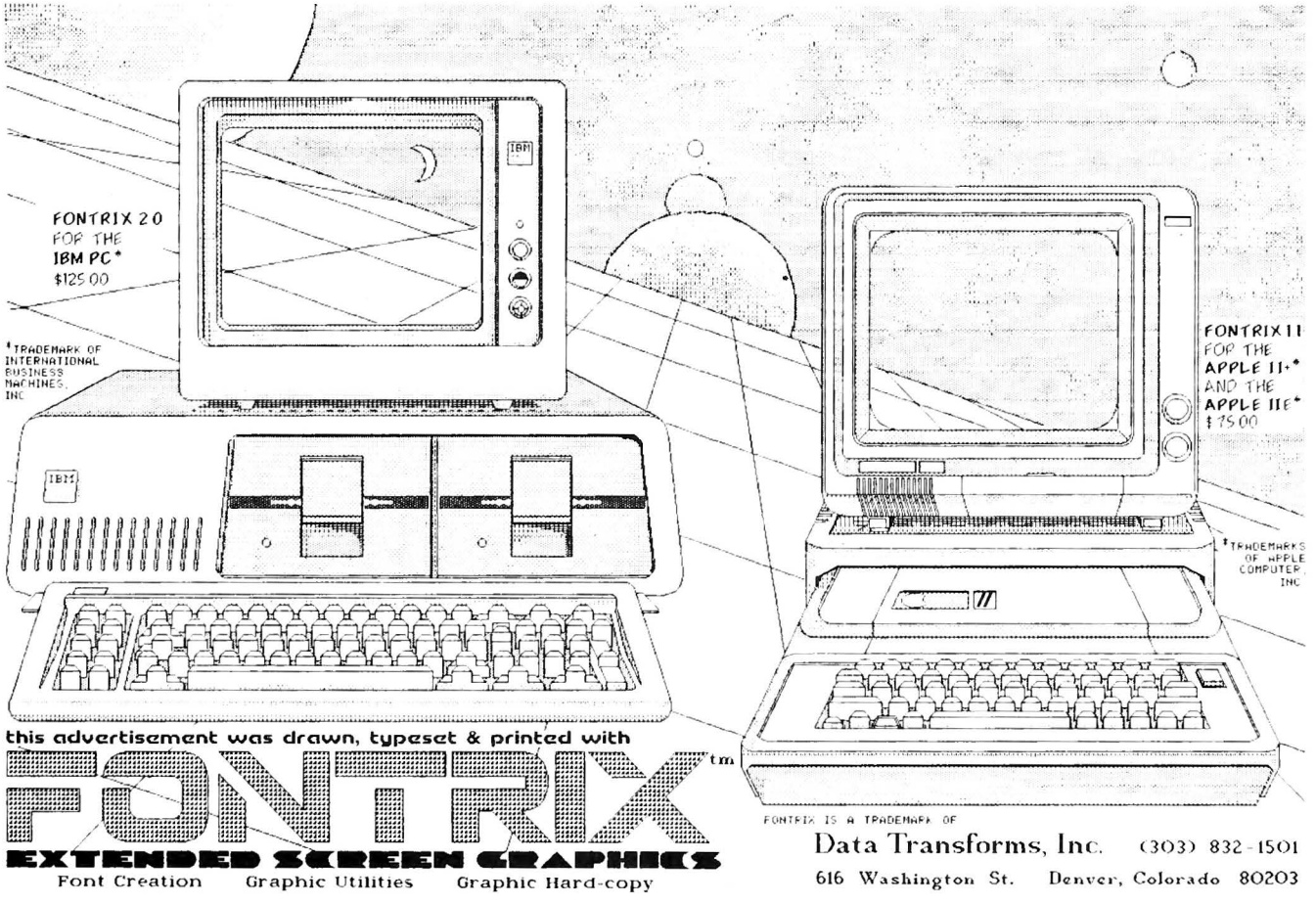
☐ *Bank President* is the first title in the Chief Executive Series of educational business management games to be released by **Lewis Lee** (Box 51831, Palo Alto, CA 94303; 415-853-1220). As the chief executive officer of a large commercial bank, the player uses more than seventy different charts to keep informed about the bank's condition, competitors' actions, and the state of the economy. Three levels of competition, for one or more players. Other titles to come are *High-Tech Entrepreneur* and *Venture Capitalist*. $74.95.

☐ **Electronic Arts** (2755 Campus Drive, San Mateo, CA 94403; 415-571-7171) has released an easy-to-use personal finance package called *Financial Cookbook*. The program provides the calculations for hundreds of personal money questions with the help of thirty-two "recipes," including return on investments, effective tax shelters and IRAs, mortgages, and the effects of inflation. The program features the calculations for eleven basic tax shelters that are available to most consumers. Supports the IIc mouse. $50.

☐ *The Elements of Friendly Software Design*, by Lisa interface designer Paul Heckel, is a combination book and disk guide to writing programs based on the theory that good software should be visual, interactive, and communicative. Published by **Warner Software/Warner Books** (666 Fifth Avenue, New York, NY 10103; 212-484-2946), the book explains thirty principles of good software design, such as how filmmakers' communication techniques can be used, how to plan for prototyping and revision, and how seven basic traps snag even experienced designers. $8.95.

☐ An eighteen-character-per-second, letter-quality printer from **Abati Products** (17151 Newhope, Fountain Valley, CA 92708; 714-540-4781), the LQ-20 is housed in a compact, twenty-one-pound unit. Emulating Qume Sprint V commands, the printer is easy to use and configure for word processing and spreadsheet use. Accepts Qume IV print wheels and ribbons. $479.

☐ *Microsoft Basic Using the SoftCard*, by James S. Coan, is a collection of 100 programs written in Microsoft Basic-80 for classroom or home use. Published by **Hayden Book Company** (10 Mulholland Drive, Hasbrouck Heights, NJ 07604; 201-393-6306), the book features a comparison of Basic-80 and Applesoft Basic and an explanation of lo-res and hi-res graphics. Special features, concepts, and advanced techniques are included at the end of each chapter. Softback. $18.95. *Stimulating Simu-*



*lations for the Apple*, by C.W. Engel, is a collection of fourteen game programs written in Basic, complete with scenarios and strategy tips. Each program incorporates a listing, sample run, instructions, documentation, and more. Softback. $7.50. *Problem Solving in Basic* is a thirty-minute videocassette designed to teach users how to program in Basic on the IIe. Viewers learn how to state a programming problem in modules or subroutines, then write the Basic instructions for each step or function. $99.95.

☐ An Ethernet-compatible interface that can make the Apple an intelligent terminal in a local-area network has been manufactured by **En-link** (4706 Bond Street, Shawnee, KS 66203; 913-268-6066). Utilizing current standard LSI integrated circuits designed for Ethernet, the board performs the necessary framing, retries, and error checking required of the system. Other applications for the board include communication with remote printers and terminals, $1,250. $750 each in quantities of 100 or more.

☐ The *Disk Drive Analyzer* software, from **Nortronics** (8101 Tenth Avenue North, Minneapolis, MN 55427; 612-545-0401), automatically checks disk drive radial alignment, rotational speed, read/write ability, and clamping accuracy of the heads. Once-a-week use of the program is recommended. $39.95.

☐ Two new utility programs are available from **Oar Systems International** (Box 4925, Berkeley, CA 94704). *Lyttle* is a miniature operating system that supports all Apple peripherals. Ideal for teaching system architecture. Requires two disk drives. $159.95. ProDOS version, $179.95. *LBasic* is a Basic language interpreter that adds several new commands to the Apple's vocabulary. The software also checks each line of a program for syntax errors, mismatched parentheses, and out-of-place quotation marks. Not copy-protected. $89.95. ProDOS version, $99.95.

☐ Flexible computer furniture modules with nonglare working surfaces have been manufactured by **Bush Industries** (312 Fair Oak Street, Little Valley, NY 14755; 800-228-2874). The configurable models in the 140 Series include a desk, hutch, monitor and printer platform, corner connector, and terminal table. The front edge of the desk is tapered for comfort, and the lower storage shelf is lockable for software storage. Units come in matching pecan woodgrain laminate with ebony work surface. From $34.95 for the terminal table to $199.95 for the desk.

☐ **Vilberg Brothers Computing** (Box 72, Mount Horeb, WI 53572; 608-274-6433) has introduced a new version of its *Dot Matrix Printer Utilities* that supports Apple Dot Matrix Printer and Imagewriter, Epson FX-80 and FX-100, or C. Itoh 8510 printers. The program downloads character fonts and controls printing features. Contains twenty-four character sets. Also includes a character editor and a program to convert hi-res characters for printer use. Menu-driven. $50.

☐ Written in Pascal specifically for the III, *CompuMedic* is available from **Infield Software** (2422 Alvin Street, Suite 100, Mountain View, CA 94043; 415-964-0544). The package is a complete in-office medical management system that can handle accounts for private practitioners and clinics with as many as sixteen doctors. Menu-driven features include billing, insurance, family accounts, late charges, and more. With a five-megabyte ProFile hard disk, the software manages the billing and patient information for up to 3,000 accounts. Using the ICE or other compatible hard disk, the program can manage up to 24,000 accounts. Password-protected. Requires a hard disk. $3,600.

☐ Hardware and software that allow the III to act as an intelligent terminal for any Burroughs computer using the standard "Poll-Select" communication protocols have been manufactured by **Core Technology** (1000 West University, Suite 109, Rochester, MI 48063; 313-651-6421). The TD830 Terminal Emulator package also includes the *Micro DCSpooler* program. Requires 128K including SOS, 143K disk, Monitor III, and modified serial interface card. Modem and direct connect converter are optional. $895 for copies one and two, $695 for copies three through fifteen.

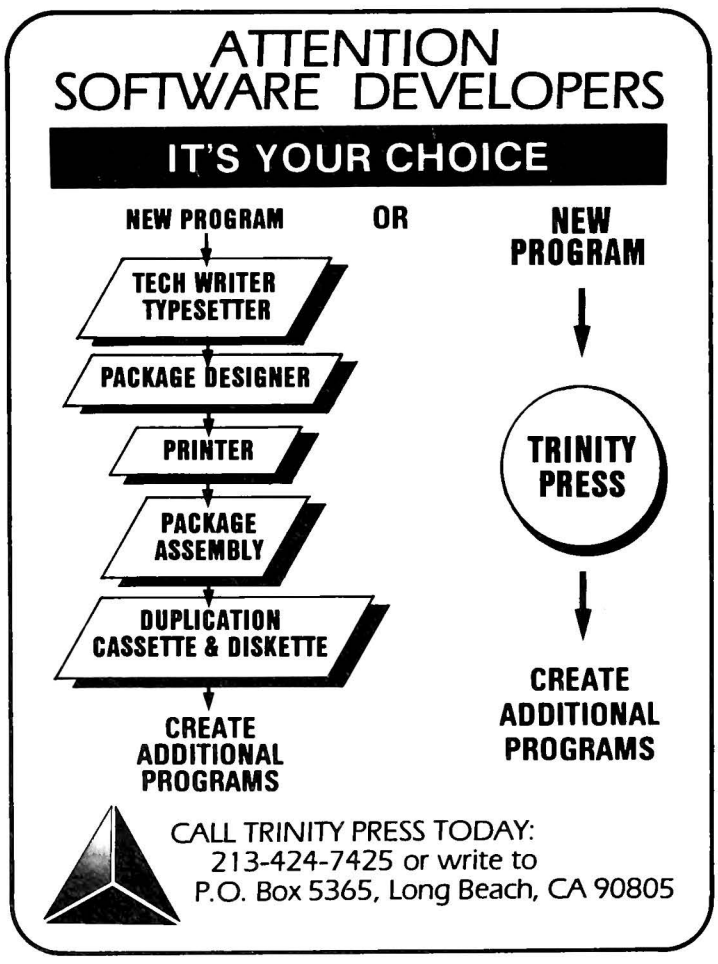
☐ The Mark X is the latest addition to the Signalman line of modems available from **Anchor Automation** (6913 Valjean Avenue, Van Nuys, CA 91406; 818-997-6493). The 300-baud auto-answer/auto-dial modem works with both tone and pulse dialing and features dial tone and busy signal detection, as well as automatic dialing display status. Comes equipped with two telephone jacks, cord, and twelve-volt power supply. $169.

☐ **Bytemaster Software** (45 Tanglewood Drive, Livingston, NJ 07039) has released its *BMBBS* bulletin board software for use with business systems and public bulletin boards in schools. The program features multiple message bases and is compatible with the Hayes micromodem and Smartmodem (with the Apple Super Serial Card). Requires modem. $42.

☐ Three Alfred Handy Guides for computer owners have been published by **Alfred Publishing** (15335 Morrison Street, Box 5964, Sherman Oaks, CA 91413; 818-995-8811). *How To Make Money with Your Personal Computer*, by Paul and Sarah Edwards, is a guide to setting up your own business. *Understanding Software Law*, by Jonathan D. Wallace, tells how to protect your programs from pirating and copying. *How To Choose a Computer Camp* contains descriptions of more than 100 camps nationwide. $2.95 each.

☐ *Guide To Software Publishing: An Industry Emerges* is a detailed report and forecast for those interested in entering the software business. Released by **Knowledge Industry Publications** (701 Westchester Avenue, White Plains, NY 10604; 800-431-1880), the publication profiles fifty-eight companies and includes chapters on markets for software, the economics of publishing, and the future of the business. $95.

☐ **Koala Technologies** (3100 Patrick Henry Drive, Santa Clara, CA 95052; 408-986-8866) has introduced a software program that enhances printing and graphics capabilities. *Graphics Exhibitor* combines the KoalaPad touch tablet and *KoalaPainter* design software to let users print out hi-res drawings with Apple's new Scribe printer, as well as with eighteen popular graphics printers. Features of the package include graphic editing and slide show capabilities. $39.95. The Gibson Light Pen hardware and software system is now compatible with the IIc. Four new icon-based programs have been specially created by the light pen creator, Steve Gibson. Titles are *PenPainter*, a drawing program; *PenAnimator*, a basic introduction; *PenDesigner*, a symbol library; and *PenMusician*, an introduction to computerized music composition. A *PenTrack* language system allows users to incorporate the light pen into custom programs. Pen and software, $249. ■

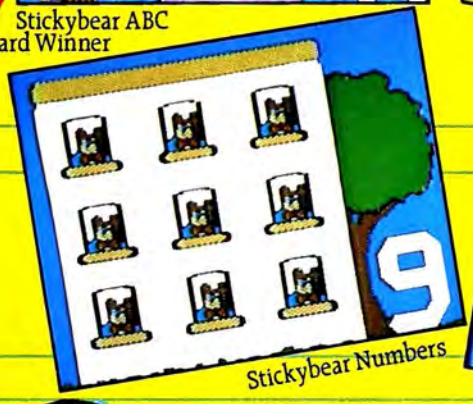



# The Bear essentials.

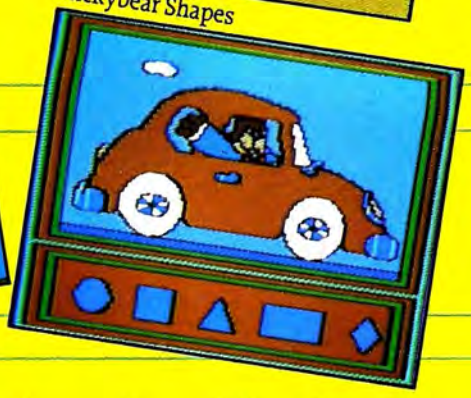



Stickybear ABC
Award Winner




Stickybear Numbers



Stickybear Shapes

## New!

**Stickybear Shapes**
Three games – Name a Shape, Pick a Shape, Find a Shape. Correct answers make animated pictures come alive.

**Stickybear Opposites**
Big, colorful animated pictures – Stickybears, unicycles, balloons, more – teach opposites. Up/down, full/empty, in front/behind, more.

**Stickybear ABC** — Award-Winner
Full-screen, full-color animated pictures represent each letter in the alphabet.

**Stickybear Numbers**
Colorful moving objects – trucks, ducks, planes, more – teach numbers and counting. Over 250 picture combinations.

Runs on Apple II or Apple II + with 48K and one disk drive. 3.3 DOS, and Apple IIe or Apple III.

Stickybear is a registered trademark of Optimum Resource, Inc. Apple and Apple II, II +, IIe and III are registered trademarks of Apple Computer, Inc.

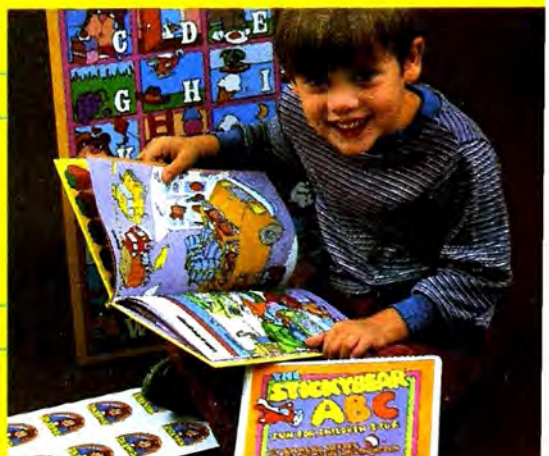
**Give preschoolers a head start in basic skills with these total learning programs!**

Here's a fresh, exciting way to treat 3- to 6-year-olds to a wonderland of learning...and help them discover important concepts – Shapes, Opposites, Numbers and ABC's – they'll need to succeed in school.

These 4 delightful programs for the Apple® Personal Computer are chock-full of Stickybears,™ plus dozens of charming critters, ice-cream colors, music...plus the most advanced animation ever for the Apple – all created by world-famous children's illustrator, Richard Hefter.

Each program includes a full-color poster, stickers, Parent's Guide, plus 32-page hardcover book – to help bridge that critical gap between books and computer!

Look for Stickybear software in finer computer stores everywhere. Or, call toll-free 800-852-5000, Dept. AF-2. Only $39.95 each.




Created by Richard Hefter, Janie and Steve Worthington and Spencer Howe for Optimum Resource, Inc.

A/M55-AF2

**Weekly Reader Family Software**

A division of Xerox Education Publications
Middletown, CT 06457

# Are You Prepared For...

# Boy Scout Apples



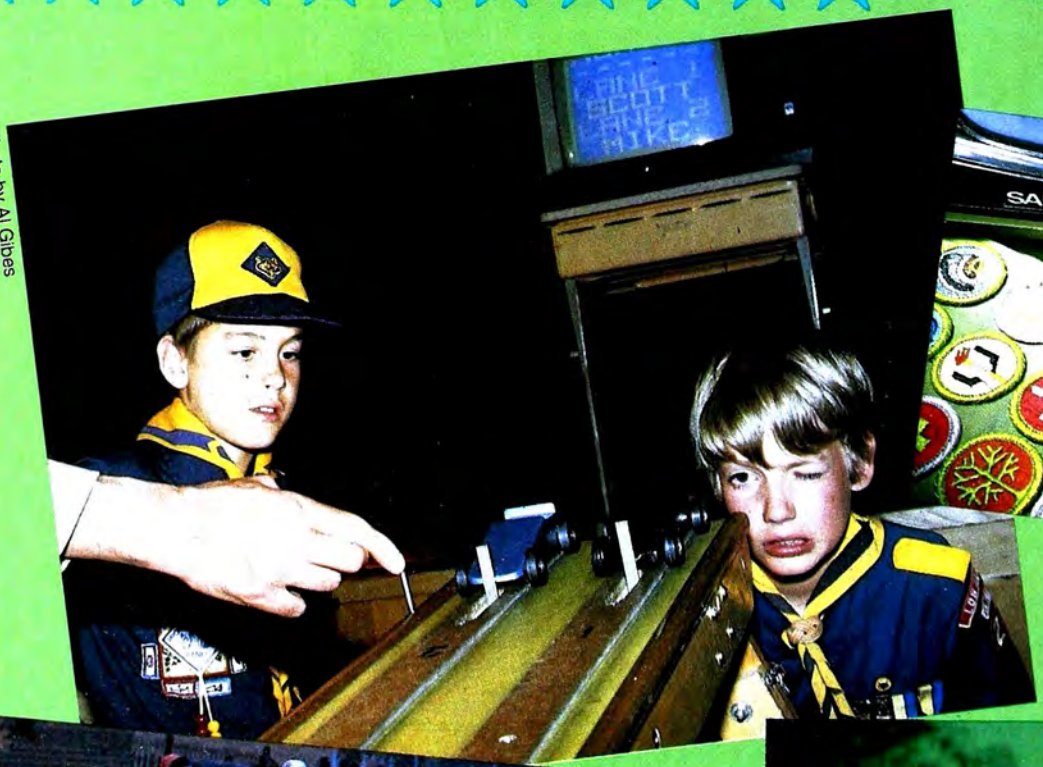


Photo by Al Gibes




Photo courtesy Zellie Earnest






Photo by Al Gibe



Photo by Al Gibes







# BY MICHAEL FERRIS

Last February, on a winter weekend of light rain but no snow, the Warrior Path District of the Sequoia Council held a Klondike Derby in downtown Kingsport, Tennessee. The town closed off its main street and a group of Order of the Arrow Scouts camped out and cooked barbeque for two days. Hundreds of other Scouts participated in some twenty-five pioneering and survival activities, such as fire building, compass and map reading, cooking, first aid, sawing logs with a crosscut saw, and the big event—a sled race with boys pulling instead of dogs. Even the mayor of Kingsport joined the fun for a game of "pillow fighting on a pole."

The rain didn't dampen any of the Scouts' spirit, "but snow is what we'd really liked to have had," says one organizer of the event. A good dose of snowflakes, however, is something no one could plan—even with an Apple.

It used to be that some events at these Warrior Path Derbies (and their equivalent Spring and Fall Camporees) would prove more popular than others, and on the command of their patrol leaders, boys would rush to participate in them. After hours of waiting in line, "the boys would get upset because they weren't doing anything and would wander off," says Zellie Earnest, an assistant scoutmaster and district program chairman. "Then the patrol leaders would get upset, and the scoutmasters would ask, 'Where are our boys? They're scattered all over the scout reservation,' and everybody would start to get disgruntled."

Not any more. Since last year, the Kingsport Boy Scout Troop 255 has been using an Apple to do the scheduling. A Pascal program written by Bill McSpadden, an interested parent with a son in Scouting, prints out customized lists of events for all involved so the boys know where they need to be and when, and organizers know how many to expect at each event. The boys' lists give

---

The world of Scouting is one of high adventure. Left page: A Los Alamos Cub Scout eyes the track in a local Pinewood Derby. Scouts wait for the sleds to be unwrapped for the Kingsport Klondike Derby. Above: A Los Alamos BSA troop learns some Apple basics for the computer merit badge. (Photos courtesy Boy Scouts of America except where noted.)

them a place to keep their scores—the individual boys and patrols with the highest scores get special recognition awards.

"It just works out beautifully," Earnest reports of the Apple. "There's an unbelievable difference in the morale of the boys. At that age, eleven to fourteen, boys need an element of organization to enjoy the events fully."

At this year's Klondike Derby, "their participation in the events went up phenomenally and so did the boys' evaluation of the weekend," he says.

**Silicon Trailblazer.** The Apple used by the Kingsport Scout troop is run by Scouts who've earned or are working on the computer merit badge. On loan from a local dealer, the part-time computer is only one of the many Apples involved in Scouting nationwide. Some of them are borrowed, some of them are new, and some of them go back to when an Apple with Integer Basic "was a curiosity on the block." Scouts use Apples in school, and many of them get a chance to turn their parents' Apples into Scouts' Apples whenever there's a need.

On the district management level, minicomputers do the bookwork for some councils of forty thousand boys or more, such as those in Los Angeles, Pittsburgh, Salt Lake City, and Houston. Naturally there's other work besides bookkeeping. An Apple is used in a University of Scouting program in Tennessee to train scoutmasters, and another one runs a Cub Scout scheduling program.

Scout troops from Maine to New Mexico keep files, make lists, and print fliers on Apples and other personal computers. On top of all the chores that an Apple can do, trust the Boy Scouts to invent some uses that are uniquely their own.

The Boy Scouts of America (BSA) was incorporated in 1910. The organization is an American institution at age seventy-four. Scouting involves several million boys (and some girls) in a basically unchanged campaign of personal achievement, self-respect, and civic duty.

Boy Scouts today are as trustworthy, loyal, helpful, friendly, courteous, kind, obedient, cheerful, thrifty, brave, clean, and reverent as their pre-World War I counterparts. They still promise to do their duty to God and country, just as they did at the request of FDR when they collected thirty million pounds of rubber for the war effort in 1942.

That's what Scouters call "boy power!" And boy power is what Scouting is all about.

**Penknives from Heaven?** In keeping with the Cub Scout motto, "Do Your Best," a penknife becomes a tool of Detroit in the hands of a Cub Scout carving his dream car out of a solid block of pine. He's whittling a sleek five-ounce miniature racer for his local Pinewood Derby that he hopes will beat the wheels off the other guy's cars.

The derby is a fast event. When the boys' cars are dropped from three-foot-high gates and sent down the sloping track, only gravity propels them. The races are usually over in three to four seconds.

"There isn't any one way to make a car win in a Pinewood Derby," says William Erickson, district commissioner of the Los Alamos District BSA. "The cars range from square blocks with wheels to real sleek machines. We had one once that ran faster backward, and nobody could say why. It's not physics—it's more like accidents of behavior."

Whatever the science, the derby is a traditional event with Cub Scouts nationwide. The seven packs in Los Alamos, New Mexico, hold one each year and the local winners compete in a district derby.

In some derby races, the judges eyeball the cars at the finish line or use a stopwatch. But some of the Los Alamos derbies are timed and scored with an Apple. A Basic program written by Erickson keeps records on the races and flashes the name of each boy and the lane he's in at startup time. An assembly language program does the timing, taking information from switches on the track through a "little black box" connected to the Apple's game paddle ports. The winning times are displayed to one-thousandth of a second.

"Believe it or not," says Erickson, "we've had some of the cars tie. They're pretty evenly built." An elimination race usually breaks a dead heat.

Erickson's timing and scoring program is only one way he's involved his Apple in Scouting. To help some boys earn their aviation badges, Erickson introduced them to SubLogic's *Flight Simulator* "so they could feel a sense of involvement in flying."

In addition, a semaphore signaling program that Erickson uses, written by a former Scout, was incorporated into a booth at the Los Alamos Scout Exposition. An animated figure of a Scout waving two flags on the screen sent back coded versions of English-language messages viewers typed in.

As district commissioner for the Great Southwest Council—having been a patrol dad, assistant scoutmaster, and a Scout himself (in the early fifties)—Erickson keeps a database of local merit badge counselors on his Apple. Distributed districtwide, the program lists 175 counselors, by badge or by name. Erickson is listed as counselor for the computer skills, swimming, and metals engineering badges. He's a metallurgical engineer by trade; his computer science skills were acquired at night school.

Erickson also maintains a database of active members in the coveted Order of the Arrow honor society, a Scouting program created in 1922. To become a member, a young boy must be a First Class Scout with at least fifteen days' camping experience. Scouts are elected to the order by their fellow troop members and then go through a ceremonial induction. The Ordeal, as it's called, is held at Scout camp and involves maintaining complete silence, eating only small amounts of food, and sleeping alone, away from the other campers.

**After the Ordeal.** All over the world, Boy Scouts are found mostly outdoors—camping, hiking, swimming, and cooperating in camporees, derbies, and international World Jamborees—pitching tents on remote parts of the planet and celebrating the brotherhood of youth.

"A boy's interest in Scouting is directly related to the amount of outdoor activity a troop has," says Zellie Earnest of Kingsport. "The camping, hiking, and high adventure have a real appeal."

Indoors, Scouts can be found earning their share of more than 115 achievement badges that reward them with vocational, citizenship, hobby, and scouting skills. At heart, Scouts are hobbyists with a keen sense of adventure. Working on earning merit badges allows them to achieve "surmountable goals" and amass a wealth of confidence-building skills and techniques. The campouts give them a place to share and show off their talents.

A youth-group movement in America at the turn of the century helped create the Boy Scouts. The movement was inspired by a need to provide boys with a type of schooling that couldn't be had in a classroom. Naturalist, artist, and writer Ernest Thompson Seton, for example, originated a group called the Woodcraft Indians and wrote a guidebook for boys in 1902 called the *Birch Bark Roll*. At the same time, Daniel Carter Beard established a group called the Sons of Daniel Boone.

Meanwhile, in Britain, Robert Baden-Powell, a general knighted to a baron, had returned to his country after fighting in the African Boer War. He found boys reading the manual he'd written for his regiment on stalking and survival in the wild. Responding to the need, he gathered ideas from Seton, Beard, and others and rewrote his manual in 1907 as a nonmilitary skills book,

# What made over 100,000 Apple II owners fall in love with System Saver?

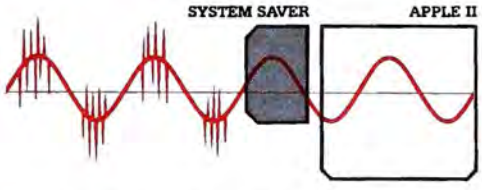
**It's the most versatile, most convenient, most useful peripheral ever made for the Apple.**

**System Saver® filters out damaging AC line noise and power surges.**

70-90% of all microcomputer malfunctions can be traced to power line problems.* Problems your System Saver guards against.

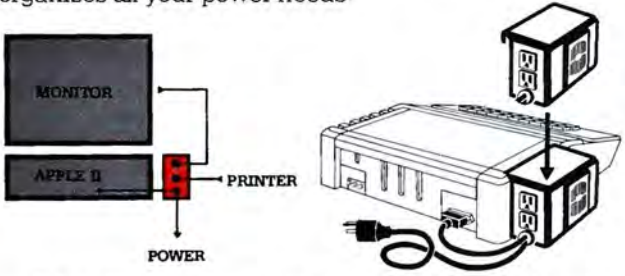
Power line noise can often be interpreted as data. This confuses your computer and produces system errors. Power surges and spikes can cause severe damage to your Apple's delicate circuitry and lead to costly servicing.

System Saver clips surges and spikes at a 130 Volts RMS/175 Volts dc level. A PI type filter attenuates common and transverse mode noise by a minimum of 30 dB from 600 kHz to 20 mHz with a maximum attenuation of 50 dB. You end up with an Apple that's more accurate, more efficient and more reliable.




**System Saver makes your Apple more convenient to use.**

No more reaching around to the back of your Apple to turn it on. No more fumbling for outlets and cords to plug in your monitor and printer. System Saver organizes all your power needs.

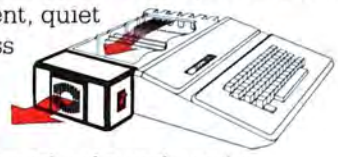


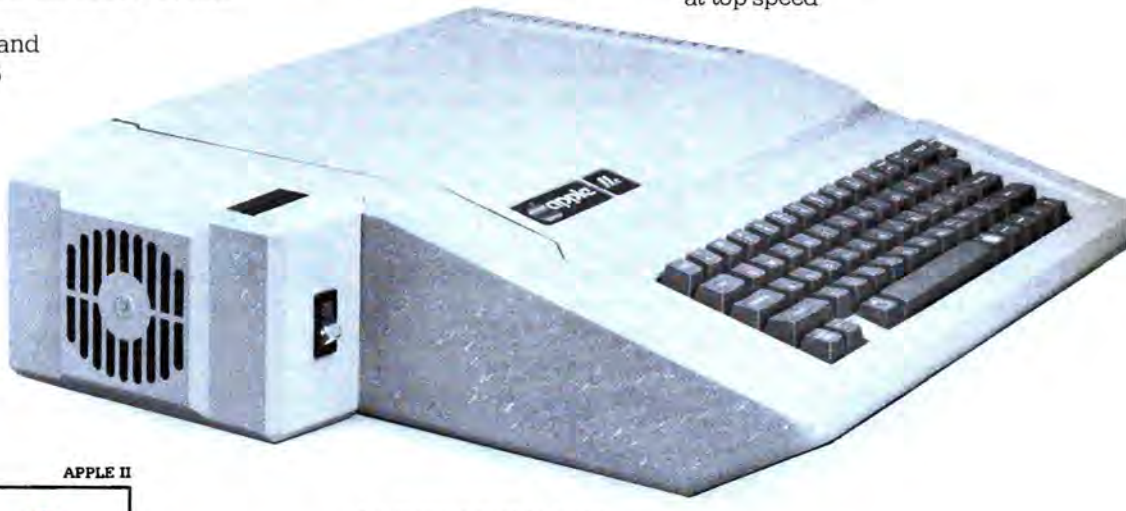

It functions as a multi-outlet power strip with two switched outlets. Plus System Saver offers the ultimate convenience, a front mounted power switch for fingertip control of your entire system.

**System Saver lets your Apple keep its cool.**

Today's advanced peripheral cards generate heat. In addition, the cards block any natural air flow through the Apple IIe creating high temperature conditions that shorten the life of the Apple and peripheral cards.

System Saver's efficient, quiet fan draws fresh air across the mother board, over the power supply and out the side ventilation slots. It leaves your Apple cool, calm and running at top speed.





So if you want to keep damaging heat, line noise and power surges out of your system for good, pick up the only peripheral that's in use every second your computer is in use. The System Saver. You'll soon come to think of it as the piece Apple forgot.

**Compatible with Apple stand**



**$89.95 at Apple dealers everywhere.**

KENSINGTON MICROWARE

251 Park Avenue South, New York, NY 10010
(212) 475-5200 Telex: 467383 KML NY

*PC Magazine: March 1983

System Saver is UL Listed. System Saver's surge suppression circuitry conforms to IEEE specification 507 1980, Category A. Available in 220/240 Volts, 50/60 Hz.

System Saver is a registered trademark of Kensington Microware Ltd.
© 1984 Kensington Microware Ltd. System Saver is patent pending

*Scouting for Boys*. In the same year, Baden-Powell held the first Scout campout on Brownsea Island off the coast of England.

It was Chicago publisher William D. Boyce who brought the British founder's vision of Scouting back to the States. An experience he had begat the Boy Scout-helping-the-little-old-lady-cross-the-street story. After an unknown Scout led him out of a dense London fog and refused to take a tip for the favor, Boyce said he was inspired to meet Baden-Powell.

Boyce returned to his own country and incorporated the Boy Scouts of America, with assistance in structuring the organization from officers of the YMCA. Then-president William Howard Taft was the first to accept the title of honorary BSA president and, since that time, Scouts have reported to the President of the United States in war and in peace. Congress granted a federal charter to the group in 1916 and, in an act of Congress, authorized the famous military-style uniform.

**Three for the Trail.** Scouting has three divisions. Cub Scouts, created in 1930, are boys seven through ten who collect in packs and dens. A Cub Scout Olympics and a father-and-son cake-baking contest are two of their events. Boy Scouts are boys eleven to seventeen who form troops and patrols. There are special Scout troops for handicapped boys, and a version of *Boy's Life*, the national Scout magazine, is printed in Braille. Explorer Scouts, once called Sea Scouts, are high-school-age boys—and girls, since the division went co-ed in 1971—who rally at posts around an event or vocation, like the high adventure of river rafting or the high-tech adventure of computers.

One of the strengths of the Scouting movement is the dedication of the civic groups, churches, businesses, community organizations, and just plain dads who are involved. They volunteer all their time as scoutmasters, district commissioners, adult advisers, and so on. Money for Scouting is raised by the sponsor groups, Scouts' parents, and the Scouts themselves.

The all-volunteer aspect of Scouting can be a headache. The kids are young—and active. As one Scouter says of all the camping out, "Sometimes the old body can't take it." Another scoutmaster tells the other side of the story. "When a boy sends you a Christmas card or comes back for a visit and reminds you of a camping trip you went on and froze to death—it makes it all worthwhile."

"Outing is three-fourths of scouting," as the saying goes, and Exploring is the highest of high adventures for many Scouts. Firsthand career experience is another big draw. Among the corporations with more than twenty Explorer posts are Western Electric, Kodak, IBM, General Motors, Sears, and McDonnell Douglas.

**Rally 'Round the Apple.** Up in a part of the country bordering on "trees and bears," chickadees sing in the pines outside the First Parish Church in Brunswick, Maine, where a local Explorer Post meets. Inside the church a group of boys are active in a less exotic endeavor than the usual law enforcement, sea exploring, or aviation that Explorers are known for. As far as these Scouts are concerned, however, their personal adventure is as challenging as any of the others.

The eight Scouts are learning the nuts and bolts of programming on an Apple. It's strictly floating point stuff—and Explorers don't earn badges—but "they love it," says their adult adviser, Richard Bryant. "The boys have really caught on to Basic. A couple of them are really hot and good at programming. I get the feeling the group might be going into assembly language in six to eight months," he says. They'll have the help of Bryant, a dedicated computer enthusiast, and the Lisa 2 assembly language package when they do.

One of the best ways to learn programming, as any pro will attest, is to tear apart an existing program to see how it works. One of the programs these Scouts are dismantling is a merit badge database written by Bryant several years ago. The program lists 100 badge counselors in the Bath-Brunswick area.

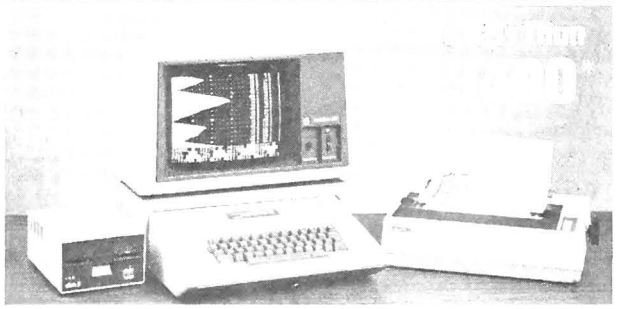
"It's hard on your pride," says Bryant, as he watches the boys systematically tear apart his program and make improvements. "But at least you find out the better way to do it," he says philosophically. Bryant admits that the program, written in old cassette Basic, "has a couple of bad spots in it. They're stuffing so much memory into these personal computers these days, I'm sure we can double the program's capacity." Not to mention incorporating any coding tricks the eager Explorers will have picked up in the meantime.

Bryant, a reliability engineer at a shipyard and once a Scout himself (in the late forties), is a counselor for the computer, home repair, journalism, and archery merit badges. The home repair badge is his most popular, "because the boys like to tinker around the house," he explains. In contrast, his journalism badge has only been requested by one boy in twenty-five years.

He uses his Apple as a "giant electronic filing cabinet for record-keeping and teaching." An archery high-scores program and a semaphore signaling program are two ways he keeps his Apple involved in Scouting.

Bryant is "most deeply involved in archery," he says. He got hooked on it in 1968 when some Scouts who had him as a scoutmaster returned from summer camp with half-completed archery badges. He took up the bow to help the boys and has been with it ever since, instructing Scouts and anyone else interested as head of an official Junior Olympic Club. Bryant holds a level 3 coach rating with the National Archery Association (NAA). A level 5 coach is International Olympics caliber. "At first, we got use of a field and took our own targets," he says. "Now we're fully chartered through the NAA."

**ADALAB™ Automates Lab Instruments**



• Interactive Microware's general-purpose ADALAB™ data acquisition and control system interfaces with virtually any lab instrument using a recorder or meter, including GC and HPLC systems, spectrophotometers, pH meters, process control apparatus, thermocouples, etc.

• Lab Data Manager™ software facilitates single or multi-channel acquisition, storage, display and chart recorder style output of lab instrument data. IMI QUICKI/O software operates within easy-to-use BASIC!

• Thousands of scientists currently use IMI software and/or ADALAB products worldwide!

*Price includes 48K APPLE† II+ CPU, disk drive with controller, 12" monitor, dot matrix printer with interface, IMI ADALAB™ interface card. †Trademark of Apple Computer, Inc.

Attention APPLE Owners

**IMI's ADALAB INTERFACE CARD IS AVAILABLE SEPARATELY FOR ONLY $495**

(Includes 12-bit A/D, 12-bit D/A, 8 digital sense inputs, 8 digital control outputs, 32-bit real-time clock, two 16-bit timers plus QUICKI/O data acquisition software.)

imi

**INTERACTIVE MICROWARE, INC.**
P.O. Box 771, Dept. 2
State College, PA 16801 (814) 238-8294

After a Junior Olympic target archer has spent his quiver, Bryant's archery program prints out a scorecard. But first it calculates the score and backtracks to see if the young archer has set a record. The program also keeps track of yearly best scores and scores at all distances from fifteen to sixty meters—"If they shoot that well," says Bryant. The database of scores goes back about six years, when Bryant wrote the program on tape. He wanted the original program to keep so many records that "it drove me crazy writing it," he says.

"Most of the records have been broken since then," he says, and he'll soon be adding national archery scores to the database, hoping the higher scores may challenge a potential Olympic contender who will emerge from his club someday. "I'd be tickled to death if they could equal the national record," he says.

A role model for other archers, Explorer Scout Darryl Pace took the gold at the 1976 Montreal Olympics and will be competing for another medal in Los Angeles this summer as a member of the Olympic Archery Team.

Bryant's other Scouting contribution, the semaphore program, is "the only graphics program I ever wrote," he says. Similar to the Los Alamos program, it draws a little man who flags out a message after it's typed in on the keyboard. He's used the program to teach and test semaphore as part of the communication skills award, an option on the road to becoming a First Class Scout. "A boy can pass one of the requirements of the badge by knowing semaphore, Morse code, track and trail signs, or hand signals for the deaf," he explains.

**6502 Meritocracy.** The colorful badges Boy Scouts earn—some are required to advance in rank—are carefully sewn onto a sash worn across the chest. The more than 115 badges authorized by Scout headquarters in Irving, Texas, fall into a few general categories. Boys can explore their interests in the twelve scouting skills such as physical fitness and cooking, vocations such as dentistry and law, sciences such as atomic energy, and hobbies such as model railroading, sculpture, and computers.

The computer merit badge, created around 1973, was more vocational than hobby-oriented until it was updated this year. How a Scout punches out his name in Hollerith code isn't a relevant question anymore. The original badge's punch card and computer tape insignia date it from "a time when you had to go visit someplace to see a computer," says Richard Bryant.

The new badge, with a personal computer on it, incorporates computing in the home as well as a bit of coding. "Now a Scout is asked to write a computer program, in any language, listing the names and phone numbers of the members of his troop," in addition to discussing computer terms and general areas of knowledge. He must also draw a couple of flow charts and give them to the counselor.

One of the flow charts the boys must draw is to show the process involved in selecting a campsite at a Scout outing. "This gives them a chance to use the principles of logic they would use in actual Scouting," Erickson says.

For the swimming badge that Erickson also counsels, Scouts must be able to swim a few different strokes and be able to save themselves. "These are basic swimming skills," he explains. "We're not looking for competitive techniques or flawless style." It's the same for the computer badge. A boy with one on his chest should be able to survive a disk crash with relative bravery.

Three Scouts from Troop 122 who are working on or have earned their computer badges have access to Apples at home. The boys are typical of the new computer generation—they're familiar with computers, comfortable around them, but not gung ho.

"Computers are everywhere," says high school sophomore Todd Erickson. "You've got to know how to use them." Todd can do some programming, "although I like computers basically as a hobby." He also enjoys a good game of *Sabotage*.

Scout Matt Newfield, thirteen, wrote a program to keep track of his paper route on the family Apple. "The Apple is easier to use and I know it better," he says, having used Apples in school. "Except for the fancy kind of computer [Macintosh], I like Apples the most."

An *Ultima II* fan, thirteen-year-old Jay Elder does his homework on his dad's II Plus. "I'm perfectly satisfied with an Apple," he says. "Besides, it's the only one I know well. I've learned Logo and Basic on it at school." He says that he hasn't thought much about computers, "but I try to learn as much as I can.

"After all," he says, "they're going to be with us all of our lives."

**The Scouting Zone.** For the scoutmasters and other adults who dedicate themselves to it, Scouting goes beyond merely supervising overactive kids. "I guess every Scouter can tell you at least a dozen stories of boys who've gone from being losers to winners in their own minds as a result of being involved in Scouting," says Zellie Earnest. "I've seen it myself, boy after boy after boy.

"There's really no other organization I know about that provides a boy with the growth experiences, responsibility, and leadership through service that Scouting does," says Earnest. "Plus, Scouting's got the built-in duty to God, country, self, and others," he adds.

The appeal Scouting holds for the Scouts themselves is simpler—it's fun. Always has been, always will be. The chance to camp outdoors, learn skills, build things, play hard, and develop boyhood friendships all ring of youth not wasted on the young. "Scouting is like peanuts," says one Scouter, "easy to start and easy to stay with." ■

**After games, spreadsheets and word processing...**

**+MEDCLAIMS**

**A new class of software for your Apple II, II+, IIe, IIc**

If your family medical/dental claims have you overwhelmed and underpaid, MEDCLAIMS will help.

- **How much have you used in deductibles?**
- **When do they stop deducting and start paying?**
- **When should you switch to the family deductible?**
- **Which claims were you paid for?**
- **Which are still open? For how long?**

Claims, payments, medical, dental, different insurance companies, full menu & prompts. NOTHING TO STUDY OR LEARN. Guaranteed to run on Apple II, II+, IIe, IIc; 48K, 1 disk drive.

MEDCLAIMS, $49... Pays for itself.
Prompt shipment.
**COMPUTERSCOPE INC.** Box 529 Matawan, N.J. 07747
OR CALL TOLL FREE (24 hrs.) **1-800-551-8800** to order by VISA or MASTERCARD

Apple II, II+, IIe, IIc are registered trademarks of Apple Computer Inc.

Apple II

CP/M

IBM PC

# SPECTRUM

## *Professional Software Products*

### MATHEMATICS SERIES

**The Series Includes These 4 Programs:**

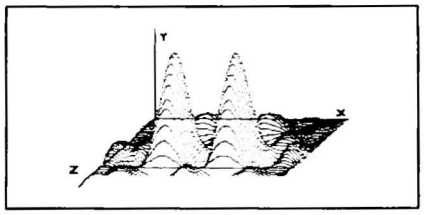
**STATISTICAL ANALYSIS I:** This menu driven program performs LINEAR REGRESSION analysis, determines the mean, standard deviation and plots the frequency distribution of user-supplied data sets.

**NUMERICAL ANALYSIS:** HI-RES 2-Dimensional plot of any function. Automatic scaling. At your option, the program will plot the function, plot the INTEGRAL, plot the DERIVATIVE, determine the ROOTS, MAXIMA, MINIMA and INTEGRAL VALUE.

**MATRIX:** A general purpose, menu driven program for determining the INVERSE and DETERMINANT of any matrix, as well as the SOLUTION to any set of SIMULTANEOUS LINEAR EQUATIONS.

**3-D SURFACE PLOTTER:** Explore the ELEGANCE and BEAUTY of MATHEMATICS by creating HI-RES PLOTS of 3-dimensional surfaces from any 3-variable equations. Hidden line or transparent plotting.

For APPLE II (48K) and IBM PC (64K) .....$50.00




### BUSINESS SOFTWARE SERIES

**Both Programs $250.00**

A user-friendly yet comprehensive double-entry accounting system employing screen-oriented data input forms, extensive error-trapping, data validation and special routines for high speed operation. The series includes these two modules:

**GENERAL LEDGER:** A complete accounting system with these features:

- Up to 500 accounts and 500 transactions per month.
- Interactive on-screen transaction journal.
- Produces these reports:
  - Transactions Journal
  - Balance Sheet
  - Account Ledgers
  - Account Listings
  - Income Statement

For APPLE II and IBM PC ..... $150.00

### ACCOUNTS RECEIVABLE

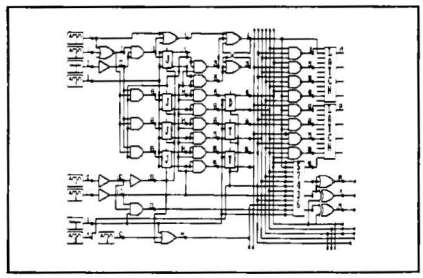
A flexible system with these features

- Up to 500 accounts and up to 500 invoices per diskette.
- Prints invoices, customer statements & address labels.
- Interfaces to General Ledger.
- Interactive screen-based invoice work sheet.
- Produces these reports
  - Aged Receivables
  - Sales Analysis
  - Account Listings
  - Customer Balances

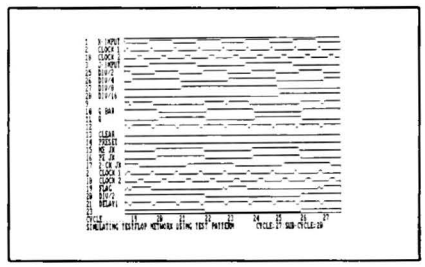
For APPLE II and IBM PC .... (2 DRIVES) .. $150.00

### MICRO-LOGIC

An interactive graphics program for designing and simulating digital logic systems. Using the built-in graphics module, the user creates a logic diagram consisting of AND, OR, NAND, NOR, EX-OR, D, T, JK FLIP FLOP and powerful 16 pin user-defined MACRO functions. A typical page of a logic diagram looks like this:



Tne system provides on-screen editors for NETWORKS/MACROS DATA CHANNELS, CLOCK WAVEFORMS and GATES. GATE attributes include DELAY, TRUTH TABLE, NAME and I/O clocking.



The system is available for Apple II and IBM PC computers. A non-graphics version is available for CP/M 2.2 It uses the network editor to create netlists and text printer plots to display simulation results. All versions require 2- 5 1/4" disk drives.

For APPLE II, IBM PC (192K) and CP/M (70K) $450.00
MANUAL & DEMO DISKETTE ..... $50.00

### PERSONAL FINANCE MASTER

The premier personal and small business financial system. Covering all types of accounts including check registers, savings, money market, loan, credit card and other asset or liability accounts, the system has these features:

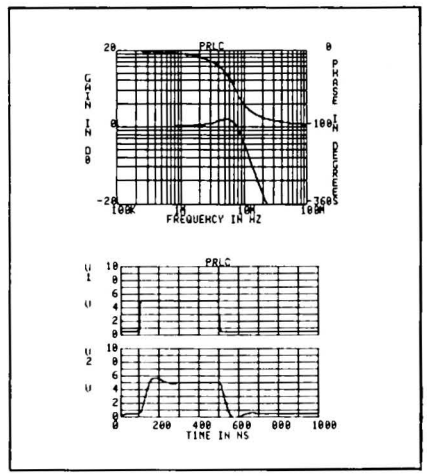
Handles 25 Asset/Liability Accounts
Monthly Transaction Reports
Budgets Income & Expense
Reconciles to Bank Statements
Prints Checks & Mailing Labels
Automatic Year-End Rollover
Prepares a Net Worth Reports
Searches for Transactions
Handles Split Transactions
User-Friendly Data Entry Forms
Fast Machine Language Routines
Extensive Error Trapping
HI-RES Expense/Income Plots

For APPLE II and IBM PC ..... $75.00

### MICRO-CAP

**Microcomputer Circuit Analysis Program**

Tired of trial & error circuit design? Analyze and debug your designs before you build them. With MICRO-CAP you simply sketch your circuit diagram on the CRT screen and run an AC, DC or TRANSIENT ANALYSIS. Your circuit may consist of RESISTORS, CAPACITORS, INDUCTORS, DIODES, BATTERIES, BIPOLAR or MOS TRANSISTORS, OPAMPS TRANSFORMERS, and SINSUSOIDAL or USER-DEFINED TIME DEPENDENT VOLTAGE SOURCES. MICRO-CAP can analyze any such network containing up to 40 separate nodes. Includes a user controlled MACRO library for modelling complex components such as OPAMPS and Transistors.




For APPLE II and IBM PC computers. A non-graphics version using an on-screen editor to enter networks and text printer plots to display simulation results is available for CP/M (2.2- 5 1/4" SSSD) systems. Requires 2 disk drives.

For APPLE II, IBM PC (192K) and CP/M (70K) $475.00
MANUAL and DEMO DISKETTE ..... $50.00

**ORDERING INSTRUCTIONS:** All programs are supplied on disk and run on Apple II (64K) or IBM PC (128K) with a single disk drive unless otherwise noted. Detailed instructions included. Orders are shipped within 5 days. Card users include card number. Add $2.50 postage and handling with each order. California residents add 6 1/2% sales tax. Foreign orders add $5.00 postage and handling per product.


**SPECTRUM SOFTWARE**

690 W. Fremont Ave., Suite D
Sunnyvale, CA 94087


master charge

VISA

**FOR PHONE ORDERS:**
**(408) 738-4387**
**DEALER INQUIRIES INVITED.**

# MARKETALK

## Reviews




*Unless otherwise noted, software can be assumed to run on any Apple II with 48K and one disk drive. Programs that meet these minimum requirements will usually run on the Apple III.*

*If the strange initials at the ends of reviews don't match any of the names of the* Softalk *staff listed on page 4, then they refer to this month's guest reviewers: Roe R. Adams, William H. Harrington, Irwin Hom, and Ken Ryall.*

*For the young and the young at heart—for everybody that owns a computer—July is a favorite month. Not the favorite, for the disk-giving month of December comes out slightly ahead. But July is good. It's summer, for one thing. You worked hard through the harsh months of winter, and when the outdoors started looking survivable again you went out and took advantage of spring weather. But now it's summer. The days are too hot to venture out and do any real work, so you can stay inside and put a basket of summer fruits next to your monitor and relax with a nectarine and plumb the depths of your Apple.*

*The July evenings are long, and since you barbecued there aren't a lot of dishes, so while everybody else is out on the front porch listening to the crickets chirrup and the mockingbirds attack the cat, you have time to retire to the computer room and put your feet up and relax with a good magazine.*

*Comfortable? Then listen to this: Sure, it's a nice time of year, but don't forget—you with your feet up and your bowl of summer fruits and your lazy-summer-days attitude—*winter *is coming. Remember the parable of the ant and the grasshopper. Time to start gathering supplies for the winter. Fortunately, there's no better preview of the software you'll want to lay in for the dreary months than the summertime Marketalk Reviews. So stop worrying about the cold north wind—it's July, for Pete's sake—and read on, read on.*

**WORD CHALLENGE.** Hayden Software is perhaps unique in that it commands a trinity of reputations: for utilities, it's considered excellent, if a bit complex; for chess, it's hailed as tops; but for any other games, it's the pits.

*Word Challenge* puts the last of those hypotheses in danger: It isn't chess, but it's superb.

For "Word Challenge," read "Boggle." That's what the game is, except that it's faster-moving and much more informative. In its original form, *Boggle* consists of a box filled with dice that have letters on them instead of spots. Players shake the dice and let them settle randomly in a grid pattern. Then they construct as many words as possible within a set

time by reading adjacent dice. When time's up, players count up their words and score accordingly. Challenges are settled between players arbitrarily or with a dictionary. The highest scorer wins.

*Word Challenge* works the same way, except that the computer generates the grid of letters, holds the dictionary, provides opponents of twenty-six levels of skill, and keeps score.

All of this would be utterly unremarkable without statistics. Grids can be three, four, or five squares large, and there are 65,536 configurations available in each size. Players can have individual boards repeat for multihuman competition. The dictionary, which passes on all words and from which the computer competitors draw, contains 90,000-plus words. When a properly constructed word isn't contained in the game dictionary, players are given the option of scoring the word or admitting their transgression. If the size of the lexicon seems dubious, a few rounds with even a middle-level computer opponent is all it takes to assuage those doubts.

If this were all there were to *Word Challenge*, it would be a good program. But there's more. There are options to rotate the grid in hopes that more words will jump out at you; to change the time for seeking words; to create your own grids; to get instant credit for all words contained within a word you type in (type *strainers* and get credit for *rain*, *train*, *trainer*, *trainers*, *strain*, and *strainer* as well); and to score in three different ways.

On a II Plus or any Apple with a black-and-white monitor or less than 128K, *Word Challenge* looks just the way you'd expect: white text on black screen, pretty plebeian—which is not a drawback, just a fact. But on a IIe or IIc with a color monitor or television screen and 128K, *Word Challenge* appears in white text on a blue background, with green cursor and red highlighting. It works, and it doesn't bleed, because it's double hi-res.

Good going, Hayden. It's unlikely that any word game is going to leap to the top of the charts, but *Word Challenge* is a superior product that should. Then again, if anyone happens to notice that, although it provides no typing instruction, it's a heck of a good alternative for practicing typing, who knows what could happen?

You mustn't run out and buy Hayden's next arcade game on the basis of the quality of *Word Challenge*. But you might *look* at it. MCT

*Word Challenge*, Proximity Linguistic Technology, Hayden Software (600 Suffolk Street, Lowell, MA 01853; 617-937-0200). $39.95.

**FALL GELB.** By L. Howie and S. Newberg. The German general staff called its battle play for the invasion of France in 1940 *Fall Gelb*. After Hitler's lightning victory in Poland a sinister quiet fell over Europe. While Belgium and Holland hid behind their neutrality, Britain could muster only two battle divisions, and France could do little but wait. Fall turned to winter, and with spring came the Germans. What followed became known historically as the Battle of France.

Simulations Canada's *Fall Gelb* combines the computer with board game accessories to re-create the famous World War II battle. Two colorful maps of northern France and the low countries are included along with several dozen cardboard markers. The map dispenses with the traditional hexagonal grid and instead is divided into Allied provinces and German Stätte of the combatants. The illusion of reviewing the battle situation from your map room behind the lines is nicely reinforced. In addition, each province and Statt is color-coded to designate the type of terrain and fortifications present.

What the game lacks in graphics, it more than makes up for in sophistication. The computer opponent, considerably more than just a sophisticated random number generator, is quite capable of formulating and executing a coordinated battle play that even Rommel might admire. Players assume the role of either Allied or German supreme commander, ordering armies and corps, mobilizing reserves, allocating air resources, and reviewing intelligence. What is impressive is the ability to select various game options, which include improving the Allied combat training and increasing the use of armored formations, before playing the game. Sort of playing what-if with history.

The game system is remarkably simple to learn and operate. Extensive use of menus makes it easy to select options. Players begin each turn with an extensive intelligence review ranging from individual army corps to entire nations. During battle, intelligence will vary with the amount of allocated resources (for example, reconnaissance missions) or the results of information obtained during probing attacks. Even the historical problem of units' becoming lost and failing to report to headquarters has been simulated.

The orders phase provides enough options to satisfy even the most dedicated gamer. Commands are issued in a completely natural way. For example, when armies receive assignments, they'll act upon their most recent orders until the mission is fulfilled or enemy action intervenes.

Special effort has been made to provide players with numerous tactical and strategic options. Army corps can move by train or by foot; units can be told to follow a variety of orders, including planned assaults, hasty attacks, dogged defense, and fighting withdrawals; even a Dunkirk-style evacuation is available if all else is lost. Perhaps the most useful option is the ability of armies to generate their own orders as the need arises, even though they've been assigned other objectives.

Game play may extend to ten or twenty turns, each turn representing two days of real time. Be warned that this is not a beer-and-pretzels game for a single evening. Naturally, a game may be saved in progress, and players may even choose to switch sides during play. One very nice touch is a final review of troop dispositions whenever anyone wishes to end the game.

If *Fall Gelb* included any more detail, you'd need a night off in Paris to relieve the tension of listening to Edith Piaf singing "Lili Marlene." WWH

*Fall Gelb*, by L. Howie and S. Newberg, Simulations Canada (Box 452, Bridgewater, Nova Scotia, Canada, B4V 2X6). United States, $59; Canada, $65.95.

**RAILS WEST!** By Martin C. Champion. Building empires has always been a favorite pastime for American business. By 1870, the same spirit that bought Manhattan Island for $24 had moved West and begun the difficult, risky, and highly profitable task of building railroads everywhere between Chicago and San Francisco. In *Rails West!*, up to eight players compete in buying, selling, and building railroads, a business about as stable as the airline industry in an era before Chapter 11 bankruptcies and federal bailouts.

Don't let a lack of nineteenth-century business savvy dissuade you

CompPro
5¼ INCH DISKETTES
SPECIAL $13.99
Box of 10
PLUS $2.00 Shipping & Handling
(California Residents add 6% tax)
WITH LIFETIME WARRANTY
All Diskettes are guaranteed 100% error free, single side, double density, soft sector.
SAMPLE 5¼" DISK $1.60 INCLUDES S&H.
Send COD order, check, or cashiers check to:
CompPro
P.O. Box 6246
Huntington Beach, CA 92615
Write for quantity pricing.
Dealer inquires invited.
Orders shipped 24 hours after receipt.

# MicroPro announces the great Apple® CP/M® board giveaway.




**Get a FREE StarCard CP/M Board worth $375**
**when you buy MicroPro's Wordstar,® WordStar Professional™ or Infostar.™**

MicroPro's determined to make every Apple a Star.

So now when you buy our best selling WordStar, WordStar Professional or InfoStar for your Apple II, II+ or IIe computer, we'll give you a free StarCard* CP/M board worth $375.

StarCard lets you take full advantage of the advanced, yet easy-to-use features of MicroPro software. WordStar is the world's most popular word processing program. The WordStar Professional is WordStar plus MailMerge,® StarIndex™ and SpellStar.® And InfoStar is MicroPro's advanced, yet easy-to-use "information processor." For sorting and reporting inventory, mailing lists, prospects and more.

Plus, with StarCard you can run thousands of other CP/M based programs at a processing speed significantly higher than that of Apple programs.

But you better hurry. Because MicroPro's great Apple CP/M board giveaway won't last forever. Stop by your local computer store today and pick up your free StarCard with WordStar, WordStar Professional or InfoStar.

And watch your Apple perform like a Star.

* Free StarCard package includes:
- 6 MHz Z-80B microprocessor • 64K of RAM
- CP/M Operating System, Version 2.2

STARCARD™ MicroPro®

© 1984 MicroPro® International Corp.

For the participating Apple dealer nearest you, call (800) 443-0100 ext. 948.

# It's never too early to begin.

If you have children ages four to eight, give them a head start on the computer age with programs from ERIC Software Publishing.



**ERIC makes it fun to learn.** In "The Learning Line," a curious monkey helps your child learn to recognize letters, numbers and objects, and to associate words with pictures. Your youngster operates a crane in "The Grabit Factory" to pick up number blocks that complete a simple addition or subtraction problem. Any child will have a delightful time learning to count in "The Sweet Shoppe." These programs are just the beginning of a complete library of fun, challenging games from ERIC Software Publishing.

**ERIC makes it easy to learn.** Once the program is loaded, your child only needs to use a joy stick or paddle and one key to operate any ERIC game. After just a few minutes of instruction, your child can take total charge of the computer.

**ERIC makes learning positive.** ERIC programs reward success, but if your child makes an error, there are no negative sounds or images to discourage your youngster from trying again.

**ERIC is unconditionally guaranteed.** Even a diskette clogged with peanut butter and jelly will be cheerfully replaced.




In our fast-paced world of technological change, it's important that a child's learning processes begin at an early age. With programs from ERIC Software Publishing, your youngsters can start now. It's never too early to begin.

Visit your local computer store for a demonstration. For the name of a store near you or for an ERIC brochure, call or write us.

ERIC programs are available for Apple II+, Apple IIe, Franklin, and Commodore 64 computers.*

*Apple II + and Apple IIe, Franklin, and Commodore 64 are registered trademarks of Apple Computer, Inc., Franklin Computer and Commodore Computer respectively

Eric

ERIC Software Publishing
1713 Tulare
Fresno, CA 93721
(209) 237-0989

© 1984 ERIC Software Publishing

from playing the game. The rule book includes an excellent tutorial; stocks, bonds, call loans, investment strategies, and railroad operations are all explained.

All of these items vary with the general economic climate, which changes each yearly turn. A year of boom times can lead to a panic the next year, followed by a depression. Players attempt to make money and expand their railroads by buying, selling, building, and merging at just the right moment. For most railroads, bankruptcy and financial ruin can come at any time, given the right set of market conditions.

At the start of a game, players scramble for a limited number of good stocks and rail lines. Competition begins peacefully but heats up as the best stocks and lines are bought up. Soon battles develop over mergers and control of railroads.

Players alternate their actions during each turn until everyone's allowance of moves is used up. This procedure helps the game flow quickly, without a lot of waiting for opponents to enter their moves. If your supply of human competition is short, *Rails West!* includes four computer opponents who play with varying skill (though it seems as if they almost always have more skill than human players!).

With the help of financial reports, players make business decisions in a menu-driven marketplace that includes a hi-res map of current rail lines and their operating efficiencies. The menu system is very forgiving; investments won't go down the drain just because you accidentally pressed "Sell" instead of "Buy." Data on investments and railroad performance can be dumped conveniently to a printer.

Players can spend their money buying and selling stocks and bonds, or they can attempt to take control of a railroad after buying enough of its stock. Once in control, a player can act for the railroad, building lines and selling bonds. If you decide to start a new railroad, you automatically receive all its stock and, of course, the privilege of naming it yourself.

Starting a railroad is easy; getting investment capital to keep it in business is much more difficult. In order to span the continent, new lines must be built and money must be raised, usually by selling bonds. However, the more bonds a railroad sells, the more it must pay in interest and the more unstable it becomes. During a depression a railroad's revenues decline, but its bond payments don't. A railroad has to build at the right times to stay healthy.

Although building a safe, profitable railroad is the most obvious way to win in *Rails West!*, fortunes can also be made through stock speculation and by wrecking (yes, wrecking) healthy railroads. A shrewd player can start or buy up a doomed railroad, merge it with a successful railroad that he also controls, and then sell out all the inflated stock before anyone else catches on. At the end of the game the wealth of each player and of the railroads he controls determines the winner.

Even with little competition, becoming a railroad tycoon is a lengthy process. The long version of the game lasts thirty turns (1870–1900) and can take twenty-five hours or so, but can also be saved at the end of any turn. Two other scenarios are shorter, but they last only long enough for the economy to rise and fall once or twice, thus reducing the risks involved. Watching the market panic and then counting the survivors is one of the most exciting parts of the game.

*Rails West!* is a good business simulation for home or classroom use, and it's also a good game. Even business school dropouts may start grabbing control of railroads and making crafty merger deals after a few turns. It's satisfying to watch your railroad snake slowly across the West, bringing civilization to towns like Vinita, La Junta, Deadwood, and Leadville. Learning the railroad business is education, but building a railroad empire is fun. KR

*Rails West!*, by Martin C. Champion, Strategic Simulations (883 Stierlin Road, Building A-200, Mountain View, CA 94043; 800-227-1617; 800-772-3545 in California). $39.95.

**BEYOND CASTLE WOLFENSTEIN.** By Eric Ace, Frank Svoboda III, and Silas Warner. One of the bestselling games of all time for the Apple finally has a sequel. For years, veteran gamers and newcomers alike have been trying to escape from the treacherous mazes of Muse's *Castle Wolfenstein*. Now everyone can meet a new challenge: *Beyond Castle Wolfenstein*.

In this scenario, the assignment is to assassinate Adolf Hitler. Presumably, escaping from Castle Wolfenstein, though not required to play this sequel, has qualified the player for this mission.

A member of the underground resistance movement has hidden a briefcase full of explosives in a closet somewhere in Hitler's bunker. However, the partisan wasn't able to get out to reveal the bomb's location; it's up to the player to locate it, sneak down to the third level of the bunker, and kill Hitler in his conference room. If the job is done properly, you'll eliminate Hitler's entire cabinet at the same time.

*Beyond Castle Wolfenstein* retains the original's black and white graphics and the German commands barking from the Apple speaker. Much of the game's mechanics remain the same as in the original, but there are a few changes. There are no grenades; keys don't open doors, although they do have other handy uses; daggers, if found, allow the player to sneak up on a German sentry and eliminate him without alerting other guards in the same room; and dead bodies can be dragged to corners of rooms, where guards can't see them.

The player begins the game with a gun, ten bullets, 100 Deutschmarks, and some passes that allow passage from one floor to another. Guards in each room will ask for a pass. If the wrong pass is shown, the guard draws his gun and asks again. Better show him the right pass or perhaps offer a suitable bribe. Otherwise, he starts firing away.

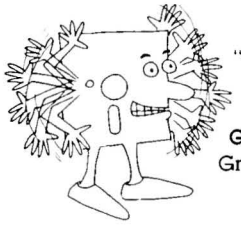
Guards in this game are more on the alert than in *Castle Wolfenstein*. If they see or hear you shooting, or if they become even the least bit suspicious, they'll trip alarms and shoot you on sight. Fairly enough, each floor of the bunker contains an alarm control room where you can shut off alarms. Sometimes.

Being told at the beginning of the game that the bomb you're looking for is hidden in a closet helps very little; most rooms contain closets, and they're usually locked. Using a key would be too easy; these closets have combination locks. In the midst of marching sentries, the player must pick the lock by listening for the click of the tumbler. Only by trying will players find out whether opening a closet is worth the risk of getting killed.

Unlike its predecessor, *Beyond Castle Wolfenstein* has its plot founded in history. On July 20, 1944, at the height of World War II, a cabal of peace proponents tried to assassinate Hitler by having an officer place a

**Tired of static HI-RES pictures?**

**Get GRAPHICMASTER and watch your Apple graphics presentations suddenly come alive!**



PEELINGS MAGAZINE SAYS . . .
"The power which Tidbit Software has placed at the fingertips of the average user is awesome ... Graphicmaster is a tool no Apple Graphics user should be without."
RATED AA+ by PEELINGS II Vol 5 Number 1, 1984

- **GRAPHICMASTER** $79.95
- **XTRAFONTS** $20.00
  additional fonts for GM or MTG
- **MICRO/TYPOGRAPHER** $29.95
  Hi-Res Screen Text Composer

**TIDBIT Software** (805) 969-5834
P.O. Box 5579, Santa Barbara, CA 93108

For 48K Apple II+/IIe.
Dealer Inquiries Invited. APPLE is a trademark of Apple Computers Inc

briefcase full of explosives under the conference table in Hitler's private meeting room deep within his bunker. However, the briefcase was accidentally kicked away from Hitler. That, along with the thick wood of the table, lessened the force of the explosion. Although several members of the staff were killed, Hitler was not injured. Nearly everyone connected with the abortive coup was captured and executed. This game offers you the chance to alter history.

The player begins the game as a simple resistance fighter. With each successful mission come promotions to Allied intelligence agent, top-secret operative, and master saboteur. Highly skilled players who finally finish the five levels of difficulty will be awarded a special, top-secret rank, which promises to be one of the coveted status symbols of the summer among computer game players. RRA

*Beyond Castle Wolfenstein*, by Eric Ace, Frank Svoboda III, and Silas Warner, Muse Software (347 North Charles Street, Baltimore, MD 21201; 301-659-7212). $34.95.

**CO-MAIL.** Electronic Computer Originated Mail (E-COM), available through the United States Postal Service, is one of several electronic mail services available to people with modem-equipped microcomputers. After using a word processor or text editor to prepare messages, you just send them over the telephone lines to the E-COM service, and the Postal Service will print it, fold it, stuff it into an attention-grabbing blue-and-white envelope, and deliver it first-class in less than two days to anywhere in the continental United States.

*Co-Mail* is a program that facilitates using the Postal Service's E-COM. It's not a communications program, so there aren't any sophisticated menus or confusing options to look at. Rather, it's a program that does little more than connect with E-COM and forward your messages to it from the computer.

An installation program initializes *Co-Mail* with defaults for your E-COM access code, identification, phone number, return address, and modem type (almost any modem will work). E-COM services support transmission rates of 300 and 1200 baud.

It's necessary to create letters in the form of standard ASCII text files. Although an editor isn't included in *Co-Mail*, any word processor or text editor that outputs text files will work; text files stored as binary files can't be used. Formatting letters is controlled by dot commands (commands that begin with periods) to perform such tasks as right justification, centering, tabs, and margins, but these commands are unnecessary if your favorite word processor will do the same editing on-screen. Dot commands are also used to retrieve variables or text from another file. This is convenient when composing a single business letter for a group of people; an address file could contain a list of all the recipients' names and addresses (variables), while another file could contain special information to be inserted (text).

There are three modes for transmitting E-COM mail: common text mode, text insertion message mode, and single address message mode.

Common text mode messages consist of the same text to be forwarded to multiple addresses. This method requires two text files; a primary file contains the text, and an address file contains the addresses. Dot commands in the primary file (you have to put them there) retrieve names and addresses from the secondary file. The return address that was set in the installation program will be included automatically. This method is handy for sending business letters to addresses on a mailing list.

The text insertion message mode is used for sending messages that contain mostly the same text, but also contain some unique information. The unique text is stored in a secondary file from which it is called by the primary file, again, by using a dot command. The advantage of using this mode is the flexibility of inserting specific information to certain recipients.

Single address message mode is similar to text insertion message mode, except that every message is different and is sent to a different address. The primary file contains different messages separated by a dot command. This mode is ideal for responding to letters on various subjects.

During execution of *Co-Mail*, the name of the primary file is requested. It's necessary to remember the name of the file you created, because if you forget the name and can't get it right after five tries, the program goes into an endless loop and must be restarted. If the file name is entered correctly, *Co-Mail* presents three options: scan, print, and send. The scan option checks for errors in the primary and address files. Errors are flagged, given a number, and explained in the manual. Print will display the letter on-screen, send it to a printer, or store it in a text file in its finished form. Send will dial the E-COM service and transmit the mail. A helpful option during transmission is the ability to resend a block if it is received incorrectly. This option is invaluable if there is excessive static or noise on the phone line.

Getting started with the E-COM service is a breeze with *Co-Mail*. The Postal Service requires you to send to its test center twenty-five messages in each mode, in order to show that you can use the service competently. The program disk already contains the files, and all you have to do is send them. Upon successful transmission of the files and after submitting an application, the Postal Service will acknowledge you as a certified user.

*Co-Mail* isn't too difficult to use, but the manual is vague and confusing when explaining how to use the three message modes. Message composition takes some practice and patience to get everything correct. Perhaps the manual, which contains much detail on how to become a certified E-COM user and how to install the program, could have included more information on the message modes and various files. It's disappointing that no text editor is included (even though this eliminates having to learn another word processor); for a program at this price, one would expect to get a little more. IW

*Co-Mail*, ICA Systems (Box 57165, Washington, DC 20037; 703-620-5835). $190.

**BASIC BUILDING BLOCKS.** By Michael Keirstead, Ken Lipnickey, Grant Schenck, and Chris Sura. Learning Basic is a lot like learning French. Herds of tourists have purchased cassette tapes to listen to while commuting to work and to put under their pillows for sleep learning the week before their trip to Paris. And they're usually disappointed by how difficult the cassettes turn out to be.

Actually, it isn't the cassettes that are demanding, it's the language. Unless you have a particular genius, learning a language is a lot of hard work. Tools are available to help, but you'll learn only if you work hard




at it. It's true for French, and it's true for Basic.

That said, it's safe to say that *Basic Building Blocks* is a useful and effective introduction to learning Applesoft Basic, if you're willing to spend time with it.

Designed to be an on-screen textbook, the first page of *Basic Building Blocks* presents a table of contents. You can choose the first lesson and follow along step by step as rudimentary Basic commands and simple programs are explained in a relaxed and understandable fashion. Or you can skip about, reading and reviewing only those sections that are interesting. Probably, once you've gone through the entire tutorial you'll hold on to *Basic Building Blocks* for future reference, skipping through the chapters when you need a refresher. Chapters cover topics such as line numbers, arrays, lo-res and hi-res graphics, and making music. Though it's a Basic tutorial, the program also covers disk management, saving and loading programs, and, depending on the version, DOS or ProDOS commands.

Generally, each lesson explains a new group of related commands, describes a program that illustrates them, and then enters Basic and shows the program as an example.

The foundation of the program is its Basic Design Tool (BDT), an educational utility that slows down and illuminates Basic programs so that each step can be observed. There are two versions of the BDT included with *Basic Building Blocks*. The first version supplements the instructions. When you come to an example, pressing the space bar takes you into Basic, where the example program is listed. You can run the program in the normal way, or you can enter the BDT.

If you choose to enter the BDT, what you see is the screen sectioned into four areas. A vertical line divides the screen into two fields, and below the fields are two lines for text. The upper text line displays two lines of a Basic program—the one being executed and the one after it. The lower text line comes into play only when the program enters a loop or a subroutine. It keeps track of what level of nested loops the program is in at any time. The left field shows all of the variables in the program, and the right field shows the numbers or strings assigned to each variable at any time.

Using the BDT, you can step through a program at various speeds, from manual—each line is executed on your command—up to an automatic speed of about one line per second. You can step through each program as many times as you like, watching as each line is executed and as each variable is assigned a value. Also, at the end of each chapter there are suggested programs for you to try writing (homework), which the BDT can also illustrate.

The second version of the BDT is meant for debugging Basic programs once you are more adept as a programmer. It is indeed useful, but setting up the variable fields can take quite a while, and learning all of the BDT commands is difficult when you are trying to remember all the Basic commands.

*Basic Building Blocks* includes a manual, the bulk of which simply reproduces the programs used as examples. There's an important section that explains how to use the BDT and another that provides possible solutions to the homework. The manual doesn't provide a supplement to explanations of Basic as contained in the software, and none is needed. Also, there is no glossary of Basic commands.

*Basic Building Blocks* is more useful in the rudimentary stages of learning Basic than in the more difficult stages. As is true with those foreign language cassettes, it's less a fault of the program than it is simply the nature of learning a language. First-year French students learn the vocabulary readily and find little difficulty in memorizing simple phrases, but when it comes to constructing sentences in the past perfect or composing essays on Sartre and Balzac, well. . . .

The same is true for students of Basic. *If-then* and *print* come quickly and easily, but developing a spreadsheet will take a while—with or without a program like this. TZ

*Basic Building Blocks*, by Michael Keirstead, Ken Lipnickey, Grant Schenck, and Chris Sura, Micro Education Corporation of America (285 Riverside Avenue, Westport, CT 06880; 203-222-1000). $79.95.

**GREY SEAS, GREY SKIES.** By W.J. Nichols and S.W. Newberg. Here's a faithful simulation of a little-explored topic in war gaming—modern tactical naval combat. Best known as a publisher of imaginative and challenging strategic board games, Simulations Canada has at last brought its skills and expertise to the computer screen.

Rich in detail, the highly playable *Grey Seas, Grey Skies* includes all the latest technology of the world's navies. At your command are such new and exotic weapons as deadly ship killers; Exocet, Harpoon, and Styx antiship missiles; antisubmarine helicopters; land- and sea-based aircraft; and air-to-air missiles. While modern navies of steel and aluminum battle on the surface, and supersonic aircraft duel for supremacy in the skies, a new generation of nuclear hunter/killer submarines stalks below, ready to deal out silent death.

Of course, state-of-the-art electronic counter measures (ECMs) are also available to deceive enemy ships and aircraft. To satisfy mankind's dark side, tactical nuclear weapons are available to let players explore the chilling possibility of nuclear war at sea. In this game of modern naval strategy, only the sea remains unchanged from the days of John Paul Jones, Admiral Maximilian Reichsgraf von Spee, and Bull Halsey.

*Grey Seas, Grey Skies* employs a hybrid game system, reminiscent of Avalon Hill's *Close Assault*. While the computer displays only text, a traditional map board and cardboard counters are provided to assist game play. The map is divided into conventional x,y grid coordinates representing ten thousand yards each, and the counters depict up to ten naval vessels belonging to either of two task forces.

While many strategy games employ graphic displays, Simulations Canada instead uses the computer's memory to hold a wealth of detail, adding to the game's sophistication. Ships and aircraft of all the major and minor naval powers, including the United States, Great Britain, France, the Soviet Union, Argentina, Germany, Japan, and India are included in the game system.

Each turn represents six minutes of real time, during which the players deploy their forces, conduct visual and electronic searches, and, most important, face combat. Players, human or computer, have at their command an impressive array of combat options. The computer automatically updates players on the results of active and passive radar and sonar searches. As with actual modern naval combat systems, each naval unit is automatically updated on search results and receives estimated target range and bearings.

This level of detail in *Grey Seas, Grey Skies* results in a challenging yet highly playable simulation. One of the more devilish options is that of timed play, in which players are given a limited time to make the required moves, simulating nicely the pressures of actual combat. This is probably as close to controlling a modern fighting ship as you're likely to get without joining the navy.

Crucial to the performance of modern naval weapons systems is the ability of ships' computers to provide accurate targeting of fleet weapons and successful interception of incoming enemy ordnance. In addition, letting fleet computer systems track particular targets for longer periods of time raises the probability of a successful attack. However, if you wait too long, the enemy may launch a nasty surprise of its own! *Grey Seas, Grey Skies* faithfully simulates this possibility and even incorporates the concept of increasing degradation of a fleet's fire control system as individual units are sunk or severely damaged.

With extensive game options, including two-player and solitary play against a very capable computer opponent, different scenarios (including the Falkland Islands War), and a save-game option, *Grey Seas, Grey Skies* is a first-rate entry into the computer simulations market, which has been dominated to date by Strategic Simulations and Avalon Hill. WWW

*Grey Seas, Grey Skies*, by W.J. Nichols and S.W. Newberg, Simulations Canada (Box 452, Bridgewater, Nova Scotia, Canada B4V 2X6). United States, $59; Canada, $65.95.

**KEYSTROKE.** Because most Apple III programs are adaptations of successful programs previously available on the Apple II, it's unusual to see first efforts of new companies appear on the Apple III before they appear anywhere else. But then, it's easier to get attention in a small gathering than in a raging mob. *Keystroke* helps fill a need in a relatively uncrowded marketplace while providing a foundation on which to build.

It's actually two programs, a database and a report generator, packaged and sold separately, though it's unlikely a person would own one without the other. Each part must be loaded and run separately, not allowing free movement between the two, even though they share the same data disk.

Capacity for the program is substantial; you can have up to four Pro-

File hard disks and four Disk IIIs, or 32,000 records with ninety fields per record. A field can be up to 74 characters wide; the number of characters in a record is limited to 4,096.

Lisa-like influences are evident in the program. For example, a minimum of jargon appears in the manual and in the program. Menus appear as 3-D boxes not unlike the Lisa's pull-down menus. Choices are made either by scrolling down the menu or by typing the first letter of a choice. A status line along the bottom of the screen helps keep track of what's going on. Ask for help, and a box appears with a group of topics to scroll through and choose. Another Lisa/Mac influence is the inclusion of a scratchpad, a display thirty characters by sixteen lines that is always accessible and that provides a place to jot notes or do calculations. A "hand" provides a way to move a line of information from place to place within the program. Printing what's on the screen is possible at any time.

*Keystroke* avoids technical terms. Instead of volumes and subdirectories, there are drawers and folders; after all, this is an electronic file cabinet. Having drawers and folders is handy (particularly for ProFile users) to help track all aspects of a database.

Forms (electronic index cards) can be as long as nine screens or pages. Arithmetic calculations using various fields can be designated. Forms can be redesigned at any time to accommodate changes you might want later. One aspect of the program that requires some conscious effort is that the return key is used to move from field to field, while the enter key is used to store data and clear the screen for the next record to be entered. A full range of search criteria is provided for finding and updating records, and searches are quite fast.

One impressive aspect of *Keystroke* is its ability to accept data from and write data to files generated by other programs. The merge command allows data to be moved to and from *VisiCalc*, used in form letters in *Apple Writer III*, brought into *Keystroke* from *PFS:File* and from *Quick File III*, and read from and written to DIF-compatible files.

Two of the more important features of this program include "validate/cross reference" and "keystroke sequence." Validate/cross reference is what gives *Keystroke* its relational capability. It lets you take information from one *Keystroke* file and include it in another file while you're adding records to the other file.

Keystroke sequence is a feature designed to save time. Many programs can't resolve the dilemma of being easy to learn and yet quick to use. Those wonderful menus that are so helpful when you're starting out soon become time-consuming. Keystroke sequence lets you assign a series of commands to one control key. That way, several commands can be executed at the touch of a key.

Printing from the database is limited to generating labels or simple lists with minimal enhancements. Here's where the report generator helps. As noted earlier, it must be loaded separately, which may be annoying, given the likelihood of using both programs during the same session. Once loaded, the report generator is easy to use, since the command structure is identical to that of the database. A wide range of data selection and formatting options make it easy to obtain reports. Worth noting is the program's inability to allow information from a record to fill more than one line. If records contain a large number of fields, then it's almost necessary to have a wide-carriage printer with a condensed mode of printing.

Brock Software shows concern for its customers. Anyone with an older version of the program (earlier than A.1) can receive an upgraded version at no charge. The telephone support line, although not toll-free, is competently staffed and provides quick answers. SS

*Keystroke*, Brock Software Products (Box 799, Crystal Lake, IL 60014; 815-459-4210). Requires at least two disk drives or a ProFile hard disk. Database, $249; report generator, $149.

**WIZTYPE.** By Rick Banks, Michael Bate, Jewell Couch, Ken Williams, and Chuck Benton. There are several advantages to learning to type by computer as opposed to learning by taking a traditional typing class. It's probably cheaper (assuming you didn't buy an Apple just to learn how to type). You can also make your own hours. And classes generally use typewriters—manual ones. Those who are accustomed to the soft-touch keyboards of computers probably aren't interested in developing the kind of wrist stamina required for typing on a manual typewriter, that beloved relic of a bygone age. No, if you want to learn how to type, and you have an Apple, you might as well buy one of the programs that teaches how.

*Wiztype*, with a few bells and whistles added, is the latest entry in what might be described as the genre that *MasterType* built. Bruce Zweig's legendary bestseller was the first to turn this most unexciting learning process into something that felt like a video game. It made learning fun, on the most visceral level.

In *Wiztype*, instead of zapping menacing words from your spaceship, you, as the comic strip character the Wizard of Id, are now engaged in a race against time (kept by your sorcerous spirit familiar), zapping each word or letter combination by spelling it correctly, racking up points and a speed rating. Once you have typed all, you get to zap the spirit. Failing to match or better the chosen typing speed means the spirit will zap you.

In addition to this game, there is also drill and practice on sentences and paragraphs, which are presented under less hectic conditions. Paragraphs are presented to teach typing from a manuscript, and there's an option to create your own lessons with words of your choice. A statistics chart allows you to monitor progress on a bar graph each time you go back to the program.

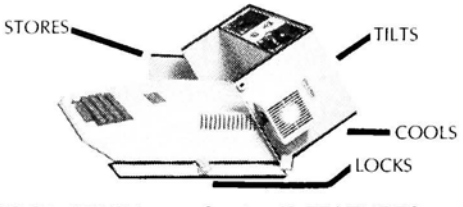
Typing purists may note that, in the timed typings for sentence and paragraph practice, accuracy doesn't matter in the figuring of a speed rating. Errors don't count as deductions; you could theoretically just swirl your fingers around the keyboard until you hit all the necessary characters, and you'd end up with some kind of score. Did those who learned keyboards the hard way gain something in precise thinking and mental discipline? (Though with these new-fangled computing machines and their gol-danged back-arrow keys and all, accuracy is now an outmoded concept, *nu*? Ah, high-tech!)

While by now typing errors are an accepted tradition in home computer software, it is especially unfortunate to run across "unrequieted love" in the paragraph typing drill of an educational program. Accuracy does count for something. AC

*Wiztype*, by Rick Banks, Michael Bate, Jewell Couch, Ken Williams, and Chuck Benton, Sierra On-Line (Sierra On-Line Building, Coarsegold, CA 93614; 209-683-6858). $34.95. ■


**PROTECT & ORGANIZE**
your APPLE II SYSTEM





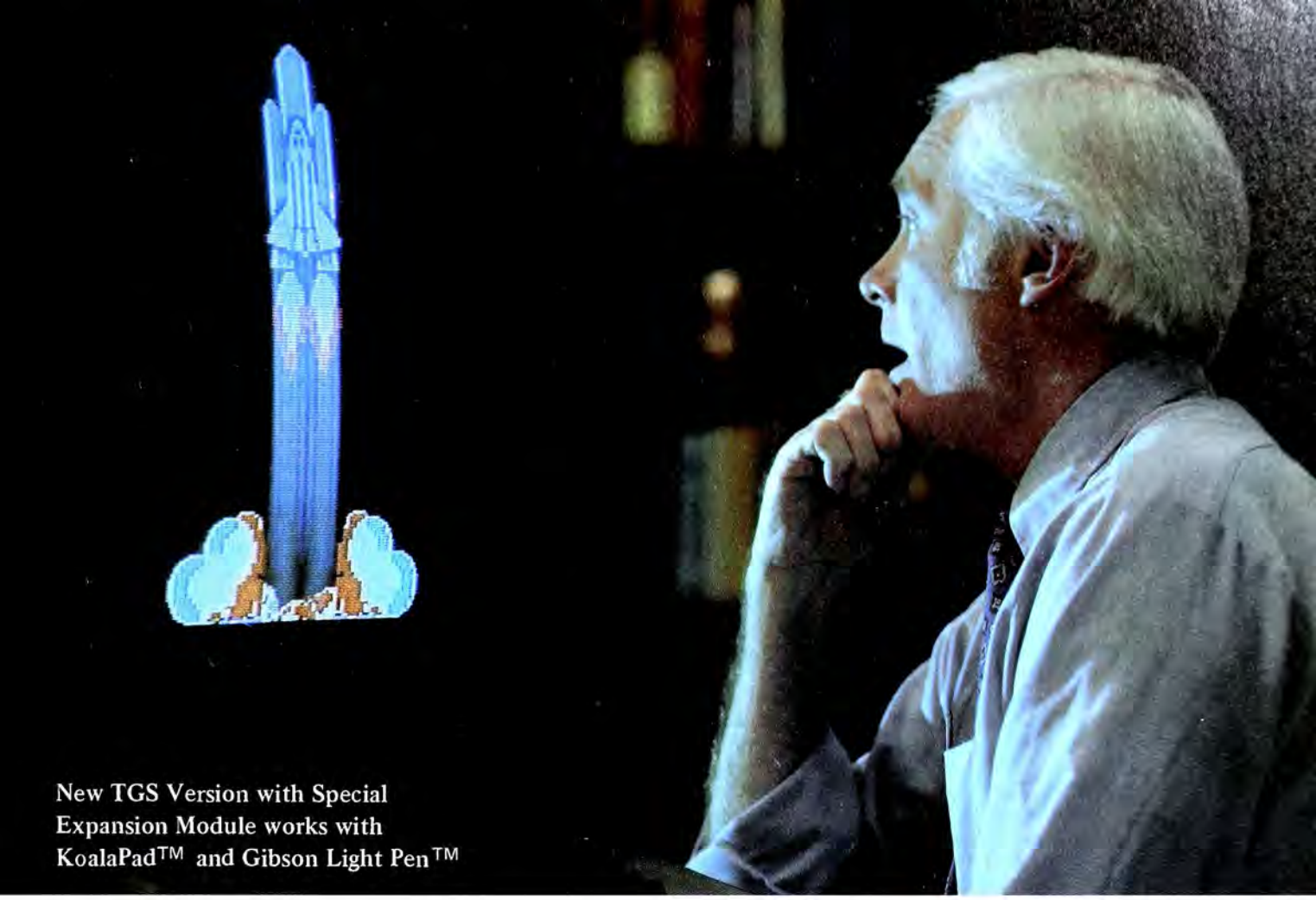

COOL STACK™ — Sentry II FEATURES

IT LOCKS — Locks the Apple II computer and disc drives to base plate and separate adhesion plate secured to table top.
IT COOLS — Extends the life and reliability of the computer and peripheral plug-in boards with quiet and efficient fan.
IT STORES — Provides neat and efficient organization of the entire computer station including manuals and disks.
IT TILTS — Allows fast easy access to inside the computer.

Precision all steel construction provides optimum strength and durability color matched to the Apple II computer.

IBM PC OWNERS — SEE THE NEW COMPUTER ESCORT™

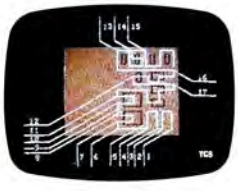
APPLE II is a trademark of Apple Computer, Inc.
COOL STACK and COMPUTER ESCORT are trademarks of FMJ, Inc., Patents Pending
For more information on these and other fine FMJ products contact your dealer or:
FMJ, Inc., P.O. Box 5281, Torrance, CA 90510 (213) 325-1900 DEALER INQUIRIES INVITED



New TGS Version with Special
Expansion Module works with
KoalaPad™ and Gibson Light Pen™

# THE GRAPHIC SOLUTION

Solve your toughest communication problems with the Graphic Solution™, a sophisticated, new graphics package from Accent Software.



With precise, multi-speed ANIMATION create captivating sales presentations and product demonstrations that will both intrigue and inform your clients and customers. Watch their reactions; you'll see your messages getting through.

Develop educational materials and training aids that MIX TEXT AND GRAPHICS on the screen, breathing new life into abstract, hard-to-grasp concepts. Mix programs too. Images can be displayed on backgrounds loaded from any of your other programs. Construct custom TYPEFACES AND TYPESIZES to balance the visual elements.




Tired of run-of-the-mill business graphics? Change standard charts and graphs into colorful THREE DIMENSIONAL PERSPECTIVES. Add text and animate the data to show the relative rates of change for your most important information. Like cash flow projections. Or revenue estimates.



Plot flowcharts, time and motion studies, industrial process flows with COLOR-CODED ELEMENTS highlighting critical paths. Animate the sequences to show how flows actually progress.

Work with live action? Prepare film and videotape storyboards using the unique FRAME-BY-FRAME graphic sequencer that lets you create and animate a video story before shooting.

Whatever your graphic communication demands—in the business world, the arts, industry, education—The Graphic Solution™ at $149.95 has the answer. Take a hard look at The Graphic Solution. You'll like what you see.




The Graphic Solution requires a 64K Apple II with ROM Applesoft and DOS 3.3.

See your local dealer or send $10.00 for a demonstration diskette to:

## ACCENT SOFTWARE, INC.

4546 El Camino Real, Los Altos, CA 94022 (415) 949-2711

Apple is a registered trademark of Apple Computer, Inc.




# SUBTLE PROGRESS SHINES THROUGH VAPORWARE FOG AT SUMMER CES

*Chicago, June 6, 1984*—The underlying atmosphere in the computer building at the 1984 Summer Consumer Electronics Show was as thin as the moon's—no substance—but it became a pea-soup fog full of blue-sky demos and incomplete ideas. Spinnaker's seemingly infinite number of new adventures, full of classic names and celebrated ones, boasted nary a finished game. Few booths could say much more.

Promises of home productivity software were rampant, but not much had made it to the production lines by showtime. Diversity is the trend of the day; ironically, the west hall of Chicago's McCormick Place, which housed the computer vendors, bore a giant banner reading "Computer Games Exhibits." Evidently the intention was okay, but a comma (at least) was left out by the sign painter.

Games were, as usual, where real progress was apparent. A strange phenomenon called sprites, which are built into Ataris and Commodores, are the basis for owners of those machines crowing about their better graphics, despite the smoother, cleaner, less blocky look of Apple's graphics. Software-generated sprites that bring the Apple up to speed are finally looking good—no, terrific. These little critters create a convincing illusion of three-dimensionality; planes fly through slower-moving clouds, leaving realistic shadows on the ground below; objects roll past people without see-through, and so on. Most of the products with the new look flaunt it; Broderbund's *Captain Goodnight*, a goodhearted arcade-adventure spoof of Captain Midnight-like heroes, uses it subtly, and the effect is that of supersmooth, supervaried, superclean animation.

Progress poked up another head in the spate of unfinished adventure games—not only from Spinnaker. Graphics adventures using real animation throughout the illustrations are just around the corner. Their time has come—but, as usual, the quality varies with the execution. As to story value? That's something no demo can reveal.

But the talk of the show was two home education products. Koala, in conjunction with Henson Associates (the Muppets people), introduced *Muppet Learning Keys*, a Playskool-type punch pad that enables kids to run their Apples their own way. The keys include a full alphabet, a set of paints, and a bunch of other good things. It was being demonstrated via special software from Sunburst Communications, which should have stayed home. Not that it was awful, it just wasn't new—shades of *Stickybear* and even *HodgePodge*. But the *Learning Keys* pad is separate; like the KoalaPad, anyone can write software for it.



Miss Piggy, posing as the woman on the Apple IIc package, is accompanied by a rocklike recording of Chris Cerf singing "Learning Keys Forever" to the tune of Apple's "Apple II Forever" rallying cry—calling attention to Koala's kids' interface to Apples.

The Learning Company's follow-up to *Rocky's Boots* was the prestige hit. *Robot Odyssey* lets you build and power robots that do things on-screen, just the way you could build Rube Goldberg contraptions in *Rocky's Boots*. You can actually build and etch printed circuits and chips.

Although Broderbund's *Championship Lode Runner* and *Dazzle Draw* were only a stone's throw from being shipped, the beautifully animated *Captain Goodnight* still appeared only in demo mode and Dan Gorlin's much heralded follow-up to *Choplifter* was nowhere to be seen.



Sandy Wiviott, newly of Penguin Software, enjoys a calmer moment with Mary Ann Cleary, recently from Simon and Schuster and now consulting.

While *Bank Street Speller* shipped just recently, *Filer* and *Mailer* were demos; if they take as long as *Speller* did, expect the *HomeWord* line from Sierra to fill out first: Sierra's *HomeWord Speller* shipped only a couple of weeks after Broderbund's *Bank Street Speller*, although *HomeWord* itself lagged *Bank Street Writer* by a year.

Sierra, which has officially dropped On-Line from its name, showed no software at all—only videos describing its activities. The vapor was never thicker, or slicker. Electronic Arts showed *Archon II* for the Atari, but the Apple version of the award-winning *Archon* itself was still a promise to be fulfilled. *Sky Fox* was EA's big news, and it looks close.

Oddly rare were Macintoshes at CES. Scarborough showed a business simulation strategy game on one, and Infocom offered the Mac version of its soon-to-be-released *Cutthroats*.

Some people had multi-million-dollar hopes. Hot air balloons floating high above the show site announced *Trivia Mania* from Professional Software, whose president, Robert Crowell, enthuses over the sales figures of his game's noncomputerized predecessor as comment on *Mania*'s future.

Among the big companies new to Apple software, only Random House produced any surprises. It wasn't news that the long-established publisher had licensed Charles Schulz's Peanuts characters; what was news was how quickly it had produced software using the characters. Although the programs aren't terrifically original, they have a bright fresh look and lovely cartoonlike animation in reward sequences.

In the maybe-it's-coming-but-isn't-there-some-way-to-forestall-it department, Atari, the only micro company represented in the main hall, was showing two games that looked suspiciously like Broderbund's *Choplifter* and *David's Midnight Magic*. In fact, they *were* Broderbund's games, but you couldn't tell for looking. Despite licensing agreements that required copyright attribution on-screen as well as on the packaging, neither screen, running in demo mode, nor packaging ever mentioned Broderbund. *David's Midnight Magic* was the more difficult to recognize, being displayed as *Pinball Wizard*, a change specifically forbidden by the license. But then, no license agreement had been returned to Broderbund at the time of CES, and no fees paid. When Broderbund prez Doug Carlston pointed all this out to Atari International lawyer Angelo Pezzani in front of the display, reminding him of the terms of agreement, Pezzani commented, "To call it breach of contract . . . would be more than fair." Atari pulled the games within an hour of Carlston's visit and had them running with proper attribution the following day, sans packaging.



The Three Musketeers—(left to right) Stu Galley, Mike Berlyn, and Steve Meretzky—who write great adventure games, tout Infocom's newest, *Cutthroats*, running at CES on the Macintosh



Look out, it's Ed Bernstein, director of product development at Broderbund, enjoying one of his babies at the Broderbund booth.

A curious note rang from the Coleco booth, where a large sign announced "Cabbage Patch Dolls Free." Oh, it's a long, long time from December to May. **MCT**

☐ **Apple Computer** (Cupertino, CA) has announced that it will stop enhancements on the Apple III line. "We will continue to manufacture the III Plus as long as there is a demand," says Apple spokeswoman **Barbara Krause**. The company is converting one of its III Plus assembly lines to produce IIcs. "The only thing we're not doing is continuing further development of the machine," says Krause. The company will continue to support III and III Plus users, and members of the Apple III upgrade team have been offered jobs elsewhere in the company.

Hoping to attract small business and professional buyers, Apple has signed an agreement with **Sears** (Chicago, IL) to sell Macintosh and Lisa 2 computers in the sixty Sears Business Systems Centers nationwide. The agreement concerns only the Mac and Lisa machines and peripherals; no plans have been made to offer the IIe or the new portable IIc through Sears.

☐ The week-old board of directors of the **Software Publishers Association**, which began to take form during the February Softcon in New Orleans, elected officers at a meeting June 2 in Chicago. **Broderbund** president **Doug Carlston** was a popular choice for president. Serving with him are **Edmund R. Auer**, president of **CBS Software**, chairman; **Joel Berez**, president of **Infocom**, treasurer; and **Ted D. Morgan**, president of **Hesware**, secretary. **Kenneth A. Wasch**, the Washington, D.C., attorney who organized and fought to establish the group, was elected executive director. With somewhere between thirty-two and fifty members, the SPA is intended to provide a forum and action launching pad for the industry. Membership information is available from Ken Wasch, 4327 Reno Road, N.W., Washington, DC 20008; phone (202) 364-0523. In his first official move as president, Doug Carlston announced the formation of a software antitheft committee—that is, a team to fight piracy.

☐ Officially organized by Chinese authorities with the approval of the State Council, Computer China '84 is an international computer technology exhibition and conference that will be held for five days starting November 25 in the city of Xiamen, Special Economic Zone, People's Republic of China. Coordinated by **Adsale Exhibition Services** (Hong Kong), the conference is designed to introduce the latest micro and minicomputer technology and products to Chinese users, specialists, and import officials. The China Microcomputer Applications Association will be organizing its Second Academic Conference concurrently with the exhibition; the organization's experts, professors, engineers, and researches will attend the show.

☐ The **American Film Institute** (Hollywood, CA) held a one-day Micros in the Movies seminar featuring panels on script writing and movie production, as well as demonstrations of several software packages designed for the motion picture industry. *Star Trek* creator **Gene Roddenberry**, one of the six writers who spoke on the traumas of *WordStar* and Wangs, brought


EPSON
1
EPSON
EPSON
Strength
in numbers.

# Why more Epson® printers are sold in more places than any other brand. And why it matters.

The fact that Epson has sold more printers for more personal computers than all other manufacturers on earth is certainly important to us. But why should it matter to you?

**A few good reasons.**

The reason we have continually outsold our competition is disarmingly simple: we build a better printer for the money.

Or should we say several better printers? Epson makes a full line of high-quality printers for every home and business application, with the features and refinements knowledgeable computer users want most.

Which is no doubt why computer and software companies—as well as other printer companies—make their products "Epson-compatible." We're not only the world leader, we're the world standard.

**Everywhere? Everywhere.**

Coincidentally, another good reason for buying such a widely available printer is because it's widely available.

Epson printers for home and business are carried in over 3,600 stores in the United States, as well as in no small number of stores in Canada.

What's more, Epson-brand printers sold in the U.S. are backed by a full one-year warranty on all parts and labor. Most other printers are guaranteed for only 90 days.

And if you *were* to have a problem—an unlikely occurrence—you could have your Epson serviced at over 1,000 authorized Epson Service Centers from coast to coast.

**The obvious choice.**

So finally, it comes to this simple choice: you can buy the printer that's been embraced by more computer owners all over the world, the one that's sold in more places, the one that's guaranteed, the standard on which other printers are built.

Or you can buy something else.

**Number one. And built like it.** EPSON

EPSON AMERICA, INC.

3415 Kashiwa Street, Torrance, California 90505

Call (800) 421-5426 for the Epson dealer in your area. In California call (213) 539-9140.

Epson is a registered trademark of Epson America, Inc.

# SAVE MORE THAN EVER ON...
## 3M Scotch® DISKETTES
AND OTHER COMPUTER NEEDS!

NEW! Lower Prices

LIFETIME WARRANTY!

### 3M BULK DISKETTES AT TREMENDOUS SAVINGS!

These are *genuine* 3M diskettes with a lifetime warranty. But they are bulk packed in cartons of 50 with separate white Tyvec envelopes. **No identification labels, write protect tabs or cartons are provided!** A great buy for volume users.

**$160** ea. Qty. 50 ← 5¼" SSDD

5¼" DSDD → **$202** ea. Qty. 50

5¼" SSDD-96TPI ..... **$2.20**
5¼" DSDD-96TPI ..... **$2.75**

All have reinforced hub.
SOFT SECTOR ONLY!
(for IBM, APPLE, KAYPRO, DEC and about 99% of all computers.)
Must be ordered in multiples of 50!

### BOXED 3M DISKETTES WITH ALL THE TRIMMINGS!

Factory-fresh 3M packaging with envelopes, 3M logo labels, ID labels and write-protect tabs.

**$185** ea. Qty. 20 ← 5¼" SSDD

5¼" DSDD → **$235** ea. Qty. 20

5¼" SSDD-96TPI ..... **$2.60**
5¼" DSDD-96TPI ..... **$3.25**
8" SSSD ..... **$2.05**
8" SSDD ..... **$2.50**
8" DSDD ..... **$3.10**

**Minimum order of 20 diskettes. Additional diskettes in multiples of 10.**

#### 3M HEADCLEANING KITS

Stop swearing and start cleaning. This non-abrasive cleaning kit has everything you need for thirty applications.

**$23.00** + $1.50 Shpng.

***SAVE MONEY WITH A CLEAN COMPUTER!***
#### INTRODUCING MINI-VAC



Most computer malfunctions are caused by dust. MINI-VAC is ideal for cleaning keyboards, screens, drives and printers. (Great for photo equipment, too!) Equipped with an easy-empty bag, two directional wands and two fine-brush nozzles. Don't compute without it. (Requires 9-volt battery which is **not** included.)

**$21.95** + $3.00 Shpng.

#### AT LAST: A DISK DRIVE DIAGNOSTICS SYSTEM THAT WORKS!

The Dymek Recording Interchange Diagnostic (RID) is a **professional**, but easy to use, drive diagnostic disk. It tests drive speed, radial position, hysteresis, write function, erase crosstalk, signal-to-noise and clamping. In short, it's a professional's system that will help you keep your machine in prime condition...and avoid the evils of data loss.

**$29.95** + $1.50 Shpng.



#### MEDIA-MATE 50: A REVOLUTION IN DISKETTE STORAGE

Every once in a while, someone takes the simple...and makes it elegant. This unit holds 50 5¼" diskettes, has grooves for easy stacking, nipples to keep diskettes from slipping in the case and several other features. We like it.

**$10.95** + $2.00 Shpng.



#### DISKETTE 70 STORAGE: STILL A GREAT BUY

Dust-free storage for 70 5¼" diskettes. Six dividers included. An excellent value.

**$14.95** + $3.00 Shpng.

#### PRINTER RIBBONS AT BARGAIN PRICES.

EPSON MX-70/80 ..... **$3.58** + 25 Shpng.
EPSON MX-100 ..... **$6.99** + 25 Shpng.
Okidata Micro 84 ..... **$3.66** + 25 Shpng.
Diablo 630 Mylar ..... **$2.60** + 25 Shpng.
Diablo 630 Nylon ..... **$2.93** + 25 Shpng.

#### THE END TO RS-232 CABLE PROBLEMS: SMARTCABLE

Now interfacing almost any two RS-232 devices is simple and quick. Just plug in SMARTCABLE and flip two switches. The logic of both devices is figured out immediately and you can get to work.

**$79.95** + $1.50 Shpng.

**Shipping:** 5¼" DISKETTES—Add $3.00 per 100 or fewer diskettes. 8" DISKETTES—Add $4.00 per 100 or fewer diskettes. OTHER ITEMS: Add shipping charges as shown in addition to diskette shipping charges. **Payment:** VISA and Mastercard accepted. COD orders only, add $3.00 handling charges. **Taxes:** Illinois residents, please add 8% sales tax.

**WE WILL BEAT ANY NATIONALLY ADVERTISED PRICE ON THE SAME PRODUCTS AND QUANTITIES!**
**Nationwide: 1-800-621-6827**
**Illinois: 1-312-944-2788**
**Hours: 9AM - 5PM Central Time**
**Minimum Order: $35.00**

**DISK WORLD!, Inc.**
**SUITE 4806**
**30 EAST HURON STREET**
**CHICAGO, ILLINOIS 60611**

**Authorized Distributor**
**Information Processing Products**
3M


Peter McWilliams books to hand out. **Joie Albrecht** of Carson Productions, which produces "TV's Greatest Commercials," explained how the firm created a five-thousand-commercial database on an Apple. **Stephen Greenfield**—author of *Scriptor*, a script-formatting program—was enthusiastic about Microsoft's *Word* and recommended watching for the program's release on the Mac as a dream combination for Hollywood screenwriters.

☐ The arcade game *Boulder Dash* has been licensed to the **Micro Fun** division of **Micro Lab** (Skokie, IL) by **First Star Software**, a division of **Warner Software** (New York, NY). "Our tremendous success with *Miner 2049er* and our other games last year is a hard act to follow," says Micro Lab president **Stan Goldberg**. "The addition of *Boulder Dash* to this year's line-up will certainly make our job easier." Micro Lab's advance payment for the rights to *Boulder Dash* were in excess of $1.3 million, the largest copublishing arrangement of its kind, according to Warner. Micro Fun will release versions of the game for several home systems, including the Apple. As part of the same agreement, the company will similarly produce and market another First Star title, as yet unannounced.

Micro Lab celebrated its fourth birthday by opening a branch office in Silicon Valley. The new office in Campbell, California, will handle product development and manufacturing for the company's as-yet-unspecified hardware line, expected to be in production by year-end.

☐ Formerly with the Personal Computer Systems Division at Apple Computer, **Wilfrid J. Houde** has assumed the responsibilities of president and chief executive officer of **Vimart** (Los Gatos, CA). Vimart provides independent software marketing services to retailers of educational and recreational software. Houde was one of the founders of the firm.

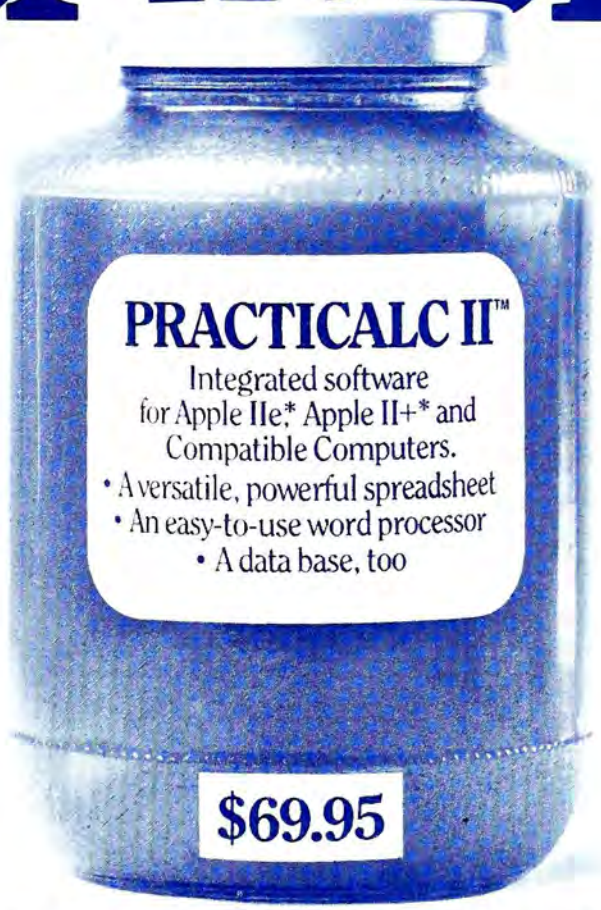
☐ The **Gahan Wilson** software project at **Electronic Arts** (San Mateo, CA) has "hit a snag in development and has gone back to the drawing board," according to a company spokesperson. The collaboration with the celebrated cartoonist was announced last August along with *Julius Erving and Larry Bird Go One-on-One*, the hit basketball game sporting the input of Erving and Bird. "The Gahan Wilson project hasn't been scrubbed," the spokesperson says, "but technical problems have necessitated a new version" of the product. The company isn't saying what the Wilson program will be, "other than that it will reflect the style of his cartoons."

☐ The **Book of the Month Club** (New York, NY) has selected two **Sierra On-Line** (Coursegold, CA) programs to offer to the club's estimated one million members. *Homeword* and *The Dark Crystal* are considered by Book of the Month to be "solid entertainment and home productivity packages," as opposed to being more "trendy products."

**Waldenbooks** (Stamford, CT) will place *Homeword* in the company's eight hundred stores across the country. The deal marks the first time Waldenbooks has arranged storewide distribution for a software product.

Rumor has it that Sierra On-Line's recent groundbreaking for new and larger corporate

# APPLE SAUCE.




PractiCalc II may well be the only software your Apple needs to help it do all the things you'd like it to do. It offers you generous portions of productivity, at a tasty price. And it won't eat up your available memory, either. Only 48K is necessary... so you're PractiCalc-compatible right now.

And look at all you can do: You can do spreadsheets, for building businesses or balancing budgets. Asking and answering "what-if" questions, with the help of its powerful, sophisticated built-in math.

You can write memos and letters, combining text with any kind of numbers or tables –and you can change the numbers without cumbersome manipulation.

You can set up and rearrange business or personal files. Sort data alphabetically or numerically. Even retrieve information you've partially forgotten, at the push of a button!

Best of all, you can do all this –and more–with a single, economical, easy-to-use program. PractiCalc II. At $69.95**, it's a lot of sauce for your Apple!




**PRACTICORP™**
No-Nonsense Software
The Silk Mill, 44 Oak St., Newton Upper Falls, MA 02164 • 617-965-9870

*Apple IIe and Apple II+ are trademarks of Apple Computer, Inc. **Suggested retail ©1984 PractiCorp International, Inc.

# RISING SUN SOFTWARE

**No Hidden Charges**
**No Charge for Credit Cards**
**No Shipping Delay for Personal Checks**

SAVE!

**ATARISOFT**
Centipede ..... $28.00
Defender ..... $28.00
Pac-Man ..... $28.00
Robotron 2084 ..... 28.00

**AVALON HILL**
T.A.C. ..... $28.00
Telengard ..... 28.00

**AVANT-GARDE CREATIONS**
Computer Golf 2 ..... $25.00

**BEAGLE BROTHERS**
Alpha Plot ..... $28.00
Apple Mechanic ..... 21.00
Beagle Bag ..... 21.00
Beagle Basic ..... 28.00
DOS Boss ..... 20.00
Double Take ..... 25.00
Flex Text/Type ..... 21.00
Frame Up ..... 21.00
Pronto DOS ..... 21.00
Tip Disk #1 ..... 15.00
Typefaces ..... 15.00
Utility City ..... 21.00

**BLUE CHIP**
Baron ..... $42.00
Millionaire ..... 42.00
Tycoon ..... 42.00

**BRODERBUND**
A.E. ..... $25.00
Bank Street Writer ..... 48.00
Choplifter ..... 25.00
Drol ..... 25.00
Gumball ..... 21.00
Lode Runner ..... 25.00
Spare Change ..... 25.00

**CALIFORNIA PACIFIC**
Ultima/Akalabeth ..... $25.00

**CBS SOFTWARE**
Goren: Learning Bridge Made Easy ..... $56.00
Mastering the SAT ..... 105.00
Mystery Master ..... 25.00
Success With Math ... ea. 20.00

**DATAMOST**
Aztec ..... $28.00
Bilestoad ..... 28.00
Casino ..... 28.00
Swashbuckler ..... 25.00
Theif ..... 21.00

**DATASOFT**
Zaxxon ..... $28.00

**DECISION SUPPORT**
The Accountant ..... $99.00
Business Accountant ... 225.00

**DESIGN-WARE**
Creature Creator ..... $28.00
Crypto-Cube ..... 28.00
Spellicopter ..... 28.00
Trap-A-Zoid ..... 28.00

**EDU-WARE**
Algebra 1-4 ..... ea $28.00
Algebra 5 & 6 ..... 35.00
Compu-Read ..... 21.00
Decimals ..... 35.00
Fractions ..... 35.00
Prisoner 2 ..... 25.00
Rendezvous ..... 28.00

**EINSTEIN**
Einstein Compiler ..... $99.00
Memory Trainer ..... 68.00

**ELECTRONIC ARTS**
Archon ..... $28.00
Axis Assassin ..... 25.00
Dr. J & Larry Bird Go One-on-One ..... 26.00
Hard Hat Mack ..... 25.00
Last Gladiator ..... 25.00
Music Construction Set ..... 28.00
Pinball Construction Set ..... 28.00
Standing Stones ..... 28.00

**H.A.L. LABS**
Super Taxman 2 ..... $20.00
Vindicator ..... 20.00

**HAYDEN SOFTWARE**
Go ..... $25.00
MicroMath ..... ea. 21.00
ORCA/M ..... 99.00
Pie Writer 2.2 ..... 112.00
Sargon III ..... 35.00

**HOWARD SOFTWARE**
Tax Preparer 1983 .... $169.00
Tax Preparer 1984 ..... CALL

**INFOCOM**
Deadline ..... $35.00
Enchanter ..... 35.00
Infidel ..... 35.00
Planetfall ..... 35.00
Starcross ..... 28.00
Suspended ..... 35.00
Witness ..... 35.00
Zork I, II, III ..... ea 28.00

**KOALA TECHNOLOGIES**
Koala Touch Tablet .... $89.00
Coloring Book ..... 21,99
Spider Eater ..... 21.00

**KRELL SOFTWARE**
Krell Logo ..... $75.00
Krell SAT ..... 249.00

**L & S COMPUTERWARE**
Crossword Magic ..... $35.00

**LIGHTNING SOFTWARE**
Master Type ..... $28.00

**MICROLAB**
Death in Carribean ..... $25.00
Dino Eggs ..... 28.00
Miner 2049er ..... 28.00

**MICROMAX**
Cubit ..... $28.00
(Call for pricing on MICROMAX hardware)

**MICROSOFT**
MultiPlan ..... $175.00
Olympic Decathlon ..... 21.00
Typing Tutor II ..... 20.00

**MONOGRAM**
Dollars & Sense ..... $79.00

**MUSE**
Advanced Blackjack .... $35.00
Castle Wolfenstein ..... 21.00
Caverns of Freitag ..... 21.00
Eating Machine ..... 35.00
Robot War ..... 28.00
Super Text ..... 79.00

**ODESTA**
Chess 7.0 ..... $49.00
Checkers ..... 35.00
Odin ..... 35.00

**OMEGA MICROWARE**
Chart Trader + ..... $149.00
Inspector ..... 45.00
Watson ..... 35.00

**ORIGIN SYSTEMS**
Exodus: Ultima III ..... $40.00

## HARDWARE

**JOYSTICKS AND PADDLES**
Hayes Joysticks ... CALL
Kraft Joystick ..... 40.00
Kraft Paddles ..... 35.00

**MODEMS**
Apple Cat II ..... $295.00
Apple Cat 212 .... 580.00
Micromodem IIe .. 259.00
(Works with all Apples)

**PRINTER INTERFACES**
Grappler + ..... $125.00
Grappler/16K buffer ..... 199.00
Orange Interface .. 75.00

**80 COLUMN CARDS**
Ultraterm ..... $279.00
Videoterm ..... CALL

**BLANK DISKS (box of 10)**
Elephant SS/SD .. $22.00
Elephant SS/DD ... 25.00
Maxell SS/DD ..... 30.00
Verbatim SS/DD ... 28.00
Disk File Box (holds 60) ..... 20.00

**MISCELLANEOUS HARDWARE**
Alaska Card ..... $99.00
Microsoft Softcard ..... 225.00
System Saver ..... 65.00

**PENGUIN**
Bouncing Kamungas ... $15.00
Comp. Graphics Sys. .... 49.00
Coveted Mirror ..... 15.00
Crime Wave ..... 15.00
Graphics Magacian ..... 42.00
Minit Man ..... 15.00
Pensate ..... 15.00
Pie Man ..... 15.00
Ouest ..... 15.00
Short Cuts ..... 28.00
Special Effects ..... 28.00
Spy's Demise ..... 15.00
Spy Strikes Back ..... 15.00
Thunderbombs ..... 15.00
Transylvania ..... 15.00

**PHOENIX SOFTWARE**
Masquerde ..... $25.00
Sherwood Forest ..... 25.00

**SCREENPLAY**
Ken Uston's Professional Blackjack ..... $49.00

**SENSIBLE SOFTWARE**
Bookends ..... $99.00
Sensible Speller ..... 99.00

**SIERRA ON-LINE**
Adv. #0 Mission Asteroid ..... $15.00
Adv. #1Mystery House ..... 15.00
Adv. #2 Wizard & the Princess ..... 25.00
Adv. #3Cranston Manor ..... 25.00
Adv. #4 Ulysses ..... 25.00
Adv. #5 Time Zone ..... 70.00
Adv. #6 Dark Crystal .... 28.00
Dragon's Keep ..... 21.00
Frogger ..... 25.00
Learning W/Leeper ..... 21.00
Mr. Cool ..... 21.00
Ouest for Tires ..... 25.00
Sammy Lightfoot ..... 21.00
Troll's Tale ..... 21.00
Ultima II ..... 42.00
The Artist ..... 60.00
Homeword ..... 37.00
Screenwriter II ..... 89.00

**SILICON VALLEY SYSTEMS**
Word Handler ..... $45.00
List Handler ..... 40.00
Spell Handler ..... 45.00
The Handlers Pkg. ..... 99.00

**SIR-TECH**
Wizardry ..... $35.00
Knight of Diamonds ..... 25.00
Legacy of LLylgamyn ... 28.00
Wiziprint ..... 20.00

**SIRIUS**
Critical Mass ..... $28.00
Gamma Goblins ..... 12.00
Gorgon ..... 20.00
Gruds in Space ..... 28.00
Orbitron ..... 12.00
Repton ..... 28.00
Type Attack ..... 28.00
Wayout ..... 28.00

**SOFTWARE ENTERTAINMENT**
Electronic Playground ..... $20.00
Stellar 7 ..... 28.00

**SOFTWARE PUBLISHING**
PFS: File ..... $95.00
PFS: Report ..... 95.00
PFS: Graph ..... 95.00
PFS: Write ..... 95.00
(Specify for II or IIe)

**SPINNAKER**
Alphabet Zoo ..... $21.00
Delta Drawing ..... 35.00
Face Maker ..... 25.00
Kindercomp ..... 21.00
Most Amazing Thing .... 28.00
Snooper Troops ..... ea. 32.00
Story Machine ..... 25.00
Trains ..... 28.00

**STRATEGIC SIMULATIONS**
Bomb Alley ..... $42.00
Broadsides ..... 28.00
Carrier Force ..... 42.00
Computer Ambush ..... 42.00
Computer Baseball ..... 28.00
Computer Quarterback ..... 28.00
Cosmic Balance ..... ea. 28.00
Eagles ..... 28.00
Fighter Command ..... 42.00
Fortress ..... 25.00
Galactic Adventures ..... 42.00
Geopolitique 1990 ..... 28.00
Germany 1985 ..... 42.00
Knights of the Desert .... 28.00
North Atlantic '86 ..... 42.00
Prof. Tour Golf ..... 28.00
RDF 1985 ..... 25.00
Ringside Seat ..... 28.00
Tigers in the Snow ..... 28.00
Warp Factor ..... 28.00

**STONEWARE**
DB Master V.4 ..... $279.00

**SUB-LOGIC**
Flight Simulator II ..... $35.00
Night Mission Pinball .... 21.00
Saturn Navigator ..... 25.00
Space Vikings ..... 35.00

**ULTRASOFT**
Mask of the Sun ..... $28.00
Serpent's Star ..... 28.00

**VISICORP**
VisiCalc ..... $175.00
VisiCalc IIe ..... 175.00
VisiCalc Adv. IIe ..... 220.00
VisiFile ..... 175.00

**XEROX EDUCATION**
Chivalry ..... $35.00
Fat City ..... 28.00
Old Ironsides ..... 28.00
Stickybear ABC ..... 28.00
Basketbounce ..... 28.00
Bop ..... 28.00
Numbers ..... 28.00
Opposites ..... 28.00
Shapes ..... 28.00

## RISING SUN SOFTWARE
## 4200 PARK BLVD.
## OAKLAND, CALIFORNIA 94602
## (415) 482-3391

**Ordering Information:** We'll accept any form of payment—cash, personal check, money order, VISA/MasterCard, or C.O.D. Send cash at your own risk. Add $2.00 for UPS shipping; $3.00 for Blue Label Air. California residents add applicable sales tax. ALL orders shipped same day received. If we are out of stock on a particular item we will include a special bonus with your order when shipped.

master charge

**CALL TOLL FREE**
**800-321-7770 (outside California)**
**800-321-7771 (inside California)**

VISA

headquarters is to create space to house all its awards. Within the last year the company has received ten citations from *Computer Games* magazine, *Billboard*, and Softsel, as well as a Parent's Choice award and a CES showcase award.

☐ **Richard E. Khaleel** has been named president of **Scholastic Software Group** (New York, NY), a newly formed division of Scholastic. Khaleel comes to the post from Wells, Rich, Green advertising, where he was in charge of Atari hardware and software. Scholastic has moved aggressively into software publishing in the last two years and intends to expand its marketing efforts to retail stores, along with its existing school and home distribution channels. **Al Froio**, formerly trade sales manager for Scholastic's Book Group, will serve as national sales director of software in the new division.

☐ Partially due to the success of the SoftCard and the Microsoft Mouse, **Microsoft** (Bellevue, WA) has created the new Peripherals Division for creating software and hardware enhancements, naming **William S. Roland**, formerly with Eagle Computer, as the division's vice president and general manager. The division will be separate from its parent company, with its own marketing, engineering, and support groups.

☐ **James Spillars**, former vice president and general manager of Microsoft, has been named president of **Arktronics** (Ann Arbor, MI), a new software company. Spillars oversaw all retail operations at Microsoft, including sales, training, manufacturing, and distribution. Microsoft's sales tripled during his one-and-a-half-year tenure.

☐ In a move to provide a forum for the exchange of ideas in the Silicon Gulch of Texas, several interested computer firms have banded together to form the **Texas Computer Industry Council** (Austin, TX), an effort to monitor legal, legislative, and regulatory developments that potentially could affect the operations of computer-related companies doing business within the state. The council will act as a social organizer among the state's computer industries, as well as being a business and educational forum.

☐ The conversion of software packaging has been completed at **Roger Wagner Publishing** (Santee, CA). Along with the name change (from Southwestern Data), the firm's packaging "has been redone specifically for bookstore sales. We think it's a good area to move into," says **Roger Wagner**, president of the company. "The long-term software market is heading that way." Prices have been lowered as part of the change, disks are unprotected, and the packages can be opened in the store so potential customers can read the manuals.

☐ **PerfectData** (Chatsworth, CA) has named **Robert Fanelli** to the post of retail sales manager. Fanelli will be responsible for expanding the company's retail distribution network. He brings more than twenty-six years of consumer electronics experience to his new job.

☐ To increase brand awareness of the Taxan line of display monitors and peripherals, **TSK Electronics** (City of Industry, CA) has changed its corporate name to **Taxan**. The company found that the TSK name wasn't being adopted by dealers and consumers, who preferred to use the product name when referring to the company.

☐ According to a recent study by the market research company **Talmis** (Chicago, IL), 25 percent of all U.S. households contain at least one member who uses a personal computer at work or at school. More than 20 percent of all households with children have at least one child using a computer at school. The study also found that people sometimes choose to use the same brand of computer at home that they use at work or school. Those who work on a computer at school or work are twice as likely to own a home computer than those who do not, according to the study.

☐ A market study by **Teen-Age Research Unlimited** (Lake Forest, IL) found that American teenagers are buying and using personal computers almost twice as often as they did just six months ago. Personal computers achieved the greatest growth among all product categories surveyed. Nearly 20 percent of the respondents said they had used a computer within the last week, compared to 10.2 percent of the respondents six months ago. In addition, 9 percent said they had purchased a personal computer in the last year, exactly double the number of the previous study.

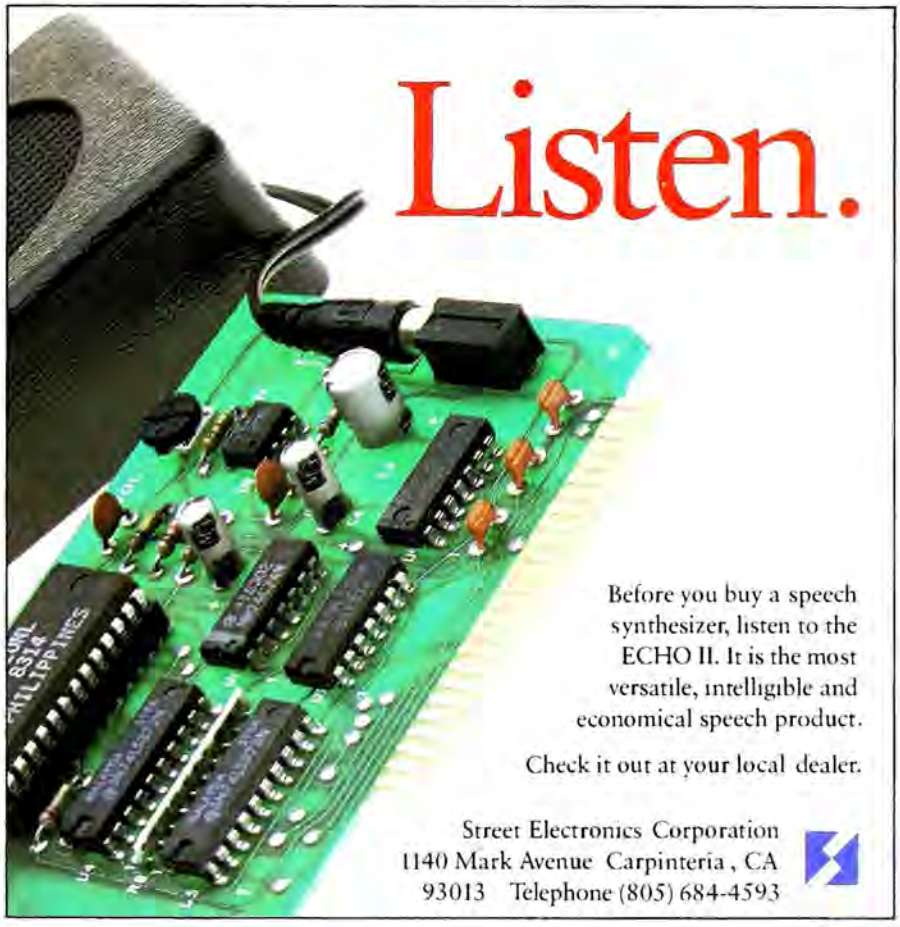
☐ Three software programs for handicapped and learning-disabled children from **Laureate Learning Systems** (Burlington, VT) have been honored by the **Council for Exceptional Children** in an awards ceremony held in Washington, D.C. *First Words* was awarded first prize in the mental retardation category. *First Categories* won first prize in the learning disabilities category. *Speak Up* won first prize in two categories—children with communication disorders and physically handicapped. All three programs were authored by **Mary Sweig Wilson**, president of the company, and **Bernard J. Fox**, a speech/language pathologist.

☐ **Scarborough Systems** (Tarrytown, NY) has named **Mary R. Halloran** to the new position of production manager. Halloran is responsible for the scheduling, production, and inventory of printed materials and disks.

☐ **Proximity Technology** (Fort Lauderdale, FL) has licensed to **Hayden Publishing** (Lowell, MA) the rights to its popular *Word Challenger* program. The game employs a feature nicknamed Lex, which is an eighty-nine thousand-word database.

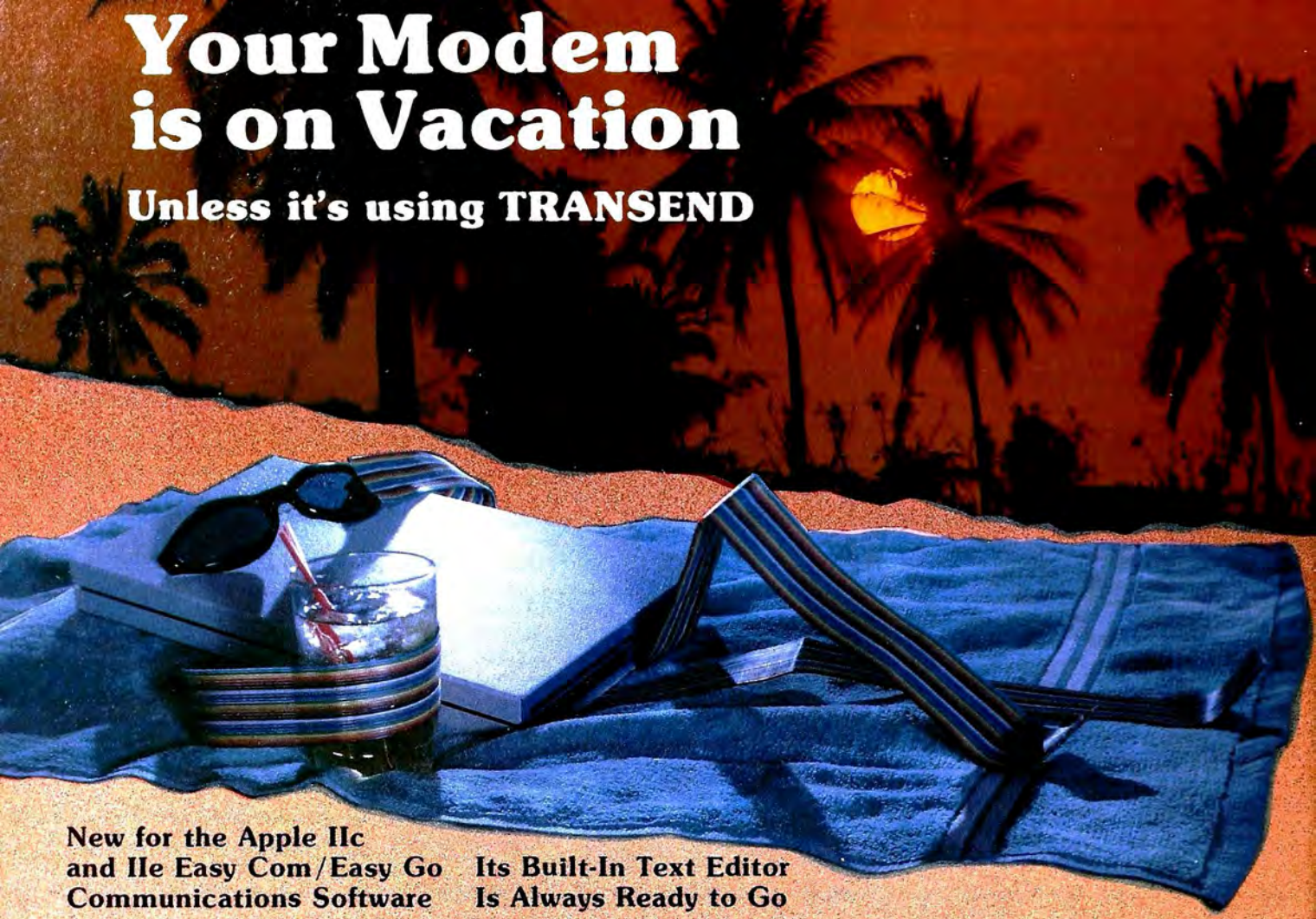
☐ Simon and Schuster's **Electronic Publishing Division** (New York, NY) has announced that it will distribute exclusively the full line of **DesignWare** (San Francisco, CA) educational game software titles to bookstores nationwide. Two of DesignWare's award-winning titles are *Spellicopter* and *Crypto Cube*. Studies have shown that bookstores are becoming important educational software outlets because that's where parents have traditionally gone to purchase educational materials for their children.

☐ **Fisher-Price** (East Aurora, NY), a well-known brand name in children's toys, is now in the computer software business. The company's Learning Software line currently consists of eight releases that will be distributed nationally by **Spinnaker Software** (New York, NY). ■

# Your Modem is on Vacation

## Unless it's using TRANSEND



### New for the Apple IIc and IIe Easy Com/Easy Go Communications Software

Introducing the telecommunications software that will put your modem back to work. If you want to send a letter, chat on the Source℠, check your financial situation on Dow Jones℠, get flight information on OAG, check the news and sports out on Newsnet, obtain some legal or medical files with the Knowledge index, send an overnight letter through MCI mail or Western Union's Easy Link, or even line yourself up with a date in a city you'll be traveling to, then get your modem back to work with Easy Com/Easy Go, new from TRANSEND.

If you want to swap files, programs, or games, Easy Com/Easy Go will do it in either CP/M, DOS 3.3, PASCAL, or PRODOS — and we'll even verify your transfer to make sure you've got it all and in good order.

### Its Built-In Text Editor Is Always Ready to Go

Now with Easy Com/Easy Go you can write or receive information, replace a word or sentence, move a paragraph, or modify the margins. All this is a simple job for Easy Com/Easy Go. Then with just one keystroke you have sent it—and at a speed of over 670,000,000 MPH. Print it, or save it on disk just as easily.

### It's Simple But Not Stupid

It knows the basics such as telephone number retention, Auto-Logon, on line printing, has a big Capture Buffer and auto disk save. But that's not all. Easy Com/Easy Go also handles advanced operations including keyboard macros, redefinition of the keyboard, XON/XOFF, verification protocol, and multiple flow control options. It works as well with most modems as it does with Transend's own modem, and at speeds up to 1200 Baud. Compatible with all Apple II's, Easy Com/Easy Go is so simple even a mouse can use it.

### Limited Time Offer

With each purchase, receive offers worth over $400 from leading information services like Dow Jones News Retrieval℠, The Source℠, MCI Mail, OAG, Newsnet, Dialog Knowledge Index, and Western Union Easy Link.

### Money Back Guarantee

If Easy Com/Easy Go doesn't put your modem back to work within 30 days, we'll give you your money back.

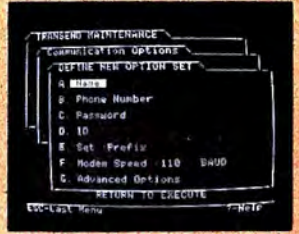
### So Easy You'll Think *You're* on Vacation




The first screen gets you in touch with a service — **preprogrammed.**




All you do is select, and Easy Com/Easy Go does the rest.




Even in an advanced situation, the screens are easy to use.


TRANSEND CORPORATION
2190 Paragon Drive
San Jose, CA 95131
(408) 946-7400
Telex 1711171
Source ST1422


# TRANSEND

**ELECTRONIC COMMUNICATIONS MADE SIMPLE.**




## Reasons To Have Long-Distance Services

As we noted last month, issuing the *O;xxx* command on a PMS bulletin board system, where xxx is your local area code, will display a list of BBSs in that area code. But even with such a list, it's quite likely that several of those numbers will no longer be valid by the time you get around to calling them. The PMS list isn't necessarily out of date; rather, some BBSs have short lives. They're up one day and defunct a few weeks later.

Picking up from where we left off last time, what follow are some more capsules of BBS types. Keep in mind that these aren't the only kinds of BBSs, just some of the more common ones.

**ABBS.** Though not as sophisticated as some of the BBSs we talked about last month (CBBS, PMS, P.dBMS, Bullet-80, RCP/M), the Apple Bulletin Board System was the first BBS to run on an Apple. A general-purpose message storage and retrieval program, the first ABBS went on-line in early 1979, and the software became publicly available that summer.

When it comes to features, ABBS epitomizes the word *optional*. In its bare-bones configuration, an ABBS lets callers post and read bulletins. That's it. No private mail, no nothing. Of course, a private mail feature can be added, but, in the words of a familiar computer commercial, it's optional. Even then, it's not private mail in the same fashion as on other boards. Private mail on ABBS just lets a caller lock a message with a password. Only those callers who know the password can read the message. So, in order to use this feature, callers must agree on a password ahead of time.

Along with the private mail function is autolog, which is mainly a convenience to callers. With this feature, callers enter all the usual information about themselves (name, location, phone number, computer configuration), but on subsequent calls they need enter only their names, and the rest is done for them.

Another option is the conferencing module, which actually just allows the BBS to have other sets of messages besides the main public board. Although there can be only one conference in ABBS's memory at a time—each conference is stored on disk; so when you request to change to another conference, ABBS puts the current one away and loads the requested one into memory—the number of conferences available and the number of messages per conference are limited only by the capacity of the ABBS's disk storage. Naturally, a hard disk would be best.

Conferences usually have a theme, or they can be set up with a particular group of people in mind ("All those interested in discussing new videos by Cyndi Lauper, Frank Sinatra, and Weird Al Yankovic, please join!").

With the news module, the sysop can set up disk files for callers to read. This is sort of like the download module, which we'll get to shortly, except that it's designed for reading files, not for receiving programs.

The final two optional modules go naturally together but are offered separately: downloading and uploading of files. ABBS's downloading module handles all files as text files, which means it's up to the caller to capture them with a terminal program and then turn them into Basic or binary program files. Uploading lets ABBS receive files from callers and store them on disk. Reversing the process of downloading, callers must convert programs to text files in order to upload them to the system.

A likely assumption to be made here is that a caller can upload a program, and other callers can automatically download it to their systems. Not so. Uploaded files aren't accessible to callers unless the sysop decides to make them so.

With a conferencing module, ABBS is unique in that it's like having many BBSs available under one phone number. Not all ABBSs have the conferencing module; this is the prerogative of the sysop, who may not think it worth the extra $25 to add it.

The original ABBS, operated by the software's publishers, Software Sorcery, is on-line at 300 or 1200 baud. (703) 471-0610.

**Net-Works.** Like most boards, you get out of it what the sysop puts into it. There are good Net-Works boards, and there are great Net-Works boards. There are also lousy ones.

Net-Works picks up where ABBS leaves off; it has a true private mail function and a more sophisticated software downloading section. If callers have an Apple, at least one disk drive, and a Hayes Micromodem II or IIe, then Net-Works can send and save programs to callers' disks automatically. The catch is that you can't be using a terminal program at the time. Instead, just initialize the Micromodem and call the Net-Works system with the usual control character sequences as described in the Micromodem manual. Once you're into the download section, Net-Works will take control of your Apple, send the program you request, save it to your disk, and put you back into the Net-Works system, all without any help on your part.

Of course, if you're using a terminal program, you can select the option to receive a program in text file form and then convert it to program form after you hang up. Net-Works handles Applesoft, Integer Basic, and binary Apple files, as well as TRS-80 and Commodore PET files. But remember, only Apples with the Hayes Micromodem can take advantage of the direct download-save feature.

Electronic mail on Net-Works is different from the private message exchange available on the other BBSs we've looked at so far. Instead of posting messages on the public message board and marking them private, Net-Works provides its callers with "mailboxes," to which other callers can send mail. This way, private mail is indeed private; in the case of confidential information, no one else even knows that two people are corresponding. (But then, the real status symbol of a BBS caller is the amount of mail received. What's the use of getting a lot of mail unless everyone else can see how popular you are?)

Programming tips are available to callers who have passwords. The frequency with which




**The exciting world of telecomputing. With a Hayes system, you just plug it in!** Communicating is so easy with a complete telecomputing system from Hayes. Hayes Smartmodem 300™ is a direct-connect modem for the new Apple IIc. Hayes Micromodem IIe® installs easily in an expansion slot in the Apple II, IIe, III and Apple Plus. Packaged with Smartcom I™ companion software, both are complete systems. Best of all, both systems are from Hayes, the established telecomputing leader. Just plug in—and the world is your Apple!

*"Hayes, you really know how to help."*

**We connect you to all the right places.** Bulletin boards, databases, information services—naturally. And that's just the beginning. Let your Apple plan your travel itinerary, including flight numbers, hotel and rental car reservations. Watch it retrieve and analyze daily stock and options prices. Work at home and send reports to and from your office. You can even do your gift shopping by computer!

**Would you care to see our menu?** Make your selection. Really. With Smartcom I, you just order up what you want to do. The program guides you along the way. You can create, list, name, send, receive, print or erase files right from the menu. From the very first time you use it, you'll find telecomputing with Hayes as easy as apple pie!

**We've got your number!** We know that you want a system that's flexible and accommodating. That's why Smartcom I is so versatile, accepting ProDOS,™ DOS 3.3, Pascal and CP/M® operating systems. It provides you with a directory of all the files stored on your disk. And in combination with your Hayes modem, Smartcom I answers calls to your system, without your even being there.

**Your Apple's telephone goes anywhere the phone lines go.** Hayes modems allow your Apple to communicate with any Bell-103 type modem over ordinary telephone lines. You simply connect directly into a modular phone jack to perform both Touch-Tone® and pulse dialing. Hayes Smartmodem 300 and Micromodem IIe both transmit at 110 or 300 bits per second, in either half or full duplex.

**Follow the leader.** Over the years we've built our reputation as the telecomputing leader by developing quality products that set industry standards. Now we invite you to see for yourself just how simple it is to add powerful, easy to use telecomputing capabilities to your Apple computer with a complete, ready-to-go system from Hayes. Visit your Hayes dealer for a hands-on demonstration. And get on line with the world.

Hayes. We're here to help.




Hayes™

**Hayes Microcomputer Products, Inc.**
5923 Peachtree Industrial Blvd.
Norcross, Georgia 30092, 404/441-1617.

Smartmodem 300 and Smartcom I are trademarks and Micromodem IIe is a registered trademark of Hayes Microcomputer Products, Inc. Apple is a registered trademark, and ProDOS is a trademark of Apple Computer, Inc. Touch-Tone is a registered service mark of American Telephone and Telegraph. CP/M is a registered trademark of Digital Research, Inc. ©1984 Hayes Microcomputer Products, Inc.

this section is updated depends on the sysop.

The special topics section of Net-Works consists of eight categories that can contain anything from aviation to zebra watching. Typically, Net-Works boards don't take advantage of the special topics section. While it would be a great place for posting items of general interest (like the news section of ABBS or the features sections of PMS and P.dBMS), Net-Works boards often have two or three of the categories completely unused, while "active" categories contain information that could best be described as old and moldy and growing moldier.

At last count, there were about sixty Net-Works BBSs running. The original system, run by Net-Works author Nick Naimo, has taken its phone off the hook permanently. Try Net-Works Apple Gumbo, located in Shreveport, Louisiana, at (318) 861-1012; or Net-Works Mines of Moria, in Houston, Texas, at (713) 871-8577.

**TBBS.** If you're arguing with a friend about whether the Apple or the TRS-80 is a better computer, The Bread Board System (TBBS) is possibly the best argument your friend could use to support his side. TBBS is ideal bulletin board software for the nonprogrammer. Unfortunately, it's not made to run on an Apple. An entire TBBS is built by using a series of editors. A configuration editor lets the sysop define up to twenty-five message boards and up to twenty-five terminal types for callers.

After the main configuration is established, the system command structure is defined. This is where setting up a TBBS becomes a pleasure rather than a hassle. Using a menu editor program, the sysop supplies the menu text, structure, and linkages. Some TBBS sysops say that this is one of the best features of the software, since it lets them design their own menus, rather than make small modifications to ones built permanently into the software. Menus can be simple:

```
System Commands:
E)nter a messsage
R)ead a message
Q)uick scan of messages
M)ain menu
```

or they can be a bit more elaborate:

```
|-------= = = = = = = = ***= = = = = = = = -------|
          Things To Do on This Board
|-------= = = = = = = = ***= = = = = = = = -------|
| L)eave a messsage          S)pecial interest groups |
| D)elete a message          E)lectronic mail         |
| R)ead messages             N)ews and views          |
| Q)uick scan of messages    J)oke of the week        |
| D)ownload programs         U)pload files            |
| H)elp!                     M)ystery game            |
```

The look of the menus is far from the only thing that differs from one TBBS to the next; the boards also differ in structure. TBBS is actually an interpreter for a highly specialized language that lets you, in the words of its creators, "roll your own system." Hence its name. Sysops may experiment easily with various designs and structures.

TBBS lets the sysop create almost any system structure desired. When caller command options become too numerous or too complex for a single menu, it's possible to use menus as subroutines up to twenty levels deep or build tree structures, threaded (intertwining) structures, or a combination of both. It's kind of like building freeway interchanges.

As mentioned earlier, TBBS can have up to twenty-five message boards, each of which can be set up for electronic mail, public messages only, or both. By implementing various security levels, the sysop can make certain boards completely hidden from unauthorized callers or restricted but visible to unauthorized callers. Further, some callers may be given read-only access to some or all boards.

It sounds as though all TBBSs probably look and "feel" completely different from each other. They do. Unless the welcome message specifically says that the board is a TBBS, it's hard to tell right away what kind of software is running the board.

TBBS offers several ways of retrieving messages. You can retrieve messages in the usual forward or reverse order, and you can also scan and mark messages for later retrieval. In addition, TBBS offers a selective retrieval option, similar to that in PMS and P.dBMS, which lets you find messages with specific character strings in the To:, From:, and Subject: header lines.

But the unique feature is TBBS's reply chain reading. When you're retrieving messages, if a message has replies, you'll recieve a prompt such as, "Message has replies. Read now (Y/N)?". If you answer yes, the chain of replies to the message will be displayed in order. This lets you read all messages in a given discussion in order, so the train of thought isn't lost. After the final replay is read, the retrieval will continue with the next message in order. Replies that were displayed as a result of the chain read won't be displayed again during the retrieval, even if they were marked during a message scan.

Again, TBBS runs only on TRS-80s but accepts calls from any kind of computer. The software's flexibility makes it the potential sysop's dream. The orginal TBBS is in Aurora, Colorado, at (303) 690-4566. An interesting implementation of the software is TBBS Freelancin' Alvin in Houston, Texas, at (713) 331-2599, which runs at 300 or 1200 baud.

**CommuniTree.** Also known as Conference Tree, this is one of the most disappointing executions of a great idea. On a CommuniTree, there are no software download/upload sections, no private mail, and no sysop chat option. That's because CommuniTrees aren't BBSs per se, but rather computer conferencing that's hosted by a microcomputer.

A CommuniTree is centered on one main "trunk" called a *conference*, from which all main conferences branch. Just like a real tree, each branch conference can sprout other branches, which in turn may grow yet more branches, almost indefinitely. And like real trees, computer conferences also need someone to nurture them in the early stages and to keep them alive. This is where the "fairwitness" comes in.

A fairwitness is someone who guides a conference from its seedling stage into an ongoing exchange of ideas and information. The job of a fairwitness, then, is to attract the interest of those who see the conference for the first time.




*"Losers have all the fun!"*

*Over 1000 Super Questions! Easy to Learn - Easy to Play!* **TRIVIA Buff** *An Adult Party Game! Topics- TV, Movies, Potluck!*

Space Trek, Sports, Health Trivia Disks $19.95 each

**$39.95 3 disk system**
Requires Apple II+/e (48k, 1 disk drive) Apple- TM Apple Computer, Inc

HUMANS Inc.
P.O. Box 82
Evington, VA 24550

**To Order CALL 1-800-368-3238 ext.1**
**In VA. 1-800-542-2242 ext.1**

VISA MasterCard

# Apple® Programming Utilities

## ☐ GPLE™ (Supports DOS 3.3 *and* ProDOS™)

**GLOBAL PROGRAM LINE EDITOR by NEIL KONZEN**
**$49.95: Includes Peeks/Pokes Chart & Tip Book #7**

**THE NUMBER 1 APPLE PROGRAM LINE EDITOR** GPLE lets you edit 40- or 80-column Applesoft program lines *FAST* without awkward cursor-tracing or "Escape editing". Compatible with Double-Take's 2 way scrolling.

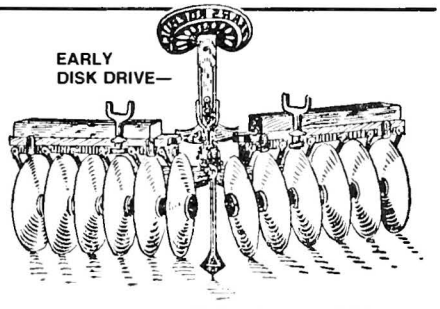
**INSERT & DELETE:** GPLE works like an in-memory word processor for Applesoft program lines. Simply jump the cursor to the change-point and insert or delete text. No need to trace to the end of a line before hitting Return.

**GLOBAL SEARCH & REPLACE:** Find any word or variable in your programs, *FAST*. For example, find all lines containing a GOSUB, or all occurrences of variable XY. REPLACE ANY VARIABLE or word with any other. For example, change all X's to ABC's, or all "Horses" to "Cows".

**DEFINABLE ESC FUNCTIONS:** Define ESC plus any key to perform any task. For example, **ESC-1** can catalog drive 1, or **ESC-N** could type an entire phrase or subroutine. *Anything* you want, *whenever* you want.

**GPLE DOS MOVER:** Move DOS 3.3 & GPLE above main memory for an EXTRA **10K** of programming space.

**PLUS APPLE TIP BOOK #7:** Learn more about your Apple! Includes all-new useful GPLE tips and tricks.




## ☐ BEAGLE BASIC™ (REQ. 64K)

**APPLESOFT ENHANCER by MARK SIMONSEN**
**$34.95: Includes Peeks/Pokes Chart & Tip Book #6**

**RENAME ANY APPLESOFT COMMAND** or Error Message to anything you want. For program clarification, encryption/protection or even foreign translation. Example:

**10 POUR X=1 TO 3: ECRIVEZ "BONJOUR": ENSUITE**

RAM Applesoft is *better* Applesoft! Beagle Basic replaces those obsolete cassette commands (SHLOAD, etc.), with powerful new commands that you can USE—

**ELSE** follows Applesoft If-Then statements, like this:

**IF X=2 THEN PRINT "YES": ELSE PRINT "NO"**

**HSCRN** reads the color of a hi-res dot for collision testing, **SWAP** exchanges variable values, **TONE** writes music without messy Pokes or Calls, **SCRL** scrolls text in *either* direction, **TXT2** lets Text Page 2 act exactly like Page 1...

**GOTO AND GOSUB** may precede variables, as in "GOSUB FIX" or "GOTO 4+X". Escape-mode indicated by a special ESCAPE CURSOR. Replace those awkward Graphics screen-switch pokes with one-word commands. Change your ctrl-G Beep to any tone you want. **INVERSE REM STATEMENTS** too! GPLE/Double-Take compatible.

## ☐ DOS BOSS™

**DOS 3.3 EDITOR by BERT KERSEY & JACK CASSIDY**
**$24.00: Includes Peeks/Pokes Chart & Tip Book #2**

**RENAME DOS COMMANDS** and Error Messages—DOS 3.3's "Catalog" can be "Cat"; DOS's cryptic "Syntax Error" can be "Oops" or almost *anything* you want it to be.

**PROTECT YOUR PROGRAMS.** Unauthorized Save-attempts can produce "Not Copyable" message, or *any* message. **List-Prevention** and other useful Apple tips and tricks. Plus one-key program-execution from catalog.

**CUSTOMIZE DOS.** Change Disk Volume headings to your message or title. Omit or alter catalog file codes. Fascinating documentation, tips & educational experiments.

**ANYONE USING YOUR DISKS (booted or not) will be forced to use DOS formatted the way YOU designed it.**

## ☐ DOUBLE-TAKE™ (DOS 3.3 ar ProDOS

**2-WAY SCROLL/MULTI-UTILITY by MARK SIMONSEN**
**$34.95: Includes Peeks/Pokes Chart & Tips Chart #1**

**2-WAY SCROLLING:** Listings & Disk Catalogs scroll Up *and* Down, making file names and programs faster to find and easier to access. Change Catalog or List scroll-direction with Apple's Arrow keys. Machine Language and Hex/Ascii dumps scroll two-ways too. All features are GPLE compatible and support 80-column display.

**BETTER LIST FORMAT:** Each Applesoft program statement lists on a new line for *FAST* program tracing & de-bugging (see sample below). Printer-compatible in any column-width—Great for archive printouts.

```
A$="DOGFOOD"
X=3.14159
Y=255
A$: 100 200 250
X: 10 20 3000
Y: 10 40 55 60
```

← **VARIABLE-DISPLAY:** prints all of a program's strings and variables with their current values.

← **CROSS-REFERENCE:** Sorts & displays line numbers where each variable & string appears.

**AUTO-LINE-NUMBER**, instant Hex/Dec Converter, better Renumber/Append, Program Stats, Eliminate/Redefine Cursor, Free Space-On-Disk... All GPLE/Pronto compatible.

2-WAY VIDEO SCROLLING

```
]LIST
10 HGR2
   : FOR Y=0 TO 191
   : POKE 228, C
   : C=C+1/9-256*(C=255)
20 REM "Double-Take optionally lists each Applesoft program statement on a new line, making program code much easier to read."
30 HPLOT 0,Y TO 279,Y
   : NEXT Y
   : POKE 2053,58
   : GOTO 10
```



# High-Speed DOS

## ☐ PRONTO-DOS™

**HIGH-SPEED DOS/DOS-MOVER by TOM WEISHAAR**
**$29.50: Includes Peeks & Pokes Chart**

**TRIPLES THE SPEED** of disk access and frees 10,000 bytes of extra programmable memory by moving DOS 3.3.

| Function | Normal | Pronto |
|---|---|---|
| BLOAD HI-RES IMAGE | 10 sec. | 3 sec. |
| LOAD 60-SECTOR PROGRAM | 16 sec. | 4 sec. |
| SAVE 60-SECTOR PROGRAM | 24 sec. | 9 sec. |

(Text-files no change) **Bload language cards** at *triple speed*. Create bootable high-speed disks with the normal INIT command. Compatible with *all* commands, GPLE, Double-Take, DOS Boss, DiskQuik & most unprotected programs.

**MOVE DOS 3.3** above main memory to free *10,000 bytes* of memory for your programs (64K required to move DOS).

**15 EXTRA SECTORS** per disk. Catalog Free-Space is displayed on the screen every time you Catalog a disk.

**NEW TYPE-COMMAND** ("TYPE filename") prints the contents of any Text File on-screen or to your printer.

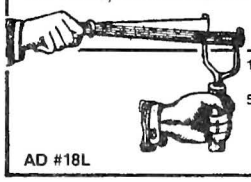
## ☐ DISKQUIK™ (Requires IIe with 128K)

**DISK EMULATOR by HARRY BRUCE & GENE HITE**
**$29.50: Includes Peeks & Pokes Chart**
*Requires Apple IIc or IIe with EXTENDED 80-col. card)*

**ACTS LIKE A DISK DRIVE** in Slot 3, but super-fast and silent! Enjoy many of the benefits of another drive at 1/10th the cost. Catalog with "CATALOG, S3" command. Access all kind of files in RAM with normal DOS commands.

**SILENT AND FAST:** Since no moving parts are involved, DiskQuik operates at super-high speeds. See to believe! Your Apple IIe's Extended 80-column Card (required) holds about half the amount of data as a 5¼" floppy!

**MANY USES:** For example, load often-used files like FID into RAM when you boot up, so they are always available when you need them. Copy files from RAM onto disk and vice versa, just as if a disk drive were connected to slot #3.



**COMPATIBLE** with all normal DOS procedures.

```
1234 TEXT: HOME: NORMAL:
     PRINT CHR$(21)
5678 R INT(RND(1)*10): N(R)=
     N(R)+1: VTAB R+9: HTAB
     40: PRINT CHR$ (124); SPC
     (N(R)); CHR$(R+65): :
     IF PEEK(36) THEN 5678
```

AD #18L

# Multi-Utilities

## ☐ UTILITY CITY™

**21 PROGRAMMING UTILITIES by BERT KERSEY**
**$29.50: Includes Peeks/Pokes Chart & Tip Book #3**

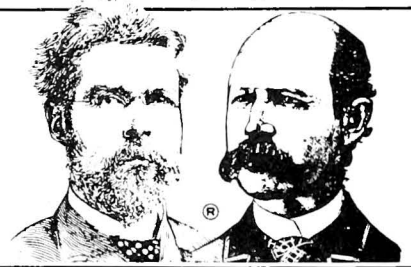
**LIST FORMATTER** prints each Applesoft program statement on a new line. For-Next Loops are indented with printer Page Breaks. A great Applesoft program de-bugger.

**MULTI-COLUMN CATALOGS** to your printer, with or without sector and file codes. Organize your disk library.

**INVISIBLE AND TRICK** catalog File Names. Put invisible functioning commands in Applesoft programs too.

**21 UTILITIES TOTAL,** including auto-post Run-number & Date in programs, alphabetize/store info on disk, convert dec to hex or Int to FP, protect and append programs, dump 40-column text to printer. And More.

**LEARN PROGRAMMING TRICKS:** LIST-able programs and informative documentation. Includes Tip Book #3— Hours of good reading and Applesoft experiments.

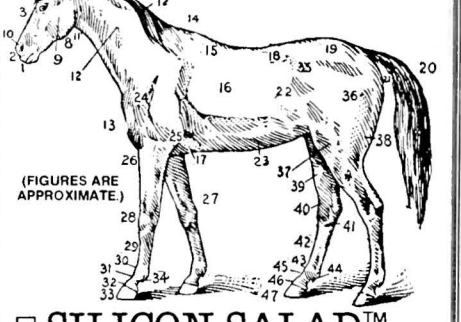


**Beagle Bros**
**Micro Software Inc.**

3990 OLD TOWN AVENUE, SUITE 102C
SAN DIEGO, CA 92110 / 619-296-6400

**Attention Applers:** Most Apple dealers and software stores have Beagle Bros products on their shelves. If you can't find the disk you want, bug the manager—he can have *any* of our products in his store for you within a couple of days.

**FREE APPLE COMMAND CHART:** Each SILICON SALAD and TIP DISK #1 comes with an 11x17 poster of a Applesoft, Integer & DOS Commands with Descriptions.




## ☐ SILICON SALAD™

**WITH TIP DISK #2 by BERT KERSEY & MARK SIMONSEN**
**$24.95: With Peeks/Pokes Chart & Apple Command Cha**

**MANY MINI-UTILITIES: Program Splitter** makes room for hi-res pix in large Applesoft programs, **Disk Scanner** finds bad disk sectors, **Key-Clicker** adds subtle sound as you type, **DOS-Killer** adds two tracks of space to your disk, **2-Track Cat** allows up to 210 DOS 3.3 file names per disk, **Text Imprinter** converts text-screen text into hi-res text, **Onerr Tell Me** prints the appropriate error message but continues program execution, **Text Screen Formatter** formats and converts text layouts into Print statements... plus much more Apple wizardry from the boys at Beagle Bros.

**MORE TIPS ON DISK:** Over 100 programs from Beagle Bros Tip Books 5, 6 and 7; *and* from Tip Chart #1.

**TWO-LINERS TOO:** From our customers around the world—and elsewhere. New tricks for your old Apple!

## ☐ TIP DISK #1™

**100 TIP BOOK PROGRAMS ON DISK by BERT KERSEY**
**$20.00: With Peeks/Pokes Chart & Apple Command Cha**

**100 LISTABLE PROGRAMS** from Beagle Tip Book 1-4. Make your Apple do things it's never done! All 100 programs are LISTable and changeable for experimentation. Two-Liners too, plus a free *Apple Command Chart*

# Apple® Graphics Utilities

NEW!

## ☐ BEAGLE GRAPHICS™

**DOUBLE HI-RES GRAPHICS by MARK SIMONSEN**
**$59.95: Includes Peeks & Pokes Chart**
*Requires Apple IIc (or IIe with EXTENDED 80-col. card).*

**560-WIDE WITH 16 COLORS!** Beagle Graphics gives your 128K-Apple (required) a full range of colors plus *double* high resolution—560 x 192 pixels. All Applesoft hi-res functions, including shape tables, are supported.
**NEW COMMANDS** let you draw fast circles, ellipses and rectangles from the keyboard or from your programs.
**FAST COLOR FILL** fills any outline with one of 16 solid colors or 256 color mixes (usable in your programs).
**PROGRAM & PICTURE-CONVERTERS** change your existing Applesoft programs *and pictures* to double hi-res. "Double-ize" *Apple Mechanic* shape table programs too!
**DOUBLE-PLOT PROGRAM** lets you draw and manipulate pictures in double hi-res. Add type to pix too. Move sections of images to either page. Save pictures to disk.
**HI-RES TRICKS:** Amazing stuff— any portion of a picture may be rotated, flopped, moved, inverted, superimposed, scrunched or even SAVED to disk. Saving image-portions conserves disk space.




## ☐ TRIPLE-DUMP™

**SINGLE/DOUBLE HI-RES "PRINT-ANYTHING" UTILITY**
**$39.95: Includes Peeks & Pokes Chart**

**PRINT ANY SCREEN IMAGE** on your dot-matrix (graphics-capable) printer— Hi-Res, Lo-Res, **Double Hi-Res,** Medium-Res, as well as 40 **and 80-Column Text**. All print functions may be used in your Applesoft programs and disks. Don't settle for a "locked up" printer-dump program.
**SPECIAL EFFECTS:** Crop, rotate, enlarge, distort, invert... Preview pictures on the screen before you print.
**BANNER MAKER:** Make impressive 8"-high signs and banners for your family, home or office. Type any message—no length limit—and let your printer do the work!

## ☐ ALPHA PLOT™

**STANDARD HI-RES GRAPHICS UTILITY**
**by BERT KERSEY & JACK CASSIDY**
**$39.50: Includes Peeks/Pokes Chart & Tip Book #4**
*(Alpha Plot offers 6-color 280-pixel resolution and requires only 48K; see Beagle Graphics for 128K double hi-res.)*

**DRAW IN HI-RES** on both pages using easy keyboard commands. Pre-view lines before plotting. Use solid or mixed colors and Reverse (background opposite). One-keystroke circles, boxes and ellipses, filled or not. All pictures are Save-able to disk for access by your Applesoft programs.
**COMPRESS HI-RES DATA** to 1/3 disk-space, allowing 3-times the number of hi-res pictures per disk (avg. figures).
**MANIPULATE IMAGES:** Superimpose pictures or *relocate* sections of images anywhere on either hi-res page.
**HI-RES TYPE:** Add variable-size color & b/w text to your pictures. Type *anywhere* with no htab/vtab limits. Type sideways too, for Charts & Graphs. Includes Tip Book #4.

## ☐ FLEX TYPE™

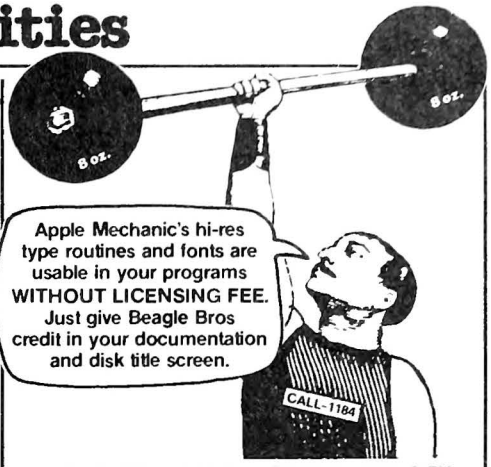
**FLEXIBLE-TEXT UTILITY by MARK SIMONSEN**
**$29.50: Includes Peeks & Pokes Chart**

**PUT VARIABLE-WIDTH TEXT** on both hi-res screens with normal Applesoft commands (including HTAB 1-70). Normal, expanded & compressed text with no extra hardware. (70-column text requires b/w monitor, not a tv).
**COMBINE TEXT & GRAPHICS.** Run existing Applesoft programs with Flex. GPLE/Double-Take compatible.
**DOS TOOL KIT®** font compatibility. Access up to 9 fonts in memory. Text editor lets you redesign text characters.

## ☐ FRAME-UP™

**FAST APPLE DISPLAY UTILITY by TOM WEISHAAR**
**$29.50: Includes Peeks & Pokes Chart**

**PROFESSIONAL PRESENTATIONS:** Turn existing Hi-Res, Lo-Res & Text pix into Apple "slide shows". *FAST* 2½-sec. hi-res loading! Paddle or Keyboard-advance frames.
**UNATTENDED SHOWS** optional— each picture arranged and pre-programmed to display 1 to 99 seconds. Text Screen Editor creates black & white text "slides"; lets you key-in type "live" during shows. Mail copies of presentations-on-disk to friends & associates (or home to Mom!).




## ☐ APPLE MECHANIC™

**HI-RES SHAPE EDITOR & FONTS by BERT KERSEY**
**$29.50: Includes Peeks/Pokes Chart & Tip Book #5**

**SHAPE EDITOR:** Keyboard-draw hi-res shapes for animation in your Applesoft programs. Easy "List & Learn" Applesoft demos teach how to do hi-res animation as well as professional-looking hi-res Charts and Graphs.
**HI-RES FONTS:** Access & create proportionally-spaced hi-res type; each character totally re-definable. Six complete fonts are included on the disk (4 large & 2 small).
**MORE:** Useful music, text and hi-res tricks for your Applesoft programs. Clear educational documentation and step-by-step instructions for writing graphics programs.

## APPLE MECHANIC HI-RES ☐ TYPEFACES™

**26 FONTS FOR APPLE MECHANIC by BERT KERSEY**
**$20.00: Includes Peeks & Pokes Chart**

**26 NEW FONTS** for use with Apple Mechanic programs. Many different sizes and typestyles, both ordinary and *Artistic*. Every character—from A to Z to "★" to "□"—of every typeface—from "Ace" to "Zooloo"—is re-definable to suit your needs. All type is *proportionally spaced* for a more professional appearance. People *do* notice the difference!

# Disk Librarian

NEW!

## ☐ FATCAT™

**PERSONAL DISK LIBRARY by ALAN BIRD**
**$34.95: Includes Peeks & Pokes Chart**

**MULTIPLE-DISK CATALOG:** FATCAT reads all of your DOS 3.3 and ProDOS™ disks into one or more "Master Catalogs" that can be searched, sorted and printed. Update at any time by simply reading in new or altered disks.
**ALPHABETIZE FILE NAMES:** Sort your DOS 3.3 and ProDOS disk catalogs alphabetically, by file name, type, etc., to make files easier to find. Re-locate individual file names too. Find files *fast* every time you CATALOG. This feature alone is worth the price of FATCAT!
**COMPARE FILES:** Compare any program in memory with any other on disk. Each differing program line is called out so you can tell which is the latest version.



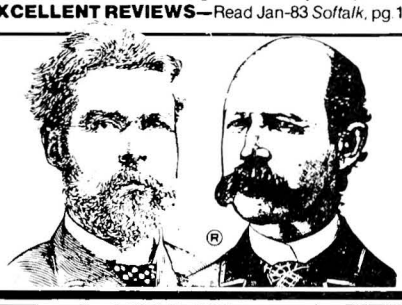

```
10 REM BEAGLE CARD FILE
20 HGR: HGR2: POKE 232, 120: POKE 233, 64: POKE
   16504, 7: SCALE=80: P=16: X=99: FOR R=0 TO 31:
   P=P*-1: POKE 230, 48+P
30 FOR Y=0 TO 1: ROT=ABS(64*Y-R): HCOLOR=3:
   FOR A=1 TO 25: DRAW 1 AT X+2*A, X: NEXT
40 HCOLOR=0: DRAW 1 AT X, X: ROT=32: DRAW 1:
   DRAW 1 AT X, X: NEXT Y, R
50 FOR A=0 TO 20: FOR B=0 TO 1: POKE 49237-B,0:
   X=PEEK(49200): FOR C=1 TO 6*A
60 NEXT C, B, A: GOTO 50
```

# Beagle Bag!

## ☐ BEAGLE BAG™

**12 APPLE GAMES ON DISK by BERT KERSEY**
**$29.50: Includes Peeks & Pokes Chart**
*Apple software customers recently voted BEAGLE BAG to Softalk's "Most Popular Software" list for 1983.*

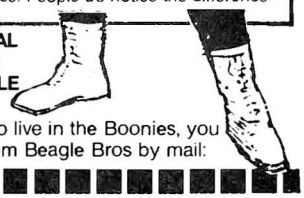
**COMPARE BEAGLE BAG** with any one-game locked-up disk on the market today. All 12 games are a blast, the price is right, the instructions are crystal clear, *and* the disk is COPYABLE. You can even *change* the programs or list them to learn programming tricks by seeing how they work.
**TWELVE GAMES** that *last*— TextTrain, Wowzo®, Magic Pack, Buzzword, Slippery Digits, and many many more...
**EXCELLENT REVIEWS**—Read Jan-83 *Softalk*, pg 148.



**Beagle Bros**
**Micro Software Inc.**

3990 OLD TOWN AVENUE, SUITE 102C
SAN DIEGO, CA 92110 / 619-296-6400

**Attention Dealers:** Beagle Bros products rank consistently high on software best-seller charts, and captured FOUR spots on *Softalk's* 1983 Top-30 Most-Popular List (all categories). Telephone any Apple software distributor for fast delivery.



**GOTO YOUR LOCAL APPLE SOFTWARE STORE FOR BEAGLE BROS PRODUCTS.**
Or, if you happen to live in the Boonies, you can buy directly from Beagle Bros by mail:

**RUSH the following disks by First Class Mail:**

| | | | |
|---|---|---|---|
| ☐ Alpha Plot | $39.50 | ☐ Fatcat | $34.95 |
| ☐ Apple Mechanic | 29.50 | ☐ Flex Type | 29.50 |
| ☐ A.M.Typefaces | 20.00 | ☐ Frame-Up | 29.50 |
| ☐ Beagle Bag | 29.50 | ☐ GPLE | 49.95 |
| ☐ Beagle Basic | 34.95 | ☐ ProntoDOS | 29.50 |
| ☐ Beagle Graphics | 49.95 | ☐ Silicon Salad | 24.95 |
| ☐ DiskQuik | 29.50 | ☐ Tip Disk #1 | 20.00 |
| ☐ DOS Boss | 24.00 | ☐ Triple-Dump | 39.95 |
| ☐ Double-Take | 34.95 | ☐ Utility City | 29.50 |

**AT YOUR APPLE DEALER NOW!**
**Or order directly from Beagle Bros.**




Visa/MasterCard or COD, call TOLL-FREE
**Orders only / ALL 50 STATES / 24 Hours a Day**
**1-800-227-3800 ext 1607**

OR mail U.S.Check, Money-Order or Visa/MCard# to:
**BEAGLE BROS, Dept. S**
**3990 Old Town Avenue, Suite 102C, San Diego, Ca 92110**

NAME _____
ADDRESS _____
_____
STATE & ZIP _____
VISA/MC# _____
EXPIRATION ___/___ PLEASE SIGN IN MARGIN→

Add $1.50 First Class Shipping. Any-Size Order.
Overseas add $4.00. COD add $3.00. California add 6%.
**ALL ORDERS SHIPPED IMMEDIATELY.**

Another job of a fairwitness would be to add enough messages to a young conference to give it some momentum or something upon which others could leave additional comments. Once a conference gets rolling, the fairwitness then takes the job of "pruning" it, or editing out nonessential messages.

Although computer conferencing is available on The Source, in the form of Participate, and through Telenet and Uninet, in the form of Electronic Information Exchange System (EIES), CommuniTree is the closest thing to computer conferencing that runs on a microcomputer and is free to its callers. CommuniTree, then, represents an important step in the field of computer communications. Its structure encourages open debate by allowing callers to remain anonymous, and its tree design makes it easy to follow a particular conference without continually being distracted by messages that are impertinent.

Moreover, it's very easy to learn how to use a CommuniTree. The only commands you have to know are *read*, *addto*, *browse*, and *index*. There are other commands, but they're listed on the screen when it's time to use them.

To look at a conference, you type *read conference*, where *conference* is the name of the conference you're interested in. After the conference message is displayed, submessages (branches) are listed. Reading submessages is just like reading conferences; issuing the *read* command, followed by the name of the submessage, will display the submessage on the screen. The process can be carried out until you reach the last branch, at which point you'll be told that there are no submessages to the branch you're currently reading.

To take part in a conference, you'd use the *addto conference* command, where *conference* is the conference or submessage you want to add a remark to. At completion of the message, it becomes a branch (child) of the conference it was added to (parent). Others will be able to read your message and add submessages to it, and so on.

Of the CommuniTrees accessible to the public (the software can also be used for in-house purposes), the most successful ones center on specific subjects. The CommuniTree in Hayward, California, is devoted to Forth programming; the PeaceGIG CommuniTree in Minneapolis, Minnesota, was originally called Lawyers-On-Line and centered on legal issues. But when the United States invaded Grenada last year, it became PeaceGIG and now serves as "the general interest group of those interested in world peace, and opposing the special interest group of those interested in war profits, fat Department of Defense contracts, and save-the-world-from-commies political posturing." Despite the change in name, PeaceGIG still maintains many legal conferences.

Although CommuniTree software isn't the most sophisticated, its relative lack of success actually lies in a disinterested microcomputer community. PeaceGIG's popularity proves that CommuniTree's concept is viable, but it seems that a large majority of modem owners still prefer the traditional BBS structure, in which messages are posted and receive two or three replies, and don't care to become involved in extensive conferencing.

CommuniTrees operate at 300 baud. The original is in San Francisco, California, at (415) 861-6489. PeaceGIG: (612) 872-2352. Forth Interest Group: (415) 538-3580.

**Numbers Game.** For lists of hundreds of BBSs:

The On-Line Computer Telephone Directory BBS Information Exchange (OLCTD BIE) lists BBSs in numerical order, beginning with area code. OLCTD supports 300 and 1200 baud at (913) 649-1207.

The Public Access Message (and file transfer) Systems list (P.A.M.S.) is available from PMS-Santee at (619) 561-7277 and most other PMS systems, on CompuServe MAUG XA4, and on The Source at Public 112. Clear out your buffer; the current file size is 51,622 bytes and contains more than 700 telephone numbers.

---

*Software for the Apple BBSs that we've discussed the past two months is available from the following sources:*

Apple Bulletin Board System *(ABBS), Software Sorcery, 7927 Jones Branch Drive, Suite 400, McLean, VA 22102; (703) 471-0572, voice; (703) 471-0610, modem. $74.95. Optional modules: conferencing, $25; downloading, uploading, and private mail and auto-log, $20 each; news, $15. The works, $164.95.*

CommuniTree*: Softnet, Box 522, Berkeley, CA 94701; (415) 548-8170.*

Net-Works, *High Technology, 1611 Northwest Twenty-Third, Box 60406, Oklahoma City, OK 73146; (405) 524-4359. $99.*

People's Message System *(PMS), Bill Blue, Box 1318, Lakeside, CA 92040; (619) 562-9111. $300.*


# THE DEBIT CREDIT CONNECTION™

A Personal and Small Business Accounting Software Program from **SOLITAIRE™**

**ARE YOU READY** for an accounting software program that is written to make life easier for **YOU** (not the programmer), **PRINTS CHECKS, SPLITS TRANSACTIONS,** leaves lots of room for **YOUR descriptions**, posts **AUTOMATIC TRANSACTIONS,** is **EASY** to use and prints **automated reports**? Are you ready for an accounting program that lets you set **GOALS** for all accounts and **GRAPHICALLY** displays all balances? Are you ready for an accounting program that provides you with the **POWER** to manipulate and study your financial records from virtually any angle? Are you ready for an accounting program that **IS COPYABLE, IS HARD DISK COMPATIBLE** and incorporates many of the latest **SPEED** techniques on the market today?

## YOU HAVE FOUND IT!!!

**THE DEBIT CREDIT CONNECTION** is a **VERY FAST** and **EASY** to use double entry accounting software program based on the process of transferring money from one account to another (probably the same system you already use). For example if you write a check for groceries you are taking the money out of your checking account and putting it into your food account. **PRETTY SIMPLE RIGHT?** Well that's exactly what this program is all about. See the words Debit and Credit in the title of this program. Look again because that's the only place you will see them. This program uses phrases like **"TAKE MONEY OUT OF"** and **"PUT MONEY INTO"** (remember the program is written for **YOU** not a CPA.) **PRINTS CHECKS**? You bet, with name, address, city, state, zip and account number, even itemizes each entry. **SPLITTING** a transaction between several accounts is a breeze. The program will even type in most of the information for you. Every key pressed is checked for errors before it is accepted and all information is saved to the disk each time a program section is finished minimizing chances of data loss. Every transaction has 36 blank spaces for the **DESCRIPTION OF YOUR CHOICE**. In most cases that's enough room to satisfy the **IRS**'s 5W's (who, what, where, why and **WHOW!** much). Don't forget, this program may be tax deductable if used to keep tax information. Need a **FINANCIAL REPORT**? Select the report you want and **THE DEBIT CREDIT CONNECTION** accounting software program will **AUTOMATICALLY** do the rest. When you return the report will be waiting for you. A picture is worth a thousand words so **HIGH RESOLUTION GRAPHICS** of all balances is provided. The program will remember and automatically chart up to 38 accounts of your choice. That's not all, you can draw **CUSTOM CHARTS** just as easily. All this plus a **HELP LINE** for registered users from 5 to 7 p.m. weekdays. The thought and detail that went into this program cannot be described with words it must be **EXPERIENCED**. Send for your copy today.

## YOU WILL LIKE IT!!!

**FEATURES:**
- Manual Transaction Entry
- Automatic Transactions
- Prints Checks (name, address acct. #)
- Current Balances on Screen
- Split Transactions (with subtotal)
- Backdate Transactions
- Entry Reference Sheet
- On Screen Editing
- Complete Search/Sort Capability
- Reconciles ALL Assets & Liabilities
- Simple File Maintenance
- Goals (other people call them budgets)
- Custom Reports
- High Resolution Graphics
- Automatic Charting
- Custom Charting
- Tax Information
- On Screen Prompts
- Intense Error Trapping
- Rollover Data Disks
- Hard Disk Compatible
- Unlocked Floppy Disk
- Help Line 5-7 PM (registered users)
- Operators Manual and Documentation
- Sample Accounts

**AUTOMATIC REPORTS:**
- Balances
- Net Worth
- Profit or Loss
- Monthly Report
- Year to Date With Ledger
- Short and Sweet

**SYSTEM REQUIREMENTS:**
Apple* II+, IIe, IIi or look alike, 1 or 2 DOS 3.3 disk drives or a hard disk system and 80 column printer.

*Apple is a registered trademark of Apple Computers Inc
Copyright © 1984 Solitaire

**CAPACITIES: (per disk)**
- 100 Goals
- Up to 15 Checking Accounts
- 2,376 transactions
- Entries from .00 to 999,999.00
- Balances from 9,999,999.00 to (99,999.99)
- 50 Automatic Transactions (2 files)
- 50 Names and Addresses for Checks)
- 100 accounts
  - 5 Income (what you make)
  - 15 Asset (what you have)
  - 15 Liability (what you owe)
  - 65 Expense (what you spend)

Become a licensed user of THE DEBIT CREDIT CONNECTION

**SEND $90.00 NOW** (no shipping, no handling, no nonsense)

To: **SOLITAIRE**, 7146 West 113th Street, Bloomington, MN 55438
or call 8am-5pm **800-328-6795** Ext 245 (orders only)
after 5pm and Sat. 612-941-4918 (orders & info.)

Visa ___ Mastercard ___ Check/MO ___ MN res. add 6% tax

12Name _____ Phone ( ) _____

Address _____

City _____ State _____ Zip _____

Visa/MC# _____ Exp _____

Signature _____




# JUST BECAUSE YOU PICK AN APPLE, DOESN'T MEAN YOU HAVE TO BUY THE WHOLE ORCHARD.

The only thing more important than having your printer compatible with your personal computer is having it compatible with you.

Which is why mixing an Okidata printer with your Apple computer is more like mixing apples with apples than you'd think.

**More Printers. More Printing.** For instance, Okidata gives you eight high performance printers to choose from. Apple only gives you four. We give you two-color capabilities on some models. They give you basic black and white. With Okidata you can get three print modes. With Apple, you're stuck with one. Our speeds go up to an incredible 350 cps. Theirs stop at 120.

As for quality, our correspondence quality rivals the best daisywheels. And at up to 80 cps. Their letter quality printer is a daisywheel but moves along at only 40 cps. We also give you a full year's warranty on our print head. They give you 90 days. And we bring you the lowest warranty claim rate in the industry: less than ½%.

**And More: Personal Touch & Plug 'n Play.** With Okidata's Microline 92, 93 and 84 printers, you can get Personal Touch. A downline loading software package that lets you print personalized characters, customized symbols and typefaces, even foreign languages. From Apple, you only get the hardware.

Of course all Okidata printers are compatible with Apple computers. But now, all Okidata Microline printers interface in a matter of minutes, thanks to our new Plug 'n Play interface kit.

So, the choice is yours. Wait for a better Apple to ripen. Or pick Okidata.

For information, call 1-800-OKIDATA. In New Jersey, (609) 235-2600. Or write OKIDATA, Mt. Laurel, NJ 08054.



**OKIDATA**
an OKI AMERICA company



Photo courtesy of Frontier Hotel & Casino

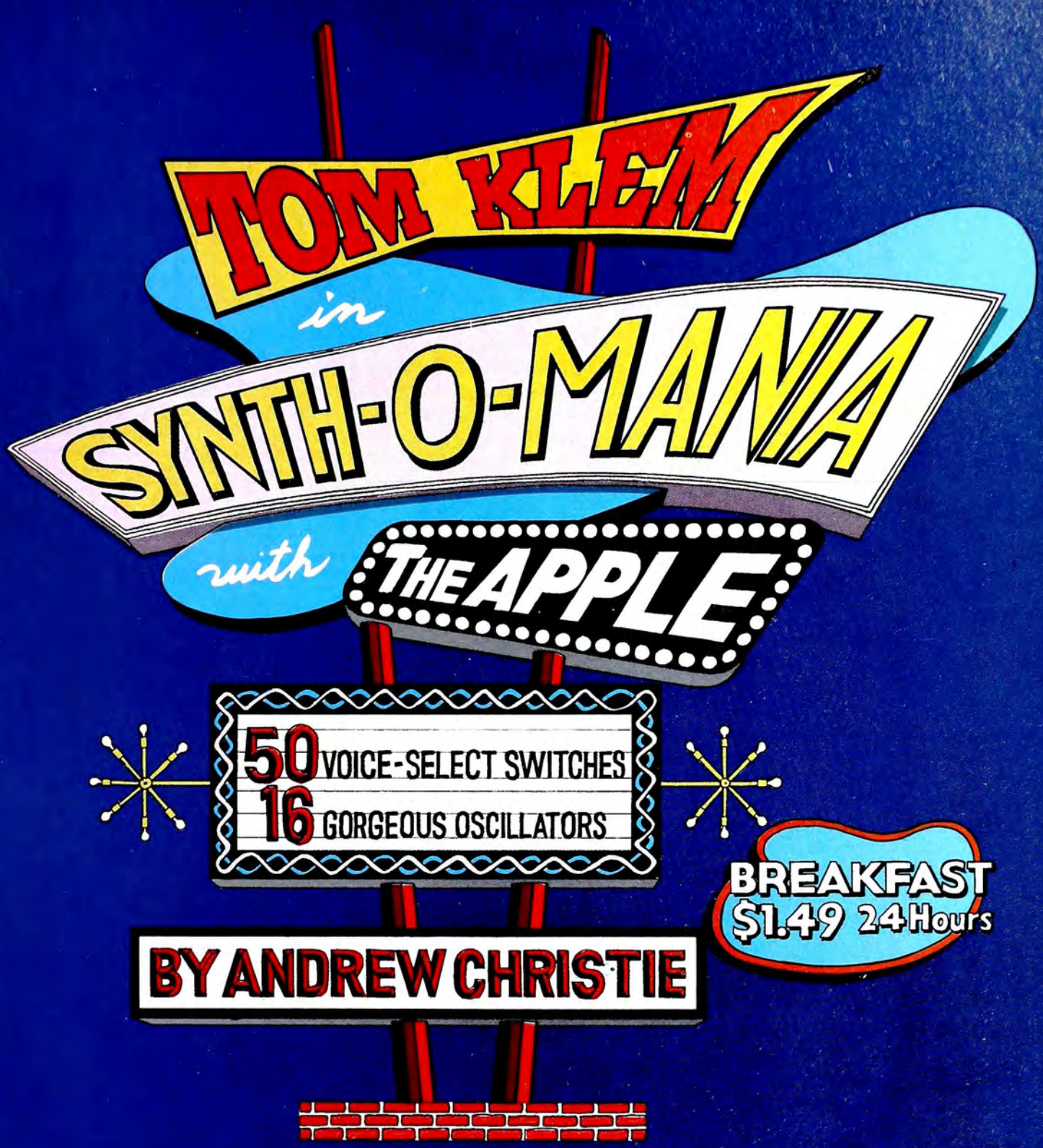
*You've got to love to be able to play.*

—Louis Armstrong

On the night of May 14, 1984, at the Los Angeles County Museum of Art's Leo S. Bing Theater, an eight-member modern music ensemble performed "While You Were Art"—a composition by Frank Zappa, perennial imp of rock and avant-garde music. To the audience, the performance seemed routine enough. But the musicians weren't really performing. Per the composer's instructions, they were "finger-synching" their parts on the instruments while a prerecorded tape—created by Zappa on a Synclavier music computer two weeks earlier—played the piece.

Watching the group "play," the folks in the audience—which included electronic music composer Morton Subotnick—never realized they were hearing music played by a machine. There was a bit of a row afterward when word got out. But Zappa remained impish. It was "the first time a composer got a totally accurate performance of his work," he commented nonchalantly.

While Zappa was proving his point, at virtually the same moment three hundred miles to the east, the management of the MGM Grand was trying to circumvent the Las Vegas musicians' strike and go on with the show in its main showroom by present-




ing live singers and dancers with a musical score on tape. The show drew 40 people to the 1,500-capacity room. It was shut down the next night.

"They couldn't find anything to replace the musicians," says Tom Klem, a professional musician who works in Vegas. He smiles wryly. "You might say it was a corporate music lesson."

**Viva Los Synthesizers.** Since their invention in the 1950s, music synthesizers have caused a minor uproar in the music industry. Those who can't read music can compose on a synthesizer and sounds not otherwise available to a composer can be produced by a synthesizer. One person can compose, play, and record a complicated piece of music, a feat that once required sufficient money or a "name" to obtain the services of a studio and musicians.

Music synthesizers were not a development everybody was happy about. In 1969, the American Federation of Musicians tried to ban them from recording studios, fearing much the same thing as the nineteenth-century English laborers who sabotaged factories at the dawn of the industrial revolution. Musicians felt they might someday be replaced by the synthesizer. The synthesizer has had charges leveled against it that are similar to those leveled against the computer—that it is cold, impersonal, a job-swallower; that the machines rob the music and the musician of "soul."

# The Right Commands At Your Fingertips



KLEERTEX

## ... For Your Apple® II+,//e!

and 20 other name brand computers!

MOST TEMPLATES **$19.95** EACH

(See graph below)

Designed by Training Specialists to help put your program to work, right away!

- Complete commands required to learn and operate your program
- Alphabetized commands to find what you need quickly and easily
- Organized with key-by-key examples for simplicity

This Time-Saving Aid is Ideal for Training, Invaluable for Beginners, and a welcome convenience for the Comprehensive User. Made of sturdy, non-scratchable, non-glare, color-coordinated plastic.

The right commands... ...the right price!

Availability and Price Codes:

- ▲ $ 8.95 Do-It-Yourself Blanks
- ● $19.95 Single Program Templates
- O $32.95 Double Program or Extensive Program Templates.

Call Us About Custom Templates

All templates, except those for Kaypro and Osborne, are reversible. The reverse side contains additional commands or Do-It-Yourself blank lines.

| | WORDSTAR®/MAILMERGE® | dBASE II® | MULTIPLAN® | SUPERCALC® | SUPERCALC² | EASYWRITER® II | QUICK FILE® | PIE WRITER® | APPLEWRITER™ II | APPLEWRITER™ II/QUICK FILE™ | PERFECT CALC™ II/VISICALC® | PERFECT WRITER™ | MULTIMATE™ | PERSONAL PEARL™ | DO IT YOURSELF BLANKS | 1-2-3® | VISICALC® |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IBM® STYLE A* | ● | O | ● | ● | ● | ● | | | ● | | | ● | ● | ● | | ▲ | O | ● |
| IBM® STYLE B** | ● | O | | | | | | | | | | ● | ● | ● | | ▲ | O | ● |
| KAYPRO® | ● | ● | | | | | | | | | | ● | ● | | | ▲ | | |
| APPLE® II+ | ● | O | | | | | ● | | | | O | | | | | ▲ | | ● |
| APPLE® //e | ● | O | ● | | | | ● | ● | ● | O | O | | | | | ▲ | | ● |
| OSBORNE® | ● | ● | | | ● | | | | | | | | | ● | | | | |

*IBM STYLE A Fits: IBM-PC/XT, COMPAQ and LEADING EDGE.
**IBM STYLE B Fits: COLUMBIA, OLIVETTI, CORONA, TAVA, IVY, PRONTO, SILICON VALLEY MICRO, NORTH STAR DIMENSION, LOGICAL L-XT, IMP and SPERRY-PC.




**15 DAY MONEY-BACK GUARANTEE**

# Call Toll Free 1-800-231-5413

California 1-800-523-5441

**DEALER INQUIRIES INVITED**

CREATIVE COMPUTER PRODUCTS™

P.O. Box 85152-MB134
San Diego, CA 92138
(619) 268-0793

We accept VISA, MC, AMEX or checks. $1.95 Shipping Fee

**WESTERN CANADA:**
LD COMPUTERS
12831 HORSESHOE PL.
RICHMOND, B.C. V7A 4X5

**EASTERN CANADA:**
TRILLIUM COMPUTER RESOURCES
423 GRANGEWOOD DR.
WATERLOO, ONTARIO N2K 2H1

Apple/Quickfile-Apple Computer, Inc. IBM-International Business Machines. Osborne-Osborne Computer Corp. Kaypro-Non Linear Systems. Wordstar/Mailmerge-MicroPro Int'l. Visicalc-Visicorp. Supercalc/Supercalc²-Sorcim. Easywriter II-Information Unlimited Software. dBase II-Ashton Tate. Multiplan-Microsoft. 1-2-3-Lotus Dev. Corp. Perfect Writer/Perfect Filer/Perfect Calc-Perfect Software. Personal Pearl-Pearlsoft. Piewriter-Hayden Software Co. Compaq-Compaq Computer Corp. Multimate-Softword Co.

©CREATIVE COMPUTER PRODUCTS 1983

To decide how much of this to believe, you have to talk to a musician who works with the things, who depends on high-tech for his livelihood.

Tom Klem, whose primary musical influences have been Stan Kenton and Dave Brubeck, uses—among other things—two different kinds of synthesizers and an Apple computer to write and perform music for Vegas shows. He does not seem to have much in common with Frank Zappa, nor would he fit anybody's image of a computer geek. Klem is a congenial, spontaneous, creative, gregarious family man with an unending interest in new ways of doing things.

Originally from Brooklyn, Klem's been on the road for a major portion of his life, and it's music that has always guided his steps. He picked up a trombone and started playing when he was fourteen; then he learned the piano. He attended Mansfield College in Pennsylvania as a music major and proceeded to have a miserable time. He was an only child away from home for the first time at the height of the Vietnam era, with the hot breath of the draft on his neck; after eighteen months he flunked out and joined the Navy, where he served for four years.

"I got a lot of practical experience," he recalls. "They're not gonna teach you classical music in the Navy; they want you to play dance music for the officers' wives.

"When I got out of the service in 1970, I went on the road as a musician. I figured, 'Well this should be an easy life. . . .' Boy was I wrong. I found out the hard way. I was on the road for a year and a half, then I went to Chicago and worked there until I came to Vegas, eight years ago."

This past spring, Klem—like every other musician, stagehand, and culinary worker in Las Vegas—was on strike. And his personal environment was in a state closely resembling disarray.

"We just moved this stuff in here last night after closing with Redd Foxx at the Sahara," he apologized as he threaded his way around a Hammond B-3 organ, a Peavy sound mixer, several huge Yamaha speakers, a drum set, and a Chroma synthesizer with connecting Apple. "And we've gotta open tomorrow at the Hacienda. Basically I spend about three hours a night at the hotel, and the rest of the time is mine. It's a pretty nice job."

Klem has had several long engagements in Vegas, conducting the critically acclaimed musical *Ipi Tombi* when it played here several years ago. He landed a solo gig for seventy-eight weeks in the lounge at the Landmark, as well as playing the MGM Grand and working off and on for years at the Stardust. For the last two and a half years, he has worked with magicians Siegfried and Roy in the show *Beyond Belief.*

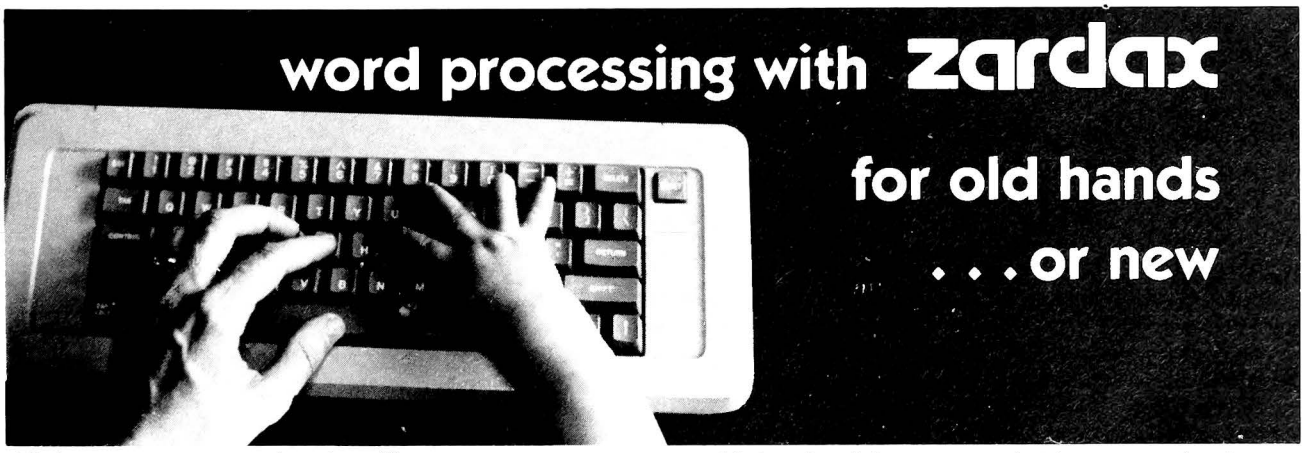
So jazz gypsy makes good. What's he doing with micros and the machine that Moog built?

"Realizing that playing music was not that stable an occupation, I decided to study computers. I went back to school in 1977 at the University of Nevada. I have a great interest in computers; I bought a TI-59, one of those little hand-held programmable calculators, and programmed the devil out of that thing for about a year. Then I started getting into more academic computer pursuits. I am a product of the U of N computer science department. I could program anything in Basic or assembly language on the Apple or the IBM, and several mainframe machines—data processing technique, mostly. Real-time systems still kind of escape me."

Klem is a man of large enthusiasms, and they include everyone's favorite computer named after a fruit.

"I really like these machines. This is a very clever processor. I mean, what you can do with sixty-three instructions. It's incredible! It's very fast, it'll compete with any Z-80 application I can think of, the speed of the indexing for graphics is phenomenal. . . . It's a great little machine."

**What It Is.** The disorienting thrill of hearing Wendy Carlos's Vocoder "singing" the choral part from Beethoven's Ninth Symphony for the first time is not soon forgotten. The technology that


All the power you need at the office.
Large documents. "Chaining" for long reports.
Mail merge and glossary phrases.
All the standard editing features.
Supports over 40 printers. Commands for complex formatting. Print preview.
Printer spooling in the background.

All the simplicity you need at home or school.
Sample documents on disk.
Lessons disk available for educators.
Manual tutorial. Written in English.
Memorable commands that make sense.
No need to remember printer control codes.

**Apple ][+, //c, //e. Your choice of DOS or ProDOS. Apple /// SOS version, too.**
**All: $210. Zip-Comm modem communications option: $80.**

At your dealer, or from us.
Zardax™ Computer Solutions, Australia
Apple™ Apple Computer, Inc.

**Action-Research NW**
11442 Marine Vw. Dr. S.W. / Seattle, WA 98146
(206) 241-1645 / Source: CL2542

made that singular feat possible came together in 1955 when RCA produced the first synthesizer, and it took quantum leaps with the pioneering work of Robert Moog in bringing the multi-million-dollar machinery way down in size and price.

An oscillator, filter, and amplifier, hooked up in a series, are the three devices that essentially make up a synthesizer. The sound you hear is combined at the output, after being processed through the amplifier. Timbre is determined by choice of waveform (sine, triangular, sawtooth, or rectangular). A high-pass filter eliminates the frequency range of any sound below a given cutoff point; a low-pass filter does the opposite. An envelope generator can reproduce the "shape" of any natural sound and invent new ones, and control amplitude, frequency, and timbre.

Klem's chosen synthesizer is a Chroma, developed by Fender/Rogers/Rhodes for CBS. It is a hybrid technology, using Motorola 68B09 and Intel 8039 processors. The Chroma includes a superset implementation of MIDI, or musical instrument digital interface, the electronic music business' equivalent of a universal operating system. MIDI is normally hooked up so it can communicate between instruments and computers, but the Chroma's superset has more features available. The plugs are a different size, and because of the high speed involved in the data transfer, it requires a very thick cable to block out RF interference with other devices.

"With normal MIDI," Klem explains, "because it's not the same velocity involved, you would use a different cable and hook up all their instruments with a five-pin DIN plug. It doesn't have to be as heavily shielded.

"Also, Chroma provides a card you plug into the Apple that has to go with all this RS-232 stuff. It's *sort of* parallel. All I know is I really like the way it works."

Klem has some two hundred fifty musical effects programs for the Chroma from CBS Musical Instruments, and another fifty that he wrote himself. "One of the programs I wrote is a little thing called *Chromaloader*. It loads these programs in either fifty at a time or one at a time, anywhere I want to put them. I have to have the ability to shuffle them in and out as quickly as required. Usually fifty programs on-line is more than enough for any show you're going to be doing. *Beyond Belief* was a complicated show, and I only used about thirty programs."

*Beyond Belief* is a magic act done Vegas style, which means it's probably the biggest, flashiest, most exotic magic act ever conceived. Hosted by the Frontier Hotel and starring flashy, exotic magicians Siegfried and Roy, the whole show lasts an hour and forty minutes; the "production show" takes the first hour and incorporates all of their current illusions, some thirty-odd different tricks. Then comes the finale and the show seems to end, but, like twin Bruce Springsteens, the magicians come charging right back and do another forty minutes, bringing out all the tricks that helped them make their mark in show biz: the disappearing tiger, the fireball, the disappearing elephant . . . and Klem and the band are playing straight through the 100 minutes.

"Different sounds are the name of the game for that particular show. During the show, there's no need to use the computer to run programs, but there are some sound effects that I use the computer for generating."

He loads a disk and a fifty-program menu comes up on the monitor. Turning to the synthesizer, hands gliding over the knobless, touch-sensitive control panel, he selects Calliope and the Chroma sounds like a fifty-pipe Ringling Bros. special. He selects Funk and he's playing the Motown sound. He selects Bongo and the keyboard turns into one. He selects Drum and he has a set of traps. He selects Subotnick (named after the composer) and gets an appropriately eerie tone. Solo Violin ("this sounds like Issac Stern to me") produces sounds to soothe the savage breast.

The Chroma system is a digital synthesizer and uses its dual processors for three purposes: to read the velocity of the keyboard so it can interpret sensitivity factors and give some kind of realistic sound (a kinesthetic response to what you do on the keyboard); to set up the Chroma's interface cards for the different sounds; and to run the display.

"One of the advantages of this instrument, which most other subtractive synthesizers don't have," notes Klem, "is that it allows sixteen different patches, meaning you can hook up the [oscillators, filters, and amplifiers] in sixteen different ways. We're just at the beginning of this technology.

"The Apple can do some pretty fantastic things, too. You can actually digitally record what you play, and play it back in conjunction with other things while you're working, which is what I do with the Apple in the show, using it for sound effects and voices. The actual orchestra is another band. Since the Chroma has its own processors, I'm taking advantage of them, but the Apple is fast enough to handle some very sophisticated synthesis."

**Synthetic Software.** Ten years ago, Tom Klem developed the playing technique of having a piano on his left-hand side, an organ on the right for solo lines and the like, and a Fender unit sitting on top of that. When the synthesizer and computer entered his life, he took the same approach of "How can I use this all at once?" He now records pieces on the Chroma and then plays the Hammond or piano to accompany them.

"That's what I use the CBS program *Chroma Sequencer* for—anything you play on here ends up on the computer. You can play it back, you can change which sound it plays, you can edit the notes. I'll use that in conjunction with some other keyboard instrument, or maybe drums. It's all experimental at this point, just to see what can be done.

"The *Chromaloader* was something that needed to be written. Before I wrote it there was really no way to assemble the pro-


# The Easy Way To Plan Great Dinners

Let us send you our exciting meal planning system. Try it for 2 weeks free with no cost or obligation.

Because our ad manager has a small weakness for pizza, we call it The Pizza Program. Actually, it's a complete meal planning system. It generates delicious dinner menus and shopping lists according to your tastes, your diet, and your budget.

It is a great time saver for anyone who cooks. You can quickly print out a new menu or shopping list for a day, a week, or any period up to 42 days at a time. It can even remind you when it's time to go out to your favorite restaurant. Plus, it can arrange your shopping list in sequence according to the isles at your local store.

Accept our 2 week free trial. There's no need to send any money now. Just send the coupon. We'll bill you later. If you're not satisfied for any reason, just return it and write cancel on the invoice. What could be more fair?

## Gourmet Software

**Gourmet Software, Dept. S-10**
**3583 Barley Ct., San Jose, CA 95127**

OK, Rush me The Pizza Program to try for 2 weeks and bill me later for just $34.50 plus $2 shipping. (Sales tax added in California). I understand I can return it within 21 days if not satisfied and owe nothing. My PC is an ☐ Apple II Plus or IIe ☐ IBM PC or XT ☐ Other _____ (Needs to run Apple or IBM software).*

NAME _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

PHONE ( ) _____ In case we have a problem with your order and need to call you.

P.S. For faster service call our ad manager, Rich Smith at (408) 866-0887.

*Apple and IBM are registered trademarks of Apple Computer and International Business Machines

# EASTCOAST SOFTWARE

***ecs...inflation-fighting prices.***

***No hidden charges! No credit card fees!***

## APPLE

| CAT# | | LIST | SALE |
|---|---|---|---|
| 1700 | Accounting + Gen Ledger IIE | $450.00 | $259.65 |
| 0080 | Adam & Eve Paddles | 39.95 | 27.50 |
| 0560 | Algebra I | 39.95 | 27.60 |
| 0723 | Algebra V & VI (2-Disk) | 49.95 | 34.50 |
| 1142 | Alien Addition (Home) | 34.00 | 26.75 |
| 0013 | Alpha Plot | 39.50 | 27.25 |
| 2598 | Alphabet Zoo | 29.95 | 20.70 |
| 0434 | Apple Cat 2 Modem | 389.00 | 278.10 |
| 0151 | Apple Mechanic | 29.50 | 20.35 |
| 0309 | Applewriter 2 Pre-Boot | 24.00 | 16.95 |
| 0090 | Appli-Card (6 MHZ) | 375.00 | 281.30 |
| 0536 | Assembly Lines (Book) | 19.95 | 15.35 |
| 2905 | Axis Assasin | 35.00 | 26.95 |
| 0042 | Bag of Tricks | 39.95 | 27.65 |
| 0501 | Bank Street Writer | 69.95 | 48.35 |
| 0277 | Battle For Normandy | 39.95 | 27.65 |
| 0278 | Beagle Bag | 29.50 | 20.35 |
| 0126 | Beagle Basic | 34.95 | 24.20 |
| 0658 | Beneath Apple DOS | 19.95 | 13.85 |
| 0111 | Book of Apple Software '84 | 19.95 | 12.80 |
| 0096 | Bookends | 125.00 | 86.40 |
| 1676 | BPI General Accounting | 395.00 | 273.45 |
| 2599 | Broadsides | 39.95 | 27.70 |
| 0545 | Bufferboard-Grappler | 175.00 | 132.55 |
| 1682 | Buffered Grappler + (16K) | 239.00 | 178.00 |
| 0448 | Bumble Games | 39.95 | 27.65 |
| 280S | Business Accountant 2/2E | 255.00 | 196.15 |
| 0228 | Castle Wolfenstein | 29.95 | 20.70 |
| 0734 | CDEX How to Use Apple IIE | 59.95 | 41.50 |
| 0733 | CDEX Visicalc Training | 59.95 | 41.50 |
| 0656 | Chart-Macintosh | 125.00 | 86.55 |
| 0386 | Chess | 69.95 | 48.35 |
| 2612 | Chivalry | 49.95 | 34.60 |
| 0740 | Compu-Math/Arith. Skills | 49.95 | 34.50 |
| 0654 | Compu-Read | 29.95 | 20.70 |
| 0743 | Compu-Spell System | 29.95 | 20.70 |
| 0416 | Compuserve Starter Kit | 39.95 | 24.35 |
| 1138 | Computer Sat (Harcourt) | 79.95 | 62.85 |
| 1731 | Copy 2 Plus | 39.95 | |
| 1295 | Creature Creator | 39.95 | 27.65 |
| 2862 | Cubit | 39.95 | 27.65 |
| 2910 | Cut & Paste | 50.00 | 38.50 |
| 0777 | Data Capture IIE | 90.00 | 62.35 |
| 00S9 | David's Midnight Magic | 34.95 | 24.00 |
| 1265 | DB Master Version 4 | 350.00 | 242.35 |
| 00S2 | Deadline | 49.95 | 34.50 |
| 0189 | Decathalon | 29.95 | 20.70 |
| 0630 | Delta Drawing | 49.95 | 34.60 |
| 1143 | Demolition Division (Home) | 34.00 | 26.75 |
| 29S1 | Dig Dug | 34.95 | 29.10 |
| 1722 | Disk Boxes (5 Color Coded) | 25.00 | 12.50 |
| 2866 | Disk Drive Ext Cable | 19.75 | 16.70 |
| 2833 | Disk Quik | 29.50 | 20.45 |
| 1444 | Diversi-DOS | 30.00 | 5.00 |
| 0409 | Dollars & $ense | 100.00 | 69.25 |
| 2939 | Donkey Kong | 34.95 | 29.10 |
| 0216 | DOS Boss | 24.00 | 16.60 |
| 0983 | Double Take | 34.95 | 24.15 |
| 0424 | Dow Jones Market Analyzer | 350.00 | 293.75 |
| 2877 | Drol | 34.95 | 24.20 |
| 2600 | Eagles | 39.95 | 27.70 |
| 0360 | Early Games Young Children | 29.95 | 20.75 |
| 1384 | Echo 2 Speech Synthesizer | 149.95 | 125.60 |
| 0811 | Einstein Compiler | 129.00 | 89.30 |
| 0661 | Elementary Apple | 14.95 | 10.35 |
| 0092 | Elephant Disks SS/DD (10) | 37.00 | 24.35 |
| 1337 | Elephant Disks SS/SD (10) | 34.00 | 21.15 |
| 0729 | Enhancer II/Function Strip | 215.00 | 161.30 |
| 0107 | Epson MX-80 Ribbon 2-Pac | 28.00 | 12.55 |
| 0039 | Executive Secretary | 250.00 | 173.10 |
| 0314 | EZ Port II | 34.95 | 24.20 |

| CAT# | | LIST | SALE |
|---|---|---|---|
| 0280 | Facemaker | $34.95 | $24.20 |
| 0553 | Flex Text | 29.50 | 20.35 |
| 2821 | Flight Simulator II | 49.95 | 38.05 |
| 2918 | Flip & File W/Lock (50) | 39.95 | 23.85 |
| 1440 | Flip-N-File (50 Disks) | 29.95 | 18.85 |
| 2796 | Fontrix | 75.00 | 64.10 |
| 1427 | Format II Enhanced | 150.00 | 103.85 |
| 0554 | Frame-Up | 29.50 | 20.35 |
| 1127 | Game Show | 39.95 | 31.40 |
| 0046 | General Manager II | 229.95 | 158.90 |
| 0533 | Geopolitique 1990 | 39.95 | 27.65 |
| 0573 | Gertrude's Puzzles | 44.95 | 31.15 |
| 2843 | Global PLE/Beagle Bros | 49.95 | 34.60 |
| 0043 | Graphics Magician | 59.95 | 41.40 |
| 0094 | Grappler + | 165.00 | 128.00 |
| 2902 | Hardhat Mac | 35.00 | 26.95 |
| 2880 | Hayes Joystick Mach III | 54.95 | 38.05 |
| 2817 | Hayes Joystick Mach II | 44.95 | 31.15 |
| 1437 | Head Cleaning Kit | 29.95 | 17.30 |
| 0197 | Home Accountant | 74.95 | 48.05 |
| 2804 | Home Word | 49.95 | 34.60 |
| 1684 | How To Pgrm In Applesoft | 49.95 | 34.60 |
| 1589 | In Search Of Amazing Thing | 39.95 | 27.60 |
| 2853 | Incredible Jack | 179.00 | 123.95 |
| 2325 | Jane W/Mouse | 295.00 | 204.25 |
| 0449 | Juggles Rainbow | 29.95 | 20.75 |
| 1442 | Kindercomp | 29.95 | 20.70 |
| 0003 | Knight Of Diamonds | 34.95 | 24.20 |
| 1693 | Koala Graph Tablet—Apple | 124.95 | 83.50 |
| 2954 | Krell Logo | 89.95 | 81.15 |
| 2972 | Labels—1" White (1000) | 9.95 | 6.75 |
| 2890 | Learning Bridge Made Easy | 79.95 | 55.35 |
| 1463 | Legacy of Llylgamyn | 39.95 | 27.65 |
| 0050 | Letter Perfect | 149.95 | 103.60 |
| 0403 | Lisa 2.6 | 79.95 | 61.75 |
| 0310 | List Handler | 64.95 | 44.95 |
| 0982 | Lode Runner | 34.95 | 24.15 |
| 0194 | Magic Window 2 | 150.00 | 103.85 |
| 0192 | Master Type | 39.95 | 27.65 |
| 0089 | Maxell MD1 Disks-SS/DD (10) | 51.90 | 28.75 |
| 2901 | Memorymaster 2E/64K Exp | 169.00 | 140.85 |
| 2147 | Micro Cook-Appetizers-2E | 12.00 | 8.50 |
| 2146 | Micro Cook-Soups/Salads-2E | 12.00 | 8.50 |
| 0437 | Micro Cookbook | 40.00 | 27.65 |
| 2148 | Micro Cookbook IIE | 40.00 | 27.65 |
| 0692 | Microline 92-P Printer | $99.00 | Call |
| 1S09 | Microline Ribbon | 3.20 | 2.20 |
| 2958 | Microline Tractor Feed | 65.00 | 57.70 |
| 2802 | Micromodem IIE W/Smartcom I | 329.00 | 246.75 |
| 0627 | Microsoft Basic-Mac | 150.00 | 103.85 |
| 1347 | Millionaire | 59.95 | 41.50 |
| 113S | Minus Mission (Home) | 34.00 | 26.75 |
| 1124 | Mockingboard | 129.00 | 105.50 |
| 1400 | Moptown Hotel | 39.95 | 27.65 |
| 0580 | Multiplan (Apple DOS) | 250.00 | 173.10 |
| 065S | Multiplan-Mac | 195.00 | 135.00 |
| 2903 | Music Const. Set | 40.00 | 30.75 |
| 0101 | NEC 1215 Color Monitor | 399.00 | 333.35 |
| 0240 | NEC 8023 Printer | 499.00 | 432.90 |
| 0273 | NEC 8023 Ribbon 2-Pac | 19.95 | 17.10 |
| 0179 | Old Ironsides | 39.95 | 27.65 |
| 2908 | One On One | 40.00 | 30.75 |
| 1328 | Orange (AC Surge Protect) | 139.95 | 96.90 |
| 1531 | Orca/M | 149.95 | 103.80 |
| 2941 | Pac-Man | 34.95 | 29.10 |
| 2893 | Paral' Printer Ext. Cable 6' | 34.95 | 21.80 |
| 0635 | Parallel Interface W/Cable | 139.50 | 62.85 |
| 0616 | Personal Touch | 89.00 | 70.55 |
| 1413 | PFS File IIE | 125.00 | 85.95 |
| 1415 | PFS Graph IIE | 125.00 | 85.95 |
| 1414 | PFS Report IIE | 125.00 | 85.95 |
| 0372 | PFS Solutions/Ledger 2E | 20.00 | 13.85 |
| 2809 | PFS Write IIE | 140.00 | 96.95 |
| 0650 | PI-3 12 in Amber Monitor | 249.00 | 162.00 |
| 0495 | Pie Writer 2.2 (40/80) | 149.95 | 103.85 |
| 2907 | Pinball Const. Set (E.A.) | 40.00 | 30.75 |
| 1292 | Pkaso-Universal Intrface | 175.00 | 132.60 |
| 0659 | Power of Visicalc | 14.95 | 10.35 |
| 0584 | Preschool IQ Builder 1 | 23.95 | 16.60 |
| 0461 | Pronto DOS | 29.95 | 20.35 |
| 1279 | Prowriter Nylon Ribbon | 13.50 | 4.50 |
| 1446 | Q-Disk Emulator | $29.00 | 363.10 |
| 0047 | Quest | 34.95 | 24.20 |
| 2111 | Ramcard 16K (MPC) | 99.00 | 60.25 |
| 0634 | Ramcard 16K Microtek | 129.00 | 71.55 |
| 09SS | Ramcard 16K Prometheus | 99.00 | 56.55 |
| 1386 | Ramcard 16K Wizard | 95.00 | 62.85 |
| 0140 | Ramcard 16K-Microsoft | 99.95 | 75.00 |

**800-233-3237**
**In PA 717-533-8125**

VISA® master charge THE INTERBANK CARD

## EASTCOAST SOFTWARE

**40 Hockersville Rd.**
**Hershey, PA 17033**
**MAIL YOUR ORDER OR CALL**
**(717) 533-8125**
**800-233-3237**

**We Ship UPS—Shipping 1% ($2.50 min.)**
**C.O.D. Add An Additional $2.50**
**Hardware (Printers/Monitors)**
**Shipping is $2.50 +4% (U.P.S.)**
**For Air Mail, Canadian, APO/FPO Orders,**
**Shipping $2.50 +4% of Total Order (US Funds)**
**PA Residents Add 6% Tax**

**No Minimum Order**
**Visa-Mastercard-C.O.D.-Check**

**Prices Subject To Change**
**Sorry, No Foreign Orders**
**This Ad Prepared April, 1984**

**μ-SCI**
**MICRO-SCI**

## SPECIAL

A2 Disk Drive ..... $237.80

| CAT# | | LIST | SALE |
|---|---|---|---|
| 1450 | Rhymes & Riddles | $29.95 | $20.70 |
| 0503 | Riteman Plus Printer | 399.00 | 312.80 |
| 0574 | Rocky's Boots | 49.95 | 34.60 |
| 0195 | Sanyo 5500 Printer | 995.00 | 728.90 |
| 0561 | Sat Word Attack Skills | 49.00 | 33.90 |
| 1303 | Saturn 128K RAM Board | 499.00 | 374.30 |
| 0133 | Screenwriter II | 129.95 | 89.00 |
| 0041 | Sensible Speller IV | 125.00 | 86.50 |
| 0400 | Silicon Salad | 24.95 | 17.25 |
| 1416 | Smith Corona TP1 Ribbon | 7.95 | 6.35 |
| 0465 | Snooper Troops 1 | 44.95 | 31.15 |
| 0138 | Softcard | 345.00 | 253.00 |
| 0271 | Software Automouth | 124.95 | 86.35 |
| 0250 | Spellagraph | 39.95 | 27.65 |
| 1291 | Spellicopter | 39.95 | 27.65 |
| 0631 | Spelling Bee Games | 39.95 | 27.70 |
| 0274 | Spy's Demise | 29.95 | 20.75 |
| 2030 | SSM Transend 1 | 89.00 | 67.85 |
| 2906 | Standing Stones | 40.00 | 30.75 |
| 1277 | Starwriter Film Ribbon | 5.50 | 4.50 |
| 0435 | Step-By-Step | 89.95 | 62.30 |
| 1447 | Step-By-Step II | 89.95 | 62.30 |
| 0100 | Sticky Bear A B C | 39.95 | 27.65 |
| 0099 | Sticky Bear Numbers | 39.95 | 27.65 |
| 0292 | Story Machine | 34.95 | 24.20 |
| 1374 | Sup'r Mod—Universal | 69.95 | 53.05 |
| 1445 | Supertext Pro (40/80) | 175.00 | 121.15 |
| 0001 | System Saver | 89.95 | 69.20 |
| 1259 | Taxan 12 in Amber Monitor | 189.00 | 138.65 |
| 1258 | Taxan 12 in Green Monitor | 179.00 | 131.60 |
| 1528 | Taxan Color Mntr W/Audio | 399.00 | 305.50 |
| 0236 | Terrapin Logo | 149.95 | 103.85 |
| 0137 | TG Game Paddles | 39.95 | 27.65 |
| 0136 | TG Joystick W/Toggle | $9.95 | 41.50 |
| 1330 | TG Joystick W/Toggle IIE | 64.95 | 45.00 |
| 1730 | The Accountant | 99.00 | 64.10 |
| 2S97 | The Accountant—VCalc Intfc | 20.00 | 15.40 |
| 0462 | Tip Disk #1 | 20.00 | 13.85 |
| 1281 | Trunk Floppy Storage | 29.95 | 21.50 |
| 0544 | Typefaces | 20.00 | 13.85 |
| 015S | Typing Tutor 2 | 24.95 | 17.30 |
| 2836 | Ultima 3 (Exodus) | 54.95 | 38.05 |
| 0559 | Ultraterm | 379.00 | 284.30 |
| 0072 | Ulysses & Golden Fleece | 34.95 | 24.00 |
| 0062 | Utility City | 29.50 | 20.35 |
| 2992 | Verbatim DS/DD (10) | 46.50 | 37.20 |
| 1721 | Verbatim SS/DD Hardpack | 35.00 | 27.60 |
| 0093 | Verbatim SS/DD Softpack | 34.00 | 26.95 |
| 0063 | Versaform | 389.00 | 263.00 |
| 0361 | Versaform Inv. Template | 49.95 | 34.60 |
| 0648 | Videoterm W/SS & Inverse | 319.00 | 247.05 |
| 2900 | Viewmaster 80 Column | 169.00 | 140.80 |
| 2152 | Visible Computer-6502 | 49.95 | 46.90 |
| 0150 | Visicalc (Special) | 250.00 | 172.00 |
| 1422 | Visicalc IIE (Special) | 250.00 | 172.00 |
| 0422 | Visicalc Pre-Boot | 49.00 | 33.95 |
| 0077 | Visitrend/Visiplot | 300.00 | 225.00 |
| 1480 | Wico Analog Joystick | 49.95 | 38.40 |
| 2936 | Wildcard 2 | 139.95 | 107.10 |
| 2937 | Wildcard Plus | 169.95 | 130.50 |
| 0145 | Wizard & Princess | 32.95 | 22.75 |
| 0144 | Wizardry | 49.95 | 34.60 |
| 0984 | Wizplus | 39.95 | 27.60 |
| 1532 | Wizprint | 24.95 | 17.30 |
| 0284 | Word Handlers Pkg | 169.95 | 117.65 |
| 0342 | Word Juggler IIE W/Lexicheck | 189.00 | 157.50 |
| 0249 | Z-80 Plus Board | 139.00 | 124.75 |
| 0521 | Zaxxon | 39.95 | 27.60 |
| 0296 | Zork I | 39.95 | 27.60 |
| 0141 | Zork II | 39.95 | 27.60 |
| 0379 | Zork III | 39.95 | 27.60 |

***Many More Titles Available!***

*Apple® is a registered trademark of APPLE COMPUTER INC.*

**CHECK ONE: ☐ VISA ☐ MASTERCARD**

Card# _____ Exp _____

Telephone _____

Name _____

Address _____

City _____

State _____ Zip _____

Please enter my order for _____

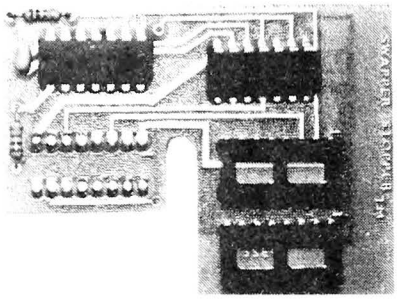
_____

_____

Please specify machine _____

☐ *Please send free catalog*

# SWAPPER STOPPER $26.95



Automatic Game Port Expander
for Apple II+ or IIe

The new Swapper Stopper plugs inside your Apple, and provides **automatic** switching between joystick and paddles. Simply pick up either joystick or paddles, and Swapper Stopper automatically passes control to that device.

Swapper Stopper requires no unsightly externally mounted cables or switches, and installs in seconds. Accepts Game Port devices with DIP connectors. Miniature 'D' adaptor available.

Swapper Stopper is available from stock. Specify version (II+ or IIe).

Dealer inquiries invited.

**A B Computers**
252 Bethlehem Pike
Colmar, PA 18915
215-822-7727

# Guaranteed Error-Free Performance with Scotch® Diskettes by 3M




**SPECIAL** **$21.00** per box of 10
**$19.00** for 5 boxes

**3M** double density diskettes with reinforced hub ring. Packed in 3M two piece storage box. Add $1.50 for plastic library case with 10 diskettes. Larger quantity prices available.

Add $1.50 per order for continental U.S. UPS surface shipping

**A B Computers**
252 Bethlehem Pike
Colmar, PA 18915
215-822-7727


grams where you wanted them without some real mechanical contrivance. You had to load fifty programs, and then you took the one program where you wanted to put it and you put it there. Then you loaded in another fifty programs and put the next program where you wanted it. So again necessity is the mother of invention, and I decided to write this program. It's what really got me going on the Apple computer."

Klem also uses *Chromagraph*, a program by Kevin and Peter Laubach that shows parameter changes on the CRT as you change them on the synthesizer, a tremendous advantage over having to look at the Chroma's tiny data readout (an eight-digit, LED display).

Chroma's programs come on cassette, for loading directly into the synthesizer's microprocessor, which was how Klem had to do it before he introduced an Apple and disk drive to the system. Cassette loading on the Chroma sounds like a submarine emergency-dive Klaxon alert. "You couldn't possibly imagine anyone doing this during a show," shouts Klem. "That's why the computer is so necessary.

"This actually happened at a Siegfried and Roy show before I had the Apple hooked up. I had a five-minute break and there was a sound I wanted to put on here. I had everything all set—volume down, pause set—and I let the pause go, and I figure it's gonna start loading. Nothing happened, and I had to play another passage, so I put the volume back up, played the passage, and then I hit the key to load again . . . and this *noise* like you cannot imagine went out over the showroom PA system. The conductor and everybody in the band loft, including myself, jumped about a foot.

"There's no time in the show, not even to set things up; you just have to push a button and go. Before I got the Chroma, I had to reproduce these sounds with one hand down at the controls and another up on a stack of keyboards, and it was really uncomfortable.

"With the Apple you can do all that silently and quickly, and that's what my programming contribution to this is about."

**Subracting from the Additive.** Next to the Chroma in Klem's music room, and frequently next to it on stage with him, is a Hammond B-3 ("usually treated like an organ, though it's a primitive synthesizer in and of itself"). It is from the additive school of music synthesis. In subtractive synthesis, the waveform is complete from the signal source initially, and you use filtering—a notch filter, low-pass, or high-pass filter—to change the timbre of the sound to get the desired effect.

For the familiar snake charmer, music-of-the-mystic-East bit, Klem narrows a pulse wave down to something that sounds like it might be close to an oboe or an English horn. Starting with the wave shape, he can change the sound by changing the tuning of the filter. The filters are connected in series with each other. The series filter patch takes the output from oscillator A and oscillator B, combining it before the filters, and then, using the high-pass and low-pass filters to make a notch, producing the basic English horn sound. After going through additional machinations with cutoff filters and adding sound envelopes, he ends up with the same series filter patch, except that he now has the sound of an oboe.

"That's what subtractive synthesis is about: You have to hone it down with your own ear and your own abilities, and whatever computer aids you can use. With additive synthesis, you start with nothing and build up the partials [harmonics, single elements of a frequency] you wish to build up. In music, there's something called an overtone series, which consists of sixteen or more partials, depending on how well you can hear, and all those partials, in varying degrees, make up the recognizable sound.

"If you hit a cymbal and really smack it hard, you're probably going to get all the audible partials. Hit a tom-tom and you'll get

## The Alphabits™ serial interface:
## New Interface Standard

**Street Electronics set the design standard for parallel printer interfaces nearly three years ago when they designed the GRAPPLER™.**

**The new ALPHABITS™ serial interface will soon establish a new standard for serial interfaces with bundled software. This new plug-in product for the Apple® II series, which was introduced at the "Apple II Forever Expo," emulates the new Apple IIc serial ports. Now Apple II series users can run software and peripherals designed for the IIc.**

**A hi-res graphics screen printing package with mouse interfacing capabilities is included, as is a IIc compatible connector. The ALPHABITS™ was especially designed as a low-cost product for the increasing number of quality serial printers like the Apple Imagewriter™.**




**Street Electronics Corporation**

1140 Mark Avenue
Carpinteria, CA 93013 California
Telephone (805) 684-4593

Apple® is a registered trademark of Apple Computer, Inc.
Imagewriter™ is a trademark of Apple Computer, Inc.
Grappler™ is a trademark of Orange Micro, Inc.

# MAIL ORDER PRICES!

## A NEW KIND OF COMPUTER STORE — WE DISCOUNT EVERYTHING!

| | |
|---|---|
| ALGEBRA I, II, III, IV EACH | 29.95 |
| ASCII EXPRESS | 89.95 |
| ALS CP/M CARD w/64K MEM | 299.95 |

★ APPLIED ENGINEERING ★

| | |
|---|---|
| Z 80 PLUS | 129.95 |
| //e 64-128K 80 COL | 149.95 |

| | |
|---|---|
| AMDEK 300 AMBER | 149.95 |
| AMDEK COLOR I | 299.95 |
| AST 6 PAK+ | 279.95 |
| MEGA+ | 279.95 |
| BANK STREET SPELLER | 49.95 |
| BANK STREET WRITER | 49.95 |
| BEAGLE APPLE MECH | 19.95 |
| BEAGLE BAG | 19.95 |
| BEAGLE BASIC | 26.95 |
| BEAGLE DOS BOSS | 19.95 |
| BEAGLE DOUBLE TAKE | 26.95 |
| BEAGLE FLEX TEXT | 19.95 |
| BEAGLE PRONTO DOS | 19.95 |
| BEAGLE TIP DISK #1 | 16.95 |
| BEAGLE TYPEFACES | 16.95 |
| BEAGLE UTILITY CITY | 19.95 |
| BROTHER (DYNAX) DX15 | 449.95 |
| DEADLINE | 39.95 |

★ DANA SUPER FAN 44.95
SURGE SUPPRESSOR,
2 GR. OUTLETS, FRONT SWITCH

| | |
|---|---|
| D BASE II | 399.95 |
| DB MASTER IV NEW | 229.95 |
| DISK NOTCHER | 14.95 |
| DOLLARS & SENSE | 79.95 |
| EPSON FX 80 | 459.95 |
| EPSON FX 100 | 659.95 |
| FLIGHT SIMULATOR II | 39.95 |
| MOCKINGBOARD | 79.95 |
| SPEECH CHIP | 89.95 |
| MOCKINGBRD w/SPEECH | 154.95 |

MICROCOM Era 2
300-1200 INTERNAL MODEM
IBM OR APPLE VERSION 339.95
FREE SOURCE TIME & TERMINAL SOFTWARE
COMPLETE COMMUNICATIONS PKG

| | |
|---|---|
| FONTPAK 1, 2, 3 EACH | 16.95 |
| FONTRIX | 59.95 |
| FORMAT II ENHANCED | 109.95 |
| GEMINI 10X 120 CPS | 269.95 |
| GIBSON LIGHT PEN | 199.95 |
| GRAPPLER+ INTERFACE | 115.95 |
| GRAPPLER+ w/16K ON-BOARD BUFFER (TO 64K) | 169.95 |
| HOW TO PROGRAM BASIC | 39.95 |
| HOME ACCOUNTANT | 49.95 |
| HOME WORD | 49.95 |

Lotus 1-2-3
★ 299.95 ★

| | |
|---|---|
| KIDS AND APPLES | 14.95 |
| KOALA PADS | 79.95 |
| MAGIC CALC | 99.95 |
| MAGIC WINDOW II | 99.95 |
| MAXELL SSDD | 23.95 |
| MICRO SCI XL DRIVE | 169.95 |
| MICROSOFT SOFTCARD | 239.95 |
| MICROSOFT //e SOFTCARD 80 COL & 64K (1 CARD) | 299.95 |
| MILLIONAIRE | 49.95 |

Hayes

| | |
|---|---|
| MICROMODEM //e | 249.95 |

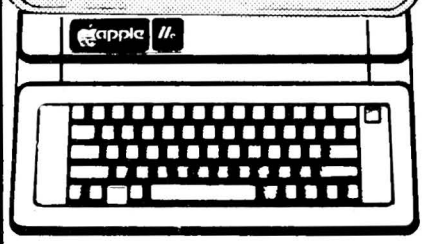
SUPPORTS II, II+, //e
FREE SOURCE SUBSCRIPTION
& SMARTCOM I SOFTWARE

| | |
|---|---|
| 1200 BD RS 232 | 479.95 |
| 1200 B (IBM) | 429.95 |

RANA SYSTEMS

| | |
|---|---|
| Elite One | 239.95 |
| Elite Two | 379.95 |
| Elite Three | 479.95 |
| Rana Controller | 79.00 |

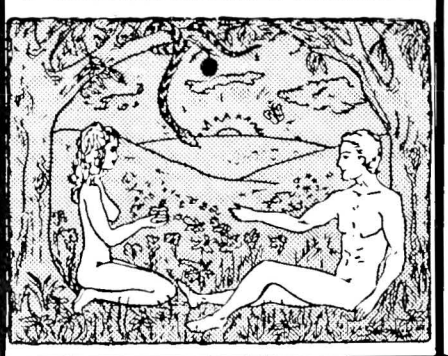
GARDEN OF EDEN
COMPUTERS
16485 Magnolia
Westminster, CA 92683
½ blk. N. of the 405 Frwy.
Mon-Fri 10-6:30 Sat 10-5
CLOSED SUNDAYS & TUESDAYS
ORDERS ONLY
800-762-3227
OUTSIDE CALIFORNIA ONLY
714-841-4994
INSIDE CALIFORNIA




★ NEW ★
ABATI (BY DANA) LQ 20
Letter Quality Printer
18 CPS, QUME DAISY WHEEL & RIBBON
CARTRIDGE COMPATIBLE, 1 YR. WARR.
TERRIFIC QUALITY AT A
MOST AFFORDABLE PRICE!
$429.95

| | |
|---|---|
| ★ NEC 2050 (IBM) | 799.95 |
| ★ NEC 3510 SERIAL | 1299.95 |
| ★ NEC 3530 PARALLEL | 1299.95 |
| ★ NEC 3550 (IBM) | 1599.95 |
| ★ NEC 7730 PARALLEL | 1699.95 |

★ INCLUDES RIBBON & THIMBLE ★



| | |
|---|---|
| MULTIPLAN MACINTOSH | 129.95 |
| MULTIPLAN DOS or CP/M | 129.95 |
| MUSIC CONST SET | 34.95 |
| NOVATION APPLE CAT II | 249.95 |
| NOVATION EXP MODULE | 39.95 |

| | |
|---|---|
| OKIDATA 92P APPLE OR IBM | 419.95 |
| OKIDATA 93P COMPATIBLE | 619.95 |

FREE PLUG 'N PLAY
w/IBM CABLE PURCHASE

| | |
|---|---|
| PFS FILE //e, II+ or //c | 79.95 |
| PFS GRAPH //e, II+ or //c | 79.95 |
| PFS REPORT //e, II+ or //c | 79.95 |
| PFS WRITE //e or //c | 79.95 |

| | |
|---|---|
| PADDLE ADAPPLE | 26.95 |
| PIE WRITER | 109.95 |
| PINBALL CONST SET | 34.95 |
| PROMETHEUS PRO MODEM 1200 BD | 369.95 |
| PROMOTHEUS VERSA CRD | 149.95 |
| PROWRITER 8510 | 349.95 |
| SARGON III | 39.95 |
| SATURN SYSTEM 128K | 379.95 |
| SENSIBLE SPELLER IV | 79.95 |
| SUPER 5 ½ HGT DRIVE | 199.95 |
| SUPERTEXT PRO | 119.95 |
| SYSTEM SAVER FAN | 64.95 |
| TAXAN 12" COLOR RGB | 299.95 |
| T.G. JOYSTICK | 42.95 |
| T.G. SELECT-A-PORT | 42.95 |
| "THE WORD" BIBLE | 159.95 |
| THINK TANK | 119.95 |
| THUNDERCLOCK PLUS | 109.95 |
| TYPING TUTOR | 21.95 |
| ULTIMA III | 39.95 |
| USI 12" HI RES AMBER | 109.95 |

Videx ULTRATERM
40-80-96-132-160 COL
BUILT IN SOFTSWITCH/INVERSE CHIP
SUPPORTS II, II+, //e
SPECIAL LOW PRICE 189.95

| | |
|---|---|
| VISICALC //e 128K | 199.95 |
| WIZARD IPI PARALLEL INTERFACE | 62.95 |
| WIZARDRY | 36.50 |
| WORDSTAR | 279.95 |
| WORDSTAR or INFOSTAR w/FREE CP/M CARD | 299.95 |

LIST HANDLER, WORD HANDLER
AND SPELL HANDLER
ALL 3 PIECES ★ 79.95 ★

| | |
|---|---|
| ZAXXON | 29.95 |
| ZENITH 12" GREEN | 99.95 |
| ZORK I, II, III EACH | 29.95 |

BECAUSE HARDWARE AND SOFTWARE PRICES ARE CHANGING SO RAPIDLY, WE URGE YOU TO CALL US FOR OUR VERY LOWEST CURRENT PRICES!

**WE APPRECIATE YOUR BUSINESS** and will do everything we can to make you happy.

**TERMS:** F.O.B. Westminster, CA. We accept VISA, Mastercard, Cash, Checks, Certified Checks are better. Money Orders and Purchase Orders (2% 10-Net 15). Add 2% for bank cards & P.O.'s. Ask about our return policy. Prices are subject to change and hopefully they will go down!

Unless otherwise noted, all prices are Apple.

Apple is a registered trademark of Apple Computer.

Subject to stock on hand.

a group of overtones in a lower range with various strengths. There'll be some high partials in that mass of sound that give it the characteristic you recognize. You know that's a drum playing, or at least you think it is. I can demonstrate some things on here that sound better than my own drum set. But the thing with additive synthesis is you can increase the amplitude of individual partials to get exactly the kind of sound you're trying to duplicate."

**Lush Life.** Klem is happy with his Vegas gig; he doesn't do studio work, the usual means of support for professional musicians trying to live a fairly normal life.

"I've had calls to go down to L.A., but I basically try to stay away from that as much as possible because it takes a lot of preparation and the money is not as good for what I'm trying to do. What I'm looking for in music now is a steady grind to support my computer activities. It's kind of a dull existence, but that's the idea: to take some of the rough edges off. I've got a five-year plan, and I'm pretty much on schedule. I figure by the time I'm forty, if I get lucky at all with the software I'm developing, I will be completely in computers, and I'll just do music for fun, which is what I'd like to do."

He manages to have some fun with music now, anyway. There's a ten-minute segment of *Beyond Belief* in which he gets to play solid jazz behind one of the acts. In his free time, he plays in several bands made up of other Vegas musicians. Evenings, he can often be found at the Las Vegas union hall, which—the last in the country to still do so—will have five to twenty musicians on the stand, playing big band music or jazz combo stuff.

Klem believes that synthesized music is "just in its infancy. There are just so many possibilities. For instance, right now the typical multivoiced synthesizer like the Chroma has a maximum standalone capacity of sixteen notes, and if you add an expander, you can get thirty-two notes at one time. Well, a keyboard player needs to be able to play all the notes at once; if he wants to do a run or a smear or some kind of a messy noise he has to be able to play more than that amount of notes. I need to see them put these boards on a chip, an IC of some kind. They do that, they can increase the number of notes to at least, say, ninety, and they'll really have something. Right now, the orchestra effects aren't possible; you have to do it through overdubbing and tape."

**Just an Old Sweet Song.** Still, as sophisticated as synthesizers may get, it takes accomplished musicians to fully exploit them. Klem is not one to program away the soul in his music. He tells a story from the time he was a struggling musician just out of the service and on the road, trying to make a living playing one-night stands at small clubs and bars.

One night in Rochester, New York, he walked into the Roundabout, a businessmen's bar where the suits came to drink their lunch. On the bandstand was Bill Evans, one of the all-time legends of jazz, a seminal influence on an entire school of playing.

The businessmen were talking, laughing, eating, and drinking while Evans's incomparable artistry served as aural wallpaper. After the set, Klem went up to Evans and asked him why the hell he was playing in a joint like this. Evans replied that he always used this gig, two weeks out of every year, to come up to Rochester and visit the grave of his bass player, Scotty LaFaro, who was killed there in a car crash in 1957 and was buried in a cemetery a few blocks down from the club.

"This was in 1970," Klem says. "He'd gone back every year since. Thirteen years. . . . People in the music business love each other.

"The hotel owners would love to be able to replace musicians with a synthesizer. They'll never be able to do it. Live music is live. The whole thing is it's different every time." ■


# SUBSCRIBE NOW TO GET FACTS AND FICTION, TIPS AND OPINIONS

Every issue of *Softalk* has articles that no Apple owner wants to miss. And the lineup for the next few issues is even more outstanding.

***FACT:*** How do Apples contribute to the field of architecture? What's their role and how well do they perform? *Softalk* will carry the answer.

***FICTION:*** How did Apples contribute to the making of *2010: Odyssey Two* from MGM? *Softalk* will tell how, including stills never before released of the sequel to *2001: A Space Odyssey*.

***TIPS:*** How do you get variables in your catalogs? How do you effectively use randomizing in your programs? IInd Grade Chats will tell you. How do you access those assembly language and monitor subroutines? A new column from Bob Bishop reveals all.

***OPINIONS:*** What is the best use of the microcomputer in education and how do we measure up to that standard today? Doug Carlston examines the subject in a Just Think piece.

***PLUS:*** The usual potpourri of reviews, columns, news, and features that distinguish *Softalk* from other Apple magazines.

Useful, fun, entertaining, dynamic, informative. That's *Softalk*. Subscribe now. Don't miss an issue.

Send $24 for 12 issues to:
Softalk Circulation
Box 7039
North Hollywood, CA 91605

# Apple's® new ProDOS™ is pro Thunderclock™

When Apple designed their new ProDOS operating system for the Apple II family, they included an important new function—the ability to automatically read a clock/calendar card. Nice touch.

It means that every time you create a new file or modify an existing one, the time and date are automatically recorded and stored in the CATALOG.

Now you can instantly know the exact time your files were last updated.

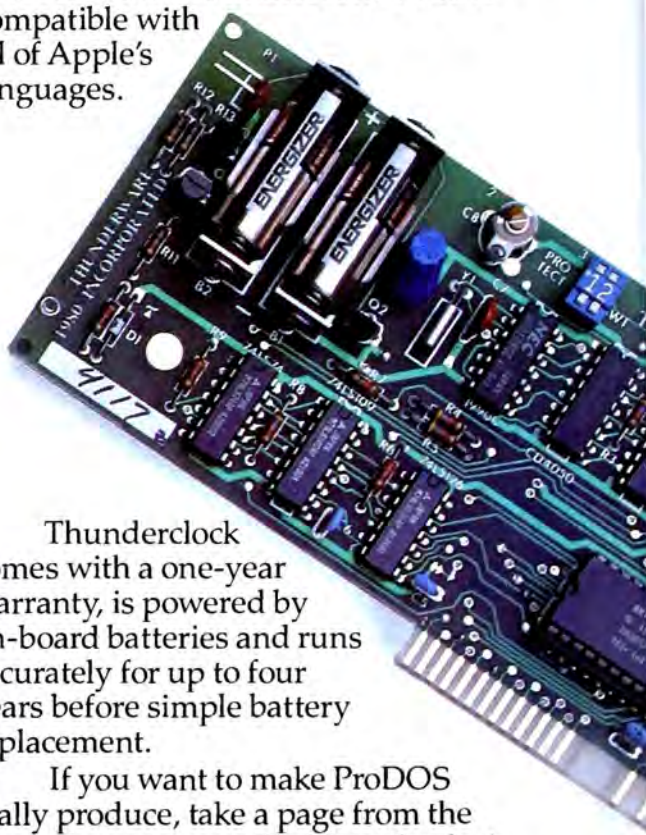
Apple could have chosen any clock for ProDOS to recognize, but they chose only one.

Thunderclock.

It's the only clock mentioned in the ProDOS manuals.

That's a nice stroke for us, but it's even better for you. Because, in addition to organizing your disk files, Thunderclock will add a new dimension to all the new ProDOS-based software. For instance, with business or communications software you can access a data base or send electronic mail automatically, when the rates are lowest. Even when you're not around. And that's just a start. The better you can use your Apple, the better you can use a Thunderclock.

Thunderclock gives you access to the year, month, date, day-of-week, hour, minute and second. It lets you time intervals down to milliseconds and is compatible with all of Apple's languages.




Thunderclock comes with a one-year warranty, is powered by on-board batteries and runs accurately for up to four years before simple battery replacement.

If you want to make ProDOS really produce, take a page from the manual—get yourself a Thunderclock—the official ProDOS clock.

See your dealer or contact us.

**THUNDERWARE, INC.**
44 Hermosa Avenue, Oakland, CA 94618
(415) 652-1737

Apple II ProDOS User's Manual

Re-enter BASIC by pressing
(CONTROL)-(G)
and then pressing (RETURN).

**Using a Clock/Calendar Card**

Each time you update a file, ProDOS performs a JSR (jump subroutine) to memory location 48902 ($BF06). This is the entry into the DATETIME routine. If there is no DATETIME routine installed, there is an RTS in this location.

ProDOS sees a Thunderclock in one of the slots, it sets ... a jump into the routine for you. If you want ... calendar card with ProDOS, you have ... it in memory each time you ... and place

**MODIFIED and CREATED (File Dates)**

These columns contain the dates and times at which you created and last modified your files. The first half of the MODIFIED column is displayed by the CAT command, both columns are displayed by the CATALOG command. These dates and times are correct only if

- you have a Thunderclock™ or
- you have used the TIME program, described in Appendix D, or
- you have some other type of clock/calendar card, and have set it up as explained in Chapter 9

... there is a Thunderclock interface card in one of the Apple II's ... ProDOS recognizes the card and sets itself up to read the ... and time from the card.

**...LE (Maximum File Size)**

... lists the number of bytes that each file will use if all the ... allotted to that file is filled (sometimes it is not).

**...e Properties)**

... important properties of some types of ... or precedes each number in this column. The ... given in Table 3-2.

**...ing**

**...dress:** This is the memory address from ... binary file (BIN) was saved. The address is ... hexadecimal.

**...th:** This is the size (in bytes) of each ... text file (TXT) or user defined file ... is in decimal.

... placed in the same part of ... a binary file the property in ... (for load Address) followed ... binary file was last placed.

...er 4: BASIC Programs

® Apple and the Apple logo are registered trademarks of Apple Computer, Inc.

™ ProDOS is a trademark of Apple Computer, Inc.

# EVERYONE'S GUIDE TO ASSEMBLY LANGUAGE



BY JOCK ROOT

## Captain Hooks

The Apple is a very civilized creature—it communicates mostly in words, just like a person. That is, most of the Apple's input and output is in the form of "verbal information": letters, numbers, and punctuation marks, in various combinations.

When a person is doing "verbal behavior"—talking, listening, or thinking to himself—a stream of words is flowing through his mind. When he's speaking, the stream of words is being *output*; when he's listening to someone else, the stream of words in his awareness represents an *input*. In either case, he is aware of the words, one by one, as they go through his consciousness.

The Apple is organized in much the same way. There is a specific routine that deals with all incoming verbal information, deciding what to do with it (depending on what else is going on in the system); another routine does the same for outgoing verbal information. The Apple is faster than we are, and it works character by character instead of word by word; but it's doing much the same thing.

Last month, we described the mechanics of keyboard input in some detail; this month, we will explain the logic of input and output processing. We'll also show you how to modify these routines and give you a program that uses these tricks to change the format of a printed Basic listing.

**Do It to This One.** Whether it's doing input or output, the Apple deals with one character at a time. Elsewhere in the system, these characters are combined into words or numbers or other things; but at the point of input or output, each individual character is a separate task for the system.

To handle that task, the computer uses two things: the accumulator and a selected subroutine. The accumulator is the main "work area" in the system, the place where the microprocessor puts a byte of data in order to test it, or modify it, or transfer it to somewhere in memory.

If you look at it one way, the input and output operations are similar: Call the appropriate subroutine, using the accumulator to hold the desired character. However, there's more to it than that. In terms of what you have to do, the two are opposite to each other. For output, you have to (first) put the character you want to output into the accumulator and (second) call the proper output subroutine. For input, you have to (first) call the proper input subroutine and (second) take the new character out of the accumulator.

The reason for this arrangement is to provide a simple and consistent pattern for input and output—to keep things neat and orderly (always very important in computer work). This way, no matter what you're outputting to or inputting from—a printer, a network or time-sharing service, another computer, or simply your own screen and keyboard—the pattern will always be the same. Because of that, any program can command those capabilities. All it has to do is follow the standard pattern.

That's all very well, but it leaves a few questions unanswered. For starters, what's an input (or output) routine, and how do you call one? You call it as a subroutine (instead of jumping or branching to it), so that the program will come back to where the subroutine was called from when it finishes. You call COUT, for example (the Apple's main character output routine), with JSR $FDED.

**Mailboxes.** There's a bit more to the standard input and output routines than we've mentioned: There are also a couple of "mailboxes." A mailbox, as we use the term, is a section of memory that can hold a "forwarding address": A program can read what's in the mailbox and thus find the address of the routine it really wants (this is called an *indirect jump*).

The Apple has a standard input mailbox (called KSW) and a standard output mailbox (CSW). The names are a bit confusing. CSW is short for *character output switch*, which is an odd way of putting it (switches are usually used for on/off codes, not for addresses). KSW stands for *keyboard input switch*, which is also odd, since this mailbox is used for any kind of input: keyboard, modem, serial or parallel port, or whatever. You just have to remember that CSW is the output one and KSW is the input one.

Each of these mailboxes takes two bytes of memory. As you remember, the Apple's memory field contains the addresses from $0000 to $FFFF; but each of those addresses can only store a number from $00 to $FF. Thus we need two memory addresses for each mailbox, one to store each half of the address.

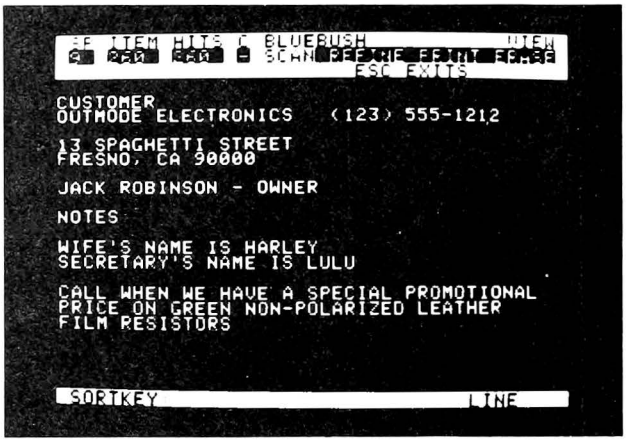
The output mailbox CSW is at $0036 and $0037 (54 and 55 decimal), and the input mailbox KSW is at $0038 and $0039 (56 and 57 decimal).

Whenever a program wants to change the output setup of the Apple (to send output to a printer, for example), all it has to do is change the address in CSW. From then on, all output characters will be handled by the new routine. The same applies to character input: Just change the address in KSW and the program will go to the new address for inputs.

**The Hooks.** For that reason, these two mailboxes are sometimes referred to as *hooks*: KSW is the *input hook* and CSW is the *output hook*. If you want to hook up a different input routine to your program, you can simply hang the chosen input routine on the system's input hook (that is, put its address in KSW), and you're all set.

There's one other thing you have to remember when you store an address. When you separate a hexadecimal address into two bytes, the left-hand half is called the "high byte," or most significant byte (MSB), and the right-hand half

# How to find Jack Robinson quicker than you can say it.




**Bluebush Speed File™ is a contents addressable filing system. So no matter where you have Jack Robinson, Speed File searches through the contents of your files and pulls his dossier out for you in less than a second.**

And putting information in is as easy as getting it out. No fields, formats, codes or keywords. Enter your data any way you like, and your files are automatically maintained in the sort order you've chosen: numerically, alphabetically, by name, time of day, date—anything that suits your purpose.

For example, in less than one second, Speed File will find everything you've entered that includes the words "Tuesday, 10/27," and present you with an agenda for that day, which you can then print out.

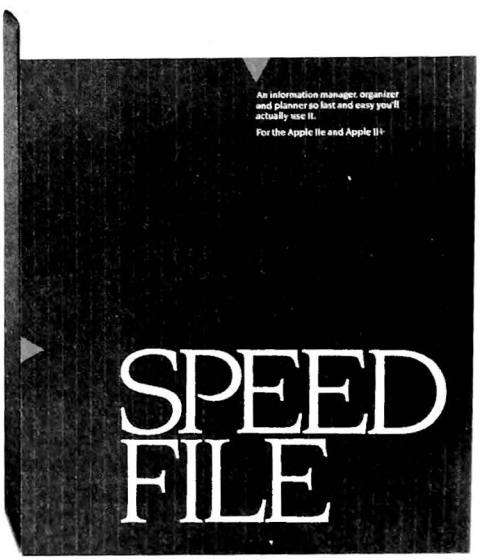
When the phone rings, Speed File can have your caller's "file" on the screen, instantly, even if you don't remember the correct spelling or the last name! In that file you have, of course, everything you need to impress the heck out of customers and prospects. Spouse's name, birthday, date and amount of last order, color of Porsche, where you had lunch, and who paid for it.

Speed File makes organizing, sorting and retrieving any kind of information so simple, fast and effective, you'll find yourself actually doing all the things you said you would when you got your Apple.® Addresses; appointments; research notes; parts lists; employee records; notes and references for the Great American Novel; credit card and insurance information; real estate listings. Anything.

Bluebush Speed File for the Apple II+ and Apple IIe. $125.00 at your local software store. Or, call our toll-free number and order direct: (VISA/MASTERCARD/AMERICAN EXPRESS CARD) 800-241-1994; in California, 800-241-1989 or 408-244-1631. Bluebush Incorporated, Post Office Box 3585, Santa Clara, California 95055.

*Speed File at a glance.*

** Phenomenal speed * All options selected with cursor movement * No command structures to learn * Free-form data entry * 53K byte storage with language card; 37K byte with 48K Apple * Optional password protection * Program and full database loaded and ready in less than 15 seconds * Information automatically sorted. All "housekeeping" operations performed automatically in the background while you work * Records displayed exactly the way you entered them * Searches can be redefined or modified using AND, NOT, OR modifiers any number of times * Data automatically recorded twice for safety * Refreshingly brief, clear documentation that you won't need except to get started. * Attractive, durable, linen binder and slipcase package.*




**BLUEBUSH™**

© 1984, Bluebush Incorporated. Bluebush Speed File is a trademark of Bluebush Incorporated. Apple is a registered trademark of Apple Computer.

is the "low byte," or least significant byte (LSB). For example, the MSB of $1234 is $12 and the LSB is $34.

The thing to remember about that is, you have to store the bytes in reverse order: low byte first, then high byte. The address $1234, for example, must be stored as $34 $12.

For this reason, you will sometimes see CSW referred to as CSWL—short for CSW, low byte. In this usage, the address following CSW is called CSWH, for CSW, high byte. Thus CSWL is $36, or 54, and CSWH is $37, or 55. To send output via a routine starting at $1234, you must store $34 in CSWL and $12 in CSWH. The two bytes of KSW, $38 and $39 (56 and 57), work the same way.

The normal or default settings for the hooks (the values the Apple stores there on startup or reset) are as follows: Input is from the keyboard, via a routine called KEYIN at $FD1B (KSWL contains $1B, KSWH holds $FD); and output is to the screen, via COUT1 at $FDF0 ($F0 is in CSW, $FD in CSW+1).

**CSW, KSW, and DOS.** There's one problem with the situation we have described so far: It's only true if you don't have a disk drive. When DOS is running, things are a little more complicated. You can get the hooks changed, when you need to; but you can't do it by yourself—you have to ask DOS to do it for you.

In order to do its job, DOS needs to monitor both the input stream and the output stream; so it sets both KSW and CSW to point into itself. However, it keeps a record of the original values in the hooks (the addresses of the real input and output routines), so it can use them appropriately.

Once DOS has picked up the original values and replaced them with its own, it becomes very stubborn about those locations. If you try to change any of the values, by poking or storing new numbers on top of them, DOS will reject them. The next time a call is made to an input or output routine, DOS will erase your changes, restore its own values, and go on as if nothing had happened.

The way to get the hooks changed, when DOS is running, is to "say please" to DOS. There is a routine in memory that instructs DOS to update its input and output pointers, using the new information in CSW and KSW. The routine starts at $3EA (1002 decimal); in order to change the hooks, you must first store the desired values in the mailboxes and then JSR $3EA. You can do the same thing from Basic by poking the desired values and then using *call 1002*.

**List Shifter.** Here's an example of what you can do by playing around with the output routine—a program to change the format of a printed Basic listing. What usually happens, when you send a listing to the printer, is that it comes out in a narrow column, half the width of the page and squeezed against the left edge of the paper. This program will give you a wider listing, more nearly centered on the page; or you can change it slightly to get a narrow column on the right side of the page, which will let you get two columns of listing on one sheet of paper.

The program works by monitoring the output stream (the stream of characters going to the printer, by way of CSW), looking for a carriage return character. Whenever it finds one, it interrupts the output flow after the return—when the printer is ready to start at the left margin—and inserts fifteen spaces. Then it lets normal output flow resume. This moves the whole listing fifteen spaces in from the margin, leaving plenty of room for binding.

The program also disconnects the screen from the output processing cycle. This means that the listing is no longer restricted to forty-character lines (the width of the screen), so the listing will not be in a narrow column, as it usually is.

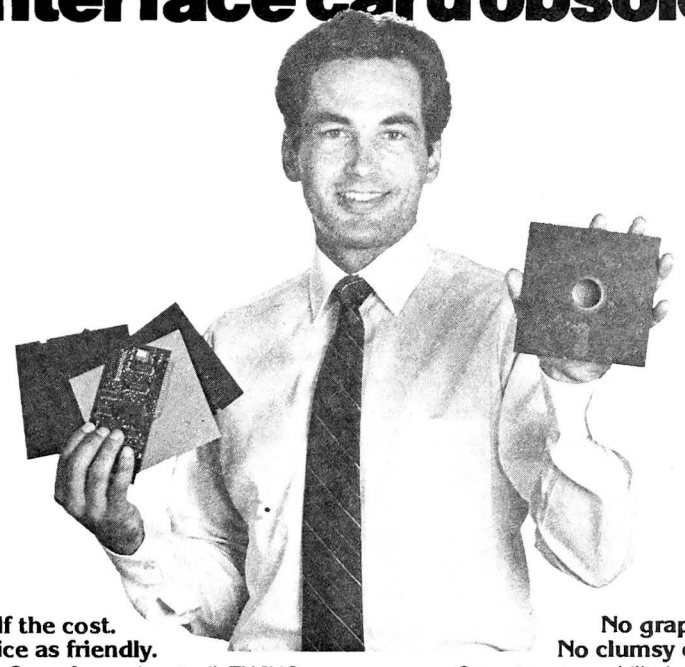
There is a drawback to this, however. If the screen is not part of the output process, you can't see what you're typing. It will come up on the printer, but only after you finish each line, not character by character as it does on the screen. The answer to this is very simple—just press control-reset: As you remember, the Apple restores the hooks to screen and keyboard on a reset.

The program is in two sections (see the listing): First there is a setup section (lines 22 to 42) and then the main program, the part from ENTER (line 44) to EXIT (line 55).

The setup section begins by turning on the printer driver card, which is assumed to be in slot 1. The "start" address for a card in slot 1 is $C100: We need to put this address in the output hook and tell DOS about it (as noted above). That will turn on the printer card; it has the same effect as typing *pr#1* from the keyboard.

We will need to update the output hook


# How $69.95 of software makes $145 of graphics interface card obsolete.



**Half the cost. Twice as friendly.**

Our software does it all. FLYING COLORS™ with PRINTOUT PROGRAM is a powerful, interactive drawing package integrated with a slide projector program and a printout program.

You no longer have to buy several software packages and/or a special graphics interface card to do what this one package does.

Create stunning drawings, make presentations and printout on 37 of the most popular dot matrix printers.

**Acclaimed graphics program with Slide Projector feature.**

Draw using a joystick, paddles or touch tablet. Generate lines, squares, circles or draw freehand. Fill or erase in a snap. Use a variety of brushes, colors or hues. Insert text and use "micro mode" for exacting details. Create "slide shows" and presentations with our Slide Projector program.

**No graphics cards. No clumsy commands.**

Our printout capability is all in the menu-driven software. You can forget about complicated key commands or special graphics cards. Plus, our program easily makes multiple copies, magnifies both text and graphics, prints pictures from other programs and much more.

FLYING COLORS™ WITH PRINTOUT PROGRAM COMPUTER GRAPHICS SOFTWARE

For the Apple II+, IIe

**Order Toll Free: 800-874-1888**
**In California call (415) 331-3022**

twice in this program, once to turn on the card (above) and again to connect our routine (later). We wrote a subroutine for that, called REHOOK, and it starts on line 40. Operation is simple. It stores the accumulator in CSWL and the X register in CSWH. Of course, you have to load the accumulator and the X register properly before you call it.

We do that, the first time, in lines 22 and 23. Then we call REHOOK with a JSR (jump to subroutine), which means that if we work it right we should eventually get back here. REHOOK ends in a jump to TELDOS (line 42), which sends us onward, not back; but TELDOS (the DOS update subroutine) ends in an RTS, which will send us back to line 26 (the instruction that follows the original subroutine call).

Line 26 prints a carriage return to prepare the printer card for a new instruction. Line 27 sends the printer alert character, control-I, which signals a special command to the printer (this is similar to the use of control-D as a DOS alert character).

Lines 29 through 34 send the message *80N*, which is the special printer command. It sets the system for eighty-column output to the printer and disconnects the screen. This must be followed by a carriage return, which is done by line 35.

Finally, lines 37 and 38 put the address of our routine into the accumulator and X register, ready to fall into the REHOOK routine. REHOOK jumps to TELDOS again, which persuades DOS to use our routine instead of the printer card. Finally, the RTS at the end of TELDOS sends control back to the original calling program (which is probably you at the keyboard); and from then on, everything will be printed fifteen columns in from the margin.

That part is taken care of by the main program. Line 44, the entry point, pushes a copy of the outgoing character on the stack, so we have a spare. The outgoing character is already in the accumulator when we get here, as required by the standard pattern of output procedure.

Line 45 is what actually prints the character. The address we have labeled PRINT, $C102, is the *character output* address of the printer firmware (not the same as the start address mentioned earlier, $C100). This is the address you call when you have a character in the accumulator, which is supposed to go to the printer.

After the character has been printed, line 46 recovers our spare copy from the stack, in case the original in the accumulator was mangled by the output process. Line 47 checks to see if it's a carriage return; if it isn't, we're finished; so line 48 branches to the exit.

If it's a carriage return, we need to output fifteen spaces for a margin: Lines 51 and 52 take care of that. However, we got here in the middle of an output operation, and some output operations use the X register; so we had better save it (line 50) before we use it (line 51), and restore it (line 53) afterward.

**User Notes.** Using the program is very simple. Before you start, you must have a printer connected and turned on; it doesn't matter whether it's been activated (with pr#1 or equivalent) or not.

First, bload the List Shifter program from disk (do not brun it). Then, load the Basic program that you want to list. Finally, type

```
CALL 768: LIST
```

and the printer will print a centered listing. Remember to press reset to get the screen back afterward. If you don't want to use reset, you can get the same effect by typing *pr#0*.

If you want to print a narrow column of listings on the right side of the page, to get two columns on one page, change the value of MARGIN in the program. Try setting MARGIN (line 11) equal to 40 and reassembling the program.

This routine is designed to work with an Apple Parallel Printer Card, model A2B0002X. The built-in firmware of that card dictated several things about this program: in particular the printer alert character (control-I), the "80 columns and no screen" command (80N), and the address of the character-output routine ($C102). If you use a different printer card, you may have to use different values or procedures to get the same effects—refer to the documentation for your printer card. ■

```
                                1  * * * * * * *
                                2  *           *
                                3  *    LIST   *
                                4  *           *
                                5  *  SHIFTER  *
                                6  *           *
                                7  * * * * * * *
                                8
                                9          ORG  $300      CALL 768 TO START
                               10
                               11 MARGIN   =    15        WIDTH OF LEFT MARGIN
                               12
                               13 PALERT   =    $89       PRINTER ALERT CHAR, CONTROL-I
                               14 CR       =    $8D       CARRIAGE RETURN CHAR
                               15 CSW      =    $36       CHARACTER OUTPUT ROUTINE VECTOR
                               16 TELDOS   =    $3EA      DOS UPDATE I/O HOOKS ROUTINE
                               17 PRINT    =    $C102     PRINTER DRIVER OUTPUT ADDRESS
                               18 PRBL2    =    $F94A     PRINT (X) BLANKS THRU COUT
                               19 COUT     =    $FDED     CHARACTER OUTPUT ROUTINE
                               20 CROUT    =    $FD8E     OUTPUT A CARRIAGE RETURN
                               21
0300: A9 00                    22         LDA  #0        PRINTER FIRMWARE START, LOW BYTE
0302: A2 C1                    23         LDX  #$C1       AND HIGH BYTE:
0304: 20 25 03                 24         JSR  REHOOK    STORE IN CSW TO ACTIVATE PRINTER
                               25
0307: 20 8E FD                 26         JSR  CROUT     OUTPUT A CARRIAGE RETURN
030A: A9 89                    27         LDA  #PALERT   THE PRINTER ALERT CHAR
030C: 20 ED FD                 28         JSR  COUT       SEND IT OUT, THEN
030F: A9 B8                    29         LDA  #"8"      SET
0311: 20 ED FD                 30         JSR  COUT        THE
0314: A9 B0                    31         LDA  #"0"         PRINTER
0316: 20 ED FD                 32         JSR  COUT          FOR
0319: A9 CE                    33         LDA  #"N"            EIGHTY
031B: 20 ED FD                 34         JSR  COUT              COLUMNS
031E: 20 8E FD                 35         JSR  CROUT     END WITH ANOTHER CARRIAGE RETURN
                               36
0321: A9 2C                    37         LDA  #<ENTER   PREPARE TO REHOOK: LOW BYTE
0323: A2 03                    38         LDX  #>ENTER    AND HIGH BYTE OF OUR ROUTINE
                               39
0325: 85 36                    40 REHOOK  STA  CSW       UPDATE LOW BYTE
0327: 86 37                    41         STX  CSW+1     UPDATE HIGH BYTE
0329: 4C EA 03                 42         JMP  TELDOS    UPDATE DOS AND RETURN TO CALLER
                               43
032C: 48                       44 ENTER   PHA  .         SAVE A COPY OF OUTPUT CHAR
032D: 20 02 C1                 45         JSR  PRINT      THEN OUTPUT IT
0330: 68                       46         PLA  .         RECOVER THE COPY AND
0331: C9 8D                    47         CMP  #CR       TEST FOR CARRIAGE RETURN:
0333: D0 0B                    48         BNE  EXIT       IF NOT, THEN FINISHED
                               49
0335: 8E 41 03                 50         STX  TEMP      ELSE PUT X IN A SAFE PLACE
0338: A2 0F                    51         LDX  #MARGIN   PRINT X SPACES
033A: 20 4A F9                 52         JSR  PRBL2      FOR A MARGIN
033D: AE 41 03                 53         LDX  TEMP      RECOVER X
                               54
0340: 60                       55 EXIT    RTS  .         RETURN TO CALLER
                               56
0341: 01                       57 TEMP    DFB  1         STORAGE FOR X
```


**APPLE to Burroughs or IBM-PC to Burroughs Interfacing**

- TD830/MT983 Terminal Emulation
- File Transfer Software
- Mark-Sense reader interfacing to Burroughs for automated test grading, etc. (Apple only)
- Addressable Printer Option
- Complete Selection of Burroughs-to-Micro hardware
  - Asynchronous modem connect
  - Synchronous modem connect
  - TDI Direct Connect
  - Concatenation (Daisy Chain) port
  - Printer port
- Easily Installed

MIDWEST DATA SOURCE, INC.

• 1010 NIMITZ ROAD, CINCINNATI, OHIO 45230 513-231-2023
• 33 HARBOR LAKE CR., SAFETY HARBOR, FL 33572 813-726-3320

# NORTHEASTERN SOFTWARE

**Apple Computers — Franklin Computers — Call**

88 Ryders Lane, Stratford, Connecticut 06497

- **Up to 50% off**
- **New larger facilities to serve you better**
- **School & corporate purchase orders accepted**
- **No additional charges for credit card orders**

## Entertainment

| | |
|---|---|
| Sega Star Trek | 30.00 |
| Sega Buck Rogers | 30.00 |
| Sega Congo Bongo | 30.00 |
| Centipede | 27.00 |
| PAC Man | 27.00 |
| Donkey Kong | 27.00 |
| Dig Dug | 27.00 |
| Sorcerer | 30.00 |
| Suspended | 30.00 |
| Zork I, II, III | 24.00 |
| Witness | 30.00 |
| Deadline | 30.00 |
| Planetfall | 30.00 |
| Enchanter | 30.00 |
| Infidel | 30.00 |
| Sea Stalker | Call |
| Ultima III | 36.00 |
| Caverns of Callisto | 23.00 |
| Lode Runner | 24.00 |
| Choplifter | 24.00 |
| Spare Change | 24.00 |
| Eagles | 26.00 |
| Objective Kursk | 26.00 |
| President Elect | 26.00 |
| Questron | 35.00 |
| Rails West | 26.00 |
| Queen of Hearts | 23.00 |
| Fortress | 23.00 |
| Pro Tour Golf | 26.00 |
| Ring Side Seat | 26.00 |
| Cosmic Balance II | 26.00 |
| Computer Baseball | 26.00 |
| Geopolitique 1990 | 26.00 |
| Epidemic | 23.00 |
| North Atlantic 86 | 39.00 |
| Germany 1985 | 39.00 |
| Flight Simulator II | 35.00 |
| Night Mission Pinball | 23.00 |
| Wizardry I | 32.00 |
| Wizardry II (Night of Diamonds) | 22.00 |
| Wizardry III (Night of Llylgamyn) | 26.00 |
| Wizprint | 19.00 |
| Crypt of Media | 22.00 |
| Rescue Raiders | 21.00 |
| Cubit | 26.00 |
| Zaxxon | 25.00 |
| Pooyan | 21.00 |
| The Spy Strikes Back | 18.00 |
| The Quest | 18.00 |
| Minit Man | 18.00 |
| Bouncing Kamangas | 18.00 |
| Coveted Mirror | 22.00 |
| Mr. Cool | 26.00 |
| Frogger | 23.00 |
| The Prisoner | 23.00 |
| Championship Boxing | 20.00 |
| BCs Quest for Tires | 22.00 |
| The Dark Crystal | 26.00 |
| Wizard of Id Touch Type | 20.00 |
| Fax | 20.00 |
| Jumpman | 26.00 |
| Stellar 7 | 24.00 |
| Ken Uston's Blackjack | 46.00 |
| Caverns of Frietag | 20.00 |
| Castle Wolfenstein | 20.00 |
| Intellectual Decathalon | 26.00 |
| Millionaire | 39.00 |
| Spitfire Simulator | 26.00 |
| Air Sim III | 27.00 |
| Sargon II | 22.00 |
| Sargon III | 32.00 |
| Miner 2049er | 24.50 |
| Death in the Caribbean | 22.00 |
| The Heist | 24.50 |
| Critical Mass | 27.00 |
| Ddesta Chess 7.0 | 45.00 |
| How about a nice game of Chess | 22.00 |
| The Serpent's Star | 26.00 |
| Computer Gin Rummy | 23.00 |
| Hard Hat Mack | 25.00 |
| The Last Gladiator | 15.00 |
| Pinball Const. Set | 29.00 |
| The Standing Stone | 29.00 |
| One-on-One | 29.00 |
| Archon | 29.00 |
| Skyfox | 29.00 |
| Murder on the Zinderneuf | 29.00 |

## Educational

| | |
|---|---|
| APPLE Logo | 85.00 |
| BARRONS Computer SAT | 58.00 |
| 8PI Speed Read | 140.00 |
| CBS | |
| Mastering the SAT | 97.00 |
| Murder by the Oozen | 22.00 |
| COUNTERPOINT SOFTWARE | |
| Early Games For Young Children | 20.00 |
| Matchmaker | 20.00 |
| Piece of Cake | 20.00 |
| Fraction Factory | 20.00 |
| DAVIDSON AND ASSOCIATES | |
| Speed Reader II | 45.00 |
| Word Attack | 32.50 |
| Math Blaster | 32.50 |
| DESIGNWARE | |
| Spellicopter | 26.00 |
| Crypto Cube | 26.00 |
| Creature Creator | 26.00 |
| DLM | |
| Alien Addition | 22.00 |
| Medior Multiplication | 22.00 |
| Demolition Division | 22.00 |
| Alligator Mix | 22.00 |
| Dragon Mix | 22.00 |
| EDU-WARE | |
| Compu-Read | 18.00 |
| Compu-Math | 32.00 |
| SAT Word Attack Skills | 32.00 |
| PSAT Word Attack Skills | 32.00 |
| Spelling B w/Reading Primer. | 25.00 |
| Algebra 1 2 3 or 4 | 25.00 |
| Algebra 5 & 6 | 32.00 |
| EINSTEIN Memory Trainer | 59.00 |
| HARCORT BRACE JOVANOVICH | 52.00 |
| HAYDEN SOFTWARE | |
| Micro Math (Add-Sub) | 21.00 |
| Micro Math (Multi-Div) | 21.00 |
| LEARNING COMPANY | |
| Rocky's Boots | 32.00 |
| Word Spinner | 23.00 |
| Number Stumper | 26.00 |
| Addition Magician | 23.00 |
| Reader Rabbit | 26.00 |
| Magic Spell | 23.00 |
| MICROLAB | |
| English SAT | 19.50 |
| Math SAT | 19.50 |
| PROGRAM DESIGN | |
| The New Step by Step | 74.00 |
| Step By Step II | 74.00 |
| Step By Step III | 74.00 |
| READERS DIGEST + | |
| Micro Habitats | 26.00 |
| Chambers of Vocab | 26.00 |
| Alphabet Beast & Company | 21.00 |
| SCARBOROUGH SYSTEMS | |
| Songwriter & Picturewriter | 26.00 |
| Phi Beta Philer | 32.00 |
| Master Type | 26.00 |
| SPINNAKER SOFTWARE | |
| Fraction Fever | 22.00 |
| Trains | 22.00 |
| Facemaker | 22.00 |
| Snooper Troops 1 & 2 | 28.00 |
| Story Machine | 22.00 |
| Kindercomp | 19.00 |
| Delta Drawing | 32.00 |
| Kids on Keys | 19.00 |
| Alphabet Zoo | 19.00 |
| SUNBURST | |
| The Factory | 32.00 |
| Teasers by Tobbs | 32.00 |
| TERRAPIN Logo | 63.00 |
| XEROX | |
| Sticky Bear ABC | 25.00 |
| Sticky Bear Numbers | 25.00 |
| Sticky Bear Bop | 25.00 |
| Sticky Bear Opposites | 25.00 |
| Sticky Bear Shapes | 25.00 |
| Sticky Bear Basket Bounce | 25.00 |

## Business

| | |
|---|---|
| APPLE | |
| Appleworks | Call |
| Apple Writer IIe | 160.00 |
| Quick File IIe | 78.00 |
| ARTSCI | |
| Magic Calc | 95.00 |
| Magic Window II | 95.00 |
| ASHTON-TATE DB II | 290.00 |
| BLUE BUSH Speed File | 73.00 |
| BPI | |
| General Accounting | 298.00 |
| GL, AR, AP, PR or INVEA | 260.00 |
| CONTINENTAL | |
| Home Accountant | 48.00 |
| Tax Advantage | 45.00 |
| FCM/FL | 65.00 |
| G/L, A/R, A/P | 150.00 |
| DICKENS DATA SYSTEMS | |
| The Wall Street Plotter | 94.00 |
| The Super Plotter | 53.00 |
| DOW JONES SOFTWARE | |
| The Market Analyzer | 160.00 |
| Market Manager | 195.00 |
| HAYDEN Pie Writer | 99.00 |
| HOWARD SOFTWARE SERVICES | |
| Real Estate Analyzer II | 160.00 |
| KENSINGTON | |
| Format II Enhanced | 105.00 |
| LIVING VIDEO Think Tank II/IIe | 105.00 |
| MEGAHAUS | |
| MegaFinder | 105.00 |
| MegaSpell | 45.00 |
| MegaWriter | 67.00 |
| MICROPRO | |
| Wordstar | 280.00 |
| Calcstar | 280.00 |
| Wordstar W/Z Card | Call |
| Word/Spell/Mail | 540.00 |
| MICROSOFT Multiplan | 145.00 |
| MID WEST SOFTWARE | |
| Write Away | 120.00 |
| PEACHTREE Peach Calc | 92.00 |
| QUARK | |
| Lexicheck Word Juggler IIe Combo | 145.00 |
| SENSIBLE SOFTWARE | |
| Sensible Speller | 79.00 |
| Bookends | 80.00 |
| Report Card | 44.00 |
| SIERRA ON-LINE | |
| The General Manager II | 145.00 |
| Homeword | 45.00 |
| ScreenWriter IIe | 80.00 |
| SILICON VALLEY | |
| The Handlers Package | 105.00 |
| List Handler | 47.00 |
| The Word Handler II | 47.00 |
| SOFTLINK Practical Accountant | 97.00 |
| SOFTWARE PUBLISHING | |
| PFS: Write | 75.00 |
| PFS: File | 75.00 |
| PFS: Graph | 75.00 |
| PFS: Report | 75.00 |
| PFS: School Recordkeeper | 83.00 |
| STONEWARE | |
| DB Master Version 4 Plus | Call |
| VISICORP | |
| Advanced Visicalc IIe | 200.00 |
| Visicalc IIe & II | 164.00 |
| Visitrend/Visiplot | 66.00 |

## Blank Media

| | |
|---|---|
| Elephant SS/OD | 17.00 |
| Verbatim SS/DD | 24.00 |
| Maxell SS/DD | 23.00 |
| Memorex SS/DO | 21.00 |
| Xidex SS/DD | 23.00 |
| Wabash SS/OO | 19.00 |

## Printers

| | |
|---|---|
| APPLE | |
| Imagewriter | 495.00 |
| Daisy Wheel Printer | 1,770.00 |
| BROTHER HR-25 | 745.00 |
| DIABLO | |
| 620 (RS-232C) | 850.00 |
| 630 (PC) | 1,785.00 |
| Ink Jet Printer | 1,150.00 |
| DYNAX DX-15 | 435.00 |
| EPSON | |
| FX-80 | 525.00 |
| FX-100 | 675.00 |
| RX-80FT | 360.00 |
| JUKI 6100 | 445.00 |
| MANNENSMANN TALLY | |
| MT-160L | 605.00 |
| MT-180L | 795.00 |
| MT-Spirit | 295.00 |
| OKIDATA | |
| Microline 82 | 325.00 |
| Microline 83A | 565.00 |
| Microline 92 | 435.00 |
| Microline 93 | 685.00 |
| PANASONIC Printers | Call |
| PROWRITER | |
| 8510AP | 350.00 |
| 1550AP | 530.00 |
| 851DSP | 465.00 |
| Starwriter A1D-2DP | 490.00 |
| Starwriter F10-40PU | 1,020.00 |
| QUME Printers | Call |
| SILVER REED | |
| 500P | 415.00 |
| 550P | 515.00 |
| 77DP | 875.00 |
| STAR MICRONICS | |
| Gemini 10X | 289.00 |
| Gemini 15X | 399.00 |
| Radix 10 (200 CPS) | 620.00 |
| Radix 15 (200 CPS) | 720.00 |
| Power Type | 355.00 |
| TOSHIBA Printers | Call |
| TRANSTAR | |
| 120P | 425.00 |
| 130P | 550.00 |
| 315 | 455.00 |
| Pics Card | 95.00 |

## Disk Drives

| | |
|---|---|
| APPLE | |
| Disk II Drive | 300.00 |
| Duo Disk w/acc. kit | Call |
| Pro File Disk Drive | Call |
| INFAX Disk Drives | Call |
| INOUS GT Slimline | 250.00 |
| MICRO SCI | |
| A2 143K | 220.00 |
| A40 164K | 275.00 |
| A70 286K | 340.00 |
| Micro SCI Controller | 73.00 |
| QUENTIN | |
| AP 100A Full Height | 215.00 |
| AP 105 Slimline | Call |
| AP 101 Twin Pack | Call |
| RANA | |
| Elite I | 259.00 |
| Elite II | 420.00 |
| Elite III | 490.00 |

## Monitors

| | |
|---|---|
| AMDEK | |
| Color I Plus | 275.00 |
| Color II Plus | 425.00 |
| Video 300G Green | 135.00 |
| Video 300A Amber | 147.00 |
| DVM II or DVM III RGB Interface | 130.00 |
| DVM BDE RGB Interface | 145.00 |
| BMC | |
| Color Plus | Call |
| BM12 AOW Green | 75.00 |
| SAKATA | |
| SC-100 Color | 245.00 |
| SC-200 RGB Color | 455.00 |
| STS-1 Stand | 35.00 |
| TAXAN | |
| Green (Hi-Res) | 120.00 |
| Amber (Hi-Res) | 135.00 |
| 210 13" Color (Lo-Res) | 295.00 |
| RGB Vision III | 445.00 |
| 410-64 RGB-2 Interface | 240.00 |
| USI | |
| 12" Amber | 145.00 |
| 12" Green | 140.00 |

## Specials

| | |
|---|---|
| Macintosh Basic | 90.00 |
| Macintosh Multiplan | 125.00 |
| Macintosh Word | 120.00 |
| Macintosh File | 120.00 |
| Helix for Macintosh | Call |
| PFS File/Report Combo Macintosh | 125.00 |

## Home/Hobby

| | |
|---|---|
| BEAGLE | |
| Apple Mechanic | 19.00 |
| Beagle Basic | 23.00 |
| Disk Quick | 20.00 |
| Doss Boss | 15.00 |
| Double Take | 23.00 |
| Flex Type | 19.00 |
| Frame Up | 19.00 |
| GPLE | 35.00 |
| Pronto Doss | 19.00 |
| Silicon Salad | 16.00 |
| Type Faces | 14.00 |
| Utility City | 19.00 |
| BRODERBUND | |
| Bank Street Writer | 46.99 |
| Bank Street Speller | 46.99 |
| CHALK BOARD | |
| Power Pad | Call |
| Starter Kit | Call |
| CREATIVE PERIPHERALS UNLIMITED | |
| Time Trax | 77.00 |
| DATA TRANSFORMS Fontrix | 50.00 |
| DECISION SUPPORT | |
| The Accountant | 63.00 |
| EINSTEIN Compiler | 89.00 |
| ELECTRONIC ARTS | |
| Music Construction Set | 29.00 |
| Cut & Paste | 36.00 |
| HAYDEN | |
| Orca/M | 75.00 |
| Compiler Plus (Hayden) | 43.00 |
| LAZERWARE Lisa V 2 6 | 58.00 |
| MECA Managing Your Money | 130.00 |
| MICROSOFT | |
| Applesoft Compiler | 115.00 |
| Typing Tutor II | 16.00 |
| Typing Tutor III | Call |
| MONOGRAM Dollars & Sense | 68.00 |
| PENGUIN | |
| The Graphics Magician | 38.00 |
| New Complete Graphics System | 50.00 |
| PHOENIX Zoom Graphics | 33.00 |
| QUALITY Bag of Tricks | 28.00 |
| ROGER WAGNER ASSOCIATES | |
| Merlin Pro | 46.00 |
| Merlin Combo | 79.00 |
| SOFTRONICS Softerm II | 134.00 |
| TURNING POINT Time is Money | 64.00 |
| UNITED SOFTWARE OF AMERICA | |
| ASCII Pro | 82.00 |
| VIRTUAL COMBINATICS | |
| Micro Cookbook II/IIe | 26.00 |

## Accessories

| | |
|---|---|
| CORVUS Hard Disk | Call |
| DIGITAL RESEARCH | |
| CPM Gold Card | Call |
| ELECTRONIC PROTECTION DEVICES | |
| Orange Surge Protector | 115.00 |
| EPS Keyboard | 275.00 |
| HAYES Joysticks | Call |
| HAYES | |
| Micromodem IIe/w Smart Com I | 240.00 |
| KENSINGTON System Saver | 65.00 |
| KOALA Koala Pad | Call |
| KRAFT Joystick | 40.00 |
| MCT Speed Demon | 225.00 |
| MICROSOFT | |
| Ram Card | 75.00 |
| Soft Card | 230.00 |
| NOVATION Apple Cat II | 230.00 |
| ORANGE MICRO Grappler + | 119.00 |
| SATURN 128K Board | 375.00 |
| SPIES LABS | |
| Super MX Interface Card | 155.00 |
| STREET ELECTRONICS | |
| The Cricket | Call |
| Echo II | 124.00 |
| SWEET MICRO | |
| Mockingboard w/Speech | 145.00 |
| SYNETIXS Super Sprite | Call |
| TG | |
| Joystick II/IIe | 40.00 |
| Paddles | 26.00 |
| Select A Port | 32.00 |
| TRACKHOUSE | |
| Key Pad | 115.00 |
| Programmable Key Pad | 150.00 |
| THUNDERCLOCK | |
| Thunderclock Plus | 115.00 |
| VIDEX | |
| Ultraterm | 260.00 |
| Videoterm | 210.00 |

**If something you would like is not listed, just call.** For Inquiries and Connecticut Orders Call (203) 268-1850

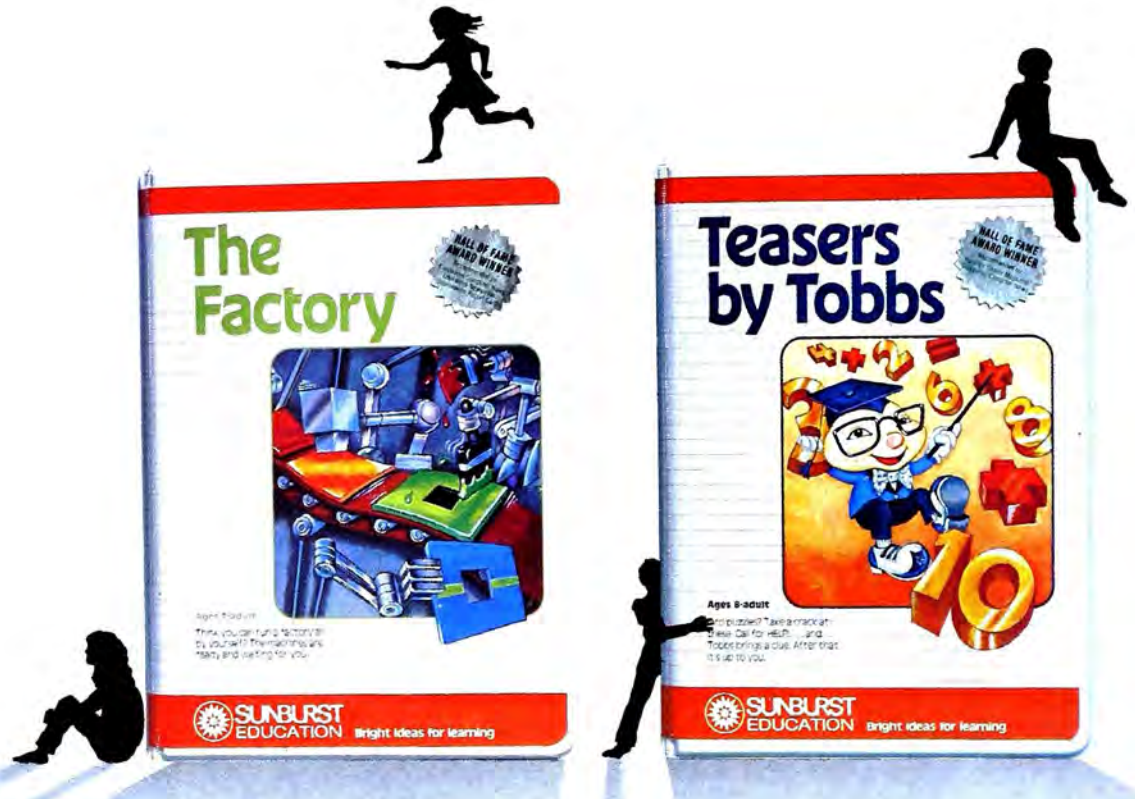
VISA

MasterCard

For Fast Delivery send cashier's check, certified check or money order. Personal and company check allow 3 weeks to clear. Shipping - Software ($2.50 minimum). C.O.D. add an additional $1.75. Shipping - Hardware (please call). Alaska, Hawaii, Canada, PO, APO and FPO $5.00 minimum. Foreign orders - $15.00 minimum and 15% of all orders over $100. Mastercard & Visa (include card # and expiration date). Connecticut residents add 7.5% sales tax. We ship same day for most orders. Prices subject to change without notice. School purchase orders accepted. All returns must have a return authorization number. Call 203-268-1850 to obtain one before returning goods for replacement.

**ORDERS ONLY - TOLL FREE**
**7 DAYS/WK 9AM to 11PM EST**
**1-800-382-2242**

# PLAY MORE, LEARN MORE.




**TEACHERS KNOW.** The more often kids play learning programs . . . the more they learn. And kids play Sunburst programs a long time. That's one reason why over 28,000 teachers are using Sunburst programs with their children right now.

Teachers look for programs that hold their kids' attention and make them think. They search for programs with several levels of play and surprise-filled graphics. That's why teachers choose Sunburst programs. You will too. Because your kids will play more and learn more.



**The Factory**
(Ages 7 — adult)

Kids invent and engineer new products, master basic math concepts (shape, angle, rotation), and sharpen problem-solving skills.

Winner of three major awards; recommended in 16 educational reviews. *Available on the Apple, Atari, Commodore 64 and TRS-80 Color.*




**Teasers by Tobbs**
(Ages 8 — adult)

Creative problem-solving play teaches six levels of addition, multiplication, subtraction and division skills. Tantalizing puzzles reward flexible thinking, alertness, curiosity.

Winner of three major awards. *Available on the Apple, Atari, and TRS-80 Color.*

For more information or the name of the nearest dealer, call Susan Talbert at 800-431-6616. In New York, call 914-769-5030.

Apple, Atari, Commodore 64 and TRS-80 Color are registered trademarks of Apple Computer, Inc.; Atari, Inc.; Commodore; and Tandy Corporation, respectively.

SUNBURST

39 Washington St.
Pleasantville, N.Y. 10570




## Of Mice and Megabytes

There's good news this month. Tecmar's line of hard disks is finally available.

We've been using an early version (read: it's still a little buggy) of Tecmar's five-megabyte hard disk cartridge drive. Four variations of the basic theme will be available, those being the five-megabyte removable cartridge disk previewed here; a ten-megabyte fixed drive; a ten-megabyte fixed, plus a five-megabyte removable drive; and a dual five-megabyte removable. Of those, we can't recommend the five-megabyte removable, simply because there is no way to conveniently back it up—may as well go for the ten-megabyte fixed, if you're going to get a single drive that's a pain to back up anyway. Either one has the advantage of going for $1,995, versus $3,250 for the dual-drive systems.

First impressions of the drive are mixed. It's really nice to have five megabytes on-line—no more of the floppy disk shuffle performed in double-time. As useful as a fixed drive is on any computer, it's especially desirable on a Mac, since it means you now have only *one* Notebook, a *single* Control Panel, *one* Scrapbook—but you get the idea. Because Mac's programs are more intertwined than on most machines, a capacious hard disk is that much more useful.

On the other hand, the disk's performance is not quite what we've come to expect from hard disks. Which is not to say that the hard disk isn't significantly faster than the Sonys—it appears to run an average of about two to three times faster, and possibly even quicker than that when large quantities of data are being moved around, such as when saving a long file from *MacWrite*. Both *MacWrite* and *MacPaint* go pleasantly faster.

But still not quite as fast as we'd hoped. We've come to expect a certain level of performance from hard disks, and this one falls just a little bit shy.

That may change by the time you read this, however. The 128K Mac is slowed down quite a bit by the fact that most programs will overwrite the disk directory in memory; that means when a disk access is required, it's usually necessary to first read the directory, and then go back to read the required data, sometimes effectively doubling the disk-accessing time.

Built into the Tecmar drive is 64K of memory that is currently going unused. If that memory were used to hold the directory, Mac's disk operations could be sped up immensely. That, of course, is exactly what Tecmar intends to do; a new version of the hard disk drive system software should be available (possibly by the time you read this) that uses that 64K as a *cache* memory for the directory.

Some of the problem stems from the current version of the Finder, which is simply not well suited to handling very high capacity hard disks. Sometime in the next few months, you can expect Apple to release a new version of the Finder tweaked for hard disk usage; the new version should offer some additional performance advantages for hard disk users.

Because of the changes that Tecmar is making to the drive, we'll keep this first peek short, but we'll return next time (if the new software is ready on time, we hope, we hope) with a more detailed review.

On the software side of things, Haba Systems has released *Habadex* for the Macintosh. *Habadex* is a combination phone/address list and appointment calendar, with some extra features thrown in for good measure.

The concept and the look of *Habadex* are impressive at first glance. The phone list and calendar look and work like their real-life counterparts. The phone list is alphabetized; to look up a phone number, just click on the appropriate index tab. If you have an Apple-compatible modem or an inexpensive adapter available from Haba, *Habadex* can even dial the number for you, complete with Sprint or MCI codes, if you like.

The calendar is opened up by selecting the index tab showing the name of the desired month. That opens up a month-at-a-glance display that can be further expanded to a listing of events, travel plans, and expenses for a single day.

Beneath the surface of *Habadex*, however, lurks some really shortsighted design. For a computerized calendar or phone list to be even as useful as a noncomputerized one, you should be able to call it up at any time. It would be nice to have it available as a desk accessory, but that isn't the way they wrote it. Using it on a hard disk should make it convenient enough; unfortunately, *Habadex* has a half-baked copy-protection scheme that nixes any advantage a hard disk might offer. Backups are allowed, but you always have to insert the master before you can run the backup, which is a nuisance with microdisks as well as with hard disks.

A call to Haba revealed that they have a new version that works with a hard disk and are working on a third version that clears up a slew of less crucial oversights. We'll review those versions when we see them. Until then, it's a shame that Haba felt so pressured that they put the product out before it was really ready. ◨

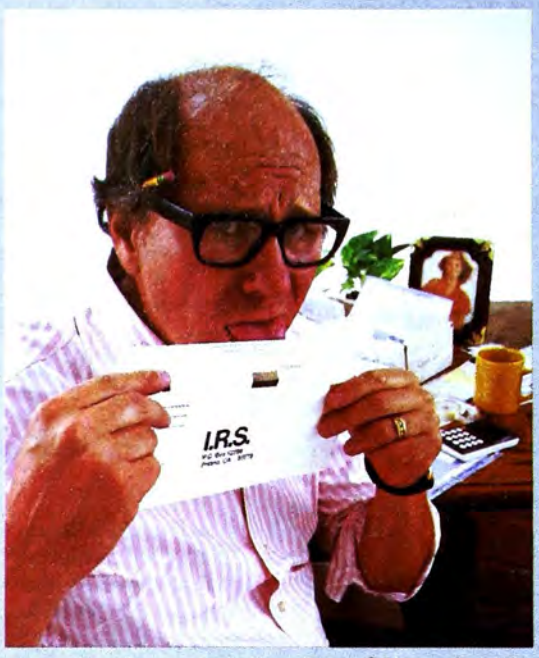
Q: What kind of man buys disks at $1.60?

A: A Comark, Inc. smart buyer

| Nashua Product | Quantity | |
|---|---|---|
| Nashua 5¼ Single Sided/ Double Density w/box | 20-90 $1.85 each | 100+ $1.60 each |
| **Blank N' Bulk** for software applications (minimum quantity 250; must be in increments of 250) | **250+** $1.45 each 5¢ additional for each envelope | |

Phone Today:
**Comark, Inc.** 1-800-323-6135. In IL Collect 312-834-5000
481 W. Fullerton, Elmhurst, Illinois 60126
*Mastercard, Visa, C.O.D., Credit to approved accounts*

Nashua.




# Frazzled by forms?

If April 15 left you numbed out by numbers, you'll want to know about HowardSoft's Tax Preparer. No more last-minute rummaging through reams of receipts; Tax Preparer keeps you and your records organized all year long.

Instead of shoeboxes full of illegible bits of paper, Tax Preparer puts an electronic form on the screen of your IBM-PC compatible, TI Professional, or Apple computer. Just fill in the blanks and let Tax Preparer do the rest. HowardSoft's unique Translate feature lets you enter information as it accumulates. Then each year's update applies the data to the new tax laws in a matter of minutes.




With Unlimited Itemizing, you can enter as many lines as you need on supplemental forms, and make notes about the entries as you go. You can plan your tax strategies while there's still time to make them add up, and answer "what-if" questions in just minutes.

Still, even the best laid plans sometimes have loopholes. Then, Tax Preparer lets you make last-minute changes easily, calculates quickly and accurately, and—at the touch of a key—delivers error-free printouts ready to sign and drop in the mail.

HowardSoft Tax Preparer gives you more features than the high-priced packages at a fraction of the cost. Clear instructions, the most-used forms and schedules, and inexpensive annual updates keep you current year after year after year.

So why not put Tax Preparer to work early? Visit the computer store nearest you for a demonstration of the top-selling tax package in the country. You'll see how many happy returns one program can give you.

All year long.



## Tax Preparer by HowardSoft.

**The #1 selling tax software.**

8008 Girard Avenue, Suite 310, La Jolla, CA 92037 • (619) 454-0121

# Softalk Presents The Bestsellers

## A Winning Campaign

This month we observe the watershed of the silly season of political huckstering. All the local aldermen with three friends who had announced their presidential ambitions are gone, and the race has been narrowed essentially to the candidates of the two major parties and their running mates.

The Republican Convention could carry the subtitle, "Infectious Ennui." That would give the national disease center in Atlanta something other than Legionnaire's disease to fret about. George Bush could probably campaign this fall with bottled videotapes of the convention labeled "Dr. Bush's All-Purpose Insomnia Cure." It's not necessarily a foregone conclusion that the Republicans will be boring. In a similar set of circumstances—a popular Republican incumbent—in 1956, Nebraska's Terry Carpenter offered up Charlie Brown of Peanuts fame to oppose Richard Nixon for the vice presidential nomination.

Such unsubtle high jinks have been lacking from Republican Conventions ever since, leaving only the irreverent to appreciate the undercurrents of humor taking place on the convention floor. The alert watcher will find a high point, rivaling Top Secret for yoks, when delegates cheer Reagan as the watchdog of fiscal conservationism, ignoring recent budget deficits.

The Democrats require a far less concentrated attention span to discover the entertainment lurking in their wings. From riots in the streets of Chicago in 1968 to Jimmy Carter, the Democrats have seemed bent on making The Three Stooges appear the epitome of subtlety.

This month should be no different. Imagine the high humor in Walter Mondale and Jesse Jackson expressing solidarity forever while Gary Hart stumps the floor for only a few hundred more delegates. It kinda makes one yearn for reruns of *Leave It To Beaver.*

Even as the Democrats and Republicans vie to see who can commit hara-kiri first, a campaign of a different sort has been waged on the microcomputer front. Instigated by Bert Kersey, there's been a move afoot to coerce *Softalk* into changing the name of its Hobby 10 listing to Utility 10.

First came a casual, but earnest, letter to the editor from Kersey opining that such a name change would be appropriate. The request seemed so frivolous that it merited no response. There followed a letter (March 1984 Open Discussion) containing a comprehensive list of reasons (one) why the title should be changed.

Mark Pelczarski jumped on the bandwagon with an epistle of his own, which, in its entirety, read, "I agree with Bert." Not to be outdone, Bert's partner in *DOS Boss* crime, Jack Cassidy, added his vote in a letter—also reprinted here in its entirety—that said, "I agree with Mark."

One of the minor blessings is that microcomputer campaigners are mercifully less verbose than their political counterparts.

Finally, this month's Open Discussion contains yet another round on the battle (page 16), where Kersey reports the results of a public opinion poll to support his contention.

Well, folks, the near-impossible has happened. Gary can take heart. The seemingly intransigent editor of *Softalk* has seen the light. Bowing to popular opinion, or the recognition that Kersey's Beagle Bros company occasionally places a program on the list in question, she has relented. Commencing with this issue, there'll be no more Hobby 10; it'll be the Utility 10 until Bert changes his mind.

Can Hart's conquest of Mondale's delegates be far behind? Will Ronnie stop beating around the Bush? Does Reverend Jessie still believe in the power of prayer? Remember, Truth, Beauty, Justice, and The American Way is coming soon to a theater or drive-in near you.

Now that all the unimportant news of the day has been covered, it's time to get on with the point of this column, which is reporting the results of May software sales. There practically were none. Sales haven't been this slow, relative to the installed user base, since Univac was a vacuum tube. The dealers that reported sales as "okay" were giving the month comparatively high praise.

As might be expected from its hot showing in its first month on the shelves, *AppleWorks* moved into first place in the Top Thirty. That's

## Apple III

| This Month | Last Month | |
|---|---|---|
| 1. | 1. | **III E-Z Pieces**, Rupert Lissner, Haba Systems |
| 2. | — | **Keystroke**, Brock Software Products |
| 3. | — | **PFS:File**, John Page and D.D. Roberts, Software Publishing Corporation |
| 4. | — | **PFS:Report**, John Page and D.D. Roberts, Software Publishing Corporation |

## Arcade 10

| This Month | Last Month | |
|---|---|---|
| 1. | 1. | **Julius Erving and Larry Bird Go One-on-One**, Eric Hammond, Julius Erving, and Larry Bird, Electronic Arts |
| 2. | 2. | **Lode Runner**, Doug Smith, Broderbund Software |
| 3. | 5. | **Pinball Construction Set**, Bill Budge, Electronic Arts |
| 4. | 4. | **Zaxxon**, John Garcia, Datasoft |
| 5. | 3. | **Choplifter**, Dan Gorlin, Broderbund Software |
| 6. | 7. | **Beagle Bag**, Bert Kersey, Beagle Bros |
| 7. | 6. | **Miner 2049er**, Mike Livesay and Bill Hogue, Micro Fun |
| 8. | 9. | **Hard Hat Mack**, Michael Abbot and Matthew Alexander, Electronic Arts |
| 9. | 8. | **Spare Change**, Dan and Mike Zeller, Broderbund Software |
| | — | **Donkey Kong**, Atarisoft |

## Word Processors 10

| This Month | Last Month | |
|---|---|---|
| 1. | 2. | **Bank Street Writer**, Gene Kuzmiak and the Bank Street College of Education, Broderbund Software |
| 2. | 1. | **Apple Writer IIe**, Paul Lutus, Apple Computer |
| 3. | 3. | **PFS:Write**, Sam Edwards, Brad Crain, and Ed Mitchell, Software Publishing Corporation |
| 4. | 4. | **Word Juggler IIe**, Tim Gill, Quark |
| 5. | 5. | **Sensible Speller**, Charles Hartley, Sensible Software |
| 6. | 5. | **HomeWord**, Ken Williams and Jeff Stephenson, Sierra On-Line |
| 7. | — | **Bank Street Speller**, Sensible Software and the Bank Street College of Education, Broderbund Software |
| 8. | 9. | **WordStar**, MicroPro |
| 9. | 7. | **Apple Writer II Pre-Boot Disk**, Kevin Armstrong and Mark Borgerson, Videx |
| 10. | 10. | **ScreenWriter II**, David Kidwell, Sierra On-Line |
| | — | **Word Handler**, Leonard Elekman/Silicon Valley Systems, Advanced Logic Systems |
| | — | **EasyWriter II**, John Draper, Information Unlimited Software |

# THE SENSIBLE SPELLER™ IV CORRECTS SPELLING MISTAKES *IMMEDIATELY.*




The most popular new word-processing product introduced for the Apple computer in 1982 was not a word processor — it was the SENSIBLE SPELLER IV proofreading program.* A perfect complement to your current Apple word-processing program, the SENSIBLE SPELLER IV is fast, friendly, and gives you the features you need in a spelling checker.

### First in features**

It only takes a minute or two for the SENSIBLE SPELLER to scan through a ten-page document and compare each word against its 80,000-word dictionary. Each misspelled word is shown to you in the middle of a small excerpt from your document, so you won't waste time trying to remember how you used the word.

You can immediately correct the misspelled word by replacing it with the proper spelling. The SENSIBLE SPELLER even suggests the correct spelling for your misspelled words!

### First in dictionaries

The SENSIBLE SPELLER includes the largest, most authoritative dictionary available for the Apple computer. Over 80,000 words are supplied, direct from the official Random House Dictionary. And there is unlimited room to add your own special words. The official Black's Law Dictionary is available separately.

### First in word-processor compatibility

The SENSIBLE SPELLER works with more Apple word processors than any other spelling program: DOS 3.2, DOS 3.3 (Apple Writer — all versions, Bank Street Writer, Format II, HomeWord, Screen Writer, etc.), SuperText, Word Handler, CP/M (Wordstar, etc.) and PFS:WRITE word processors.

The SENSIBLE SPELLER is just $125 and runs on all Apple //c, //e, II+ and Apple-compatible computers with one or two disk drives.

**Now works with AppleWorks! Specify ProDOS when ordering.**

Sensible® Software, Inc.
24011 Seneca
Oak Park, MI 48237
(313) 399-8877

**Please add $1.25 for shipping.**
**Visa/Mastercard/Check/COD welcome!**

*April 1983, Softalk magazine reader survey.

**Not all features are available with CP/M, PFS: WRITE and Word Handler.

AppleWorks, ProDOS and AppleWriter are trademarks of Apple Computer, Inc.; Bank Street Writer — Brodebund; CP/M — Digital Research Corp.; Wordstar — Micropro International; Screen Writer, HomeWord — Sierra On-Line, Inc.; Word Handler — Silicon Valley Systems; PFS:WRITE — Software Publishing, Inc.

# BOOKENDS™

## Reference Management System



BOOKENDS is a revolutionary system designed to manage your references electronically. BOOKENDS takes the guess work out of hunting for lost articles or information. Think of it as a personalized, state-of-the-art catalog system.

### BOOKENDS saves you time.

BOOKENDS tracks down articles, magazines, journals and books quickly and effortlessly. It even prepares professional bibliographies. If you've ever spent too much time looking for important information, then BOOKENDS is for you.

### BOOKENDS remembers for you.

BOOKENDS keeps track of information from articles and books so you don't have to. BOOKENDS works with your Apple computer and is menu-driven for ease of use. It has a word processor quality editor which supports upper and lower-case entry and display, and also allows you to correct just typos — not the entire entry.

BOOKENDS allows you to store the author, title, journal, volume, page number, date, publisher, keywords and an abstract (each up to 720 characters).

BOOKENDS also permits chaining your reference files together to contain any number of references.

### BOOKENDS eliminates the guesswork.

BOOKENDS eliminates most of the guesswork from your data search. You can search for keywords, authors, titles or phrases anywhere in a reference. BOOKENDS finds them easily. And if you forget the keywords or authors, don't despair. BOOKENDS provides a complete, alphabetized list of the keywords and authors in the data base.

### BOOKENDS is your state-of-the-art card catalog system.

BOOKENDS also produces professional bibliographies that can be printed or used directly with your word processor. You have complete control of printouts, from simple lists including an abstract to professionally-formatted, formal bibliographies suitable for inclusion in your word processing. When retrieving references, the bibliography can be sorted by author, title or keywords.

### Streamline the search. Put your library in BOOKENDS. $124.95

BOOKENDS™ Translators are now available to convert MEDLINE and DIALOG Medline dial-up sessions into BOOKENDS. **$49.95**




Sensible® Software, Inc.
24011 Seneca
Oak Park, MI 48237
(313) 399-8877

Visa/MC/Checks welcome
Apple is a trademark of Apple Computer, Inc.
Copyright 1984 Sensible Software, Inc.

about as surprising as hearing that Mondale's out kissing babies. What is unusual is that *AppleWorks* seems to be affecting a raft of products, unlike its parallel program—*1-2-3*—in the IBM market.

*1-2-3* put a crimp in spreadsheet programs but has made little dent in database, filing, or word processing sales. *AppleWorks* seems to be impacting across genre lines. Two other Apple Computer products, *Apple Writer IIe* and *Quick File IIe*, are among the programs losing sales to *AppleWorks*. The count on spreadsheets is also lower—for *Multiplan* and both versions of *VisiCalc*. Even *PFS:File* sales appear down, though the program rose in the Top Thirty.

Last month's leader, *Flight Simulator II*, dropped to second, but analysis shows that to be no significant weakening. *Flight Simulator II* more than doubled the sales of third-place *Bank Street Writer*. *Apple-*

# Home Education 10

| This Month | Last Month | |
|---|---|---|
| 1. | 1. | **MasterType**, Bruce Zweig, Scarborough Systems |
| 2. | 2. | **Typing Tutor**, Dick Ainsworth, Al Baker, and Image Producers, Microsoft |
| 3. | 3. | **Apple Logo**, Logo Computer Systems, Apple Computer |
| 4. | 18. | **Algebra 1**, EduWare, MSA |
| 5. | 10. | **Barron's SAT**, Barron's |
| 6. | 4. | **Early Games for Young Children**, John Paulson, Counterpoint Software |
| 7. | 6. | **Computer SAT**, Harcourt Brace Jovanovich |
| 8. | 5. | **Facemaker**, DesignWare, Spinnaker Software |
| 9. | 7. | **Kindercomp**, Doug Davis, Spinnaker Software |
| 10. | — | **Alphabet Zoo**, Dale Disharoon, Spinnaker Software |

# Adventure 5

| This Month | Last Month | |
|---|---|---|
| 1. | 1. | **Zork I**, Infocom |
| 2. | 3. | **Zork II**, Infocom |
| 3. | 5. | **Sorcerer**, Steve Meretzky, Infocom |
| 4. | 4. | **Zork III**, Infocom |
| 5. | 2. | **Death in the Caribbean**, Philip and Bob Hess, Micro Fun |

# Strategy 5

| This Month | Last Month | |
|---|---|---|
| 1. | 1. | **Flight Simulator II**, Bruce Artwick, SubLogic |
| 2. | — | **Beyond Castle Wolfenstein**, Silas Warner, Muse |
| 3. | 2. | **Sargon III**, Dan and Kathe Spracklen, Hayden |
| 4. | 3. | **Castle Wolfenstein**, Silas Warner, Muse |
| 5. | 5. | **Bermuda Race**, John Biddle and Gordon Mattox, Howard W. Sams and Company |

# Fantasy 5

| This Month | Last Month | |
|---|---|---|
| 1. | 1. | **Wizardry**, Andrew Greenberg and Robert Woodhead, Sir-tech |
| 2. | 2. | **Exodus: Ultima III**, Lord British, Origin Systems |
| 3. | 4. | **Knight of Diamonds**, Andrew Greenberg and Robert Woodhead, Sir-tech |
| 4. | 3. | **Legacy of Llylgamyn**, Andrew Greenberg and Robert Woodhead, Sir-tech |
| 5. | — | **Ultima II**, Lord British, Sierra On-Line |


***IF YOU DON'T HAVE CPM FOR YOUR APPLE, TURBO PASCAL IS REASON ENOUGH TO BUY IT.***

*Cary Hara, **Softalk Apple**, May 1984*




Version 2.0

**$49.95**

**NOW . . . WE'VE ADDED:**

- **AUTOMATIC OVERLAYS**
- **FULL HEAP MANAGEMENT**

. . . via dispose procedure.

**YES, EXTENDED PASCAL FOR YOUR APPLE CP/M (with Z-80 card) INCLUDES:**

- Full screen interactive editor providing a complete menu driven program development environment
- 11 significant digits in floating point arithmetic
- Dynamic strings with full set of string handling functions
- Full support of operating system facilities
- Random access data files
- Program chaining with common variables
- Compiler and editor resident in memory when compiling
- Build-in transcendental functions
- Automatic Overlays — no addresses or memory space to calculate
- Full Heap Management — via dispose procedure
- And much more

**Here's What Other Reviewers Have Said:**

*It is simply put the best software deal to come along in a long time. If you have the slightest interest in Pascal . . . buy it!*
Bruce Webster
**Softalk IBM**
March 1984

*The Perfect Pascal.*
Alan R. Miller
**Interface Age**
January 1984

*Turbo Pascal is a giant step in the right direction.*
Jerry Pournelle
**Byte**, April 1984

TURBO PASCAL includes a 300 page bound manual with extensive explanations and many illustrative examples.

**ORDER YOUR COPY OF TURBO PASCAL TODAY**

For Visa and MasterCard orders only call toll free

**1-800-227-2400 X 968 IN CA: 1-800-772-2666 X 968**

**(Order lines open 24 hours a day, 7 days a week)**

**Dealer & Distributor Inquiries welcome. (408) 438-8400**

Turbo Pascal $49.95 + $5.00 shipping per copy.
Check ___ Money Order ___
VISA ___ MasterCard ___
Card #: ___
Exp date: ___ Shipped UPS

Yes, please Rush me a copy of Turbo Pascal for my Apple CP/M (with Z-80 card).

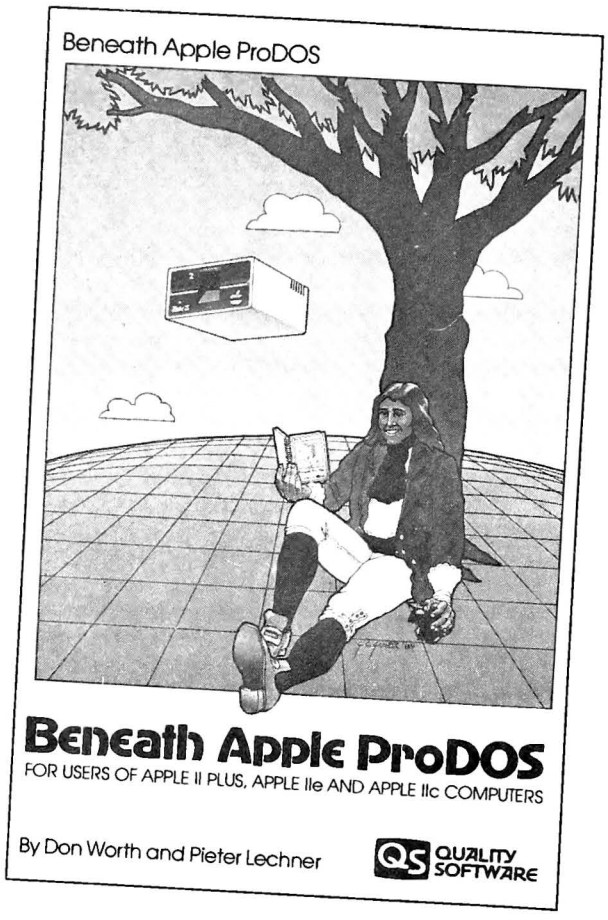
**NAME:** ___
**ADDRESS:** ___
**CITY/STATE/ZIP:** ___
**TELEPHONE:** ___

BORLAND INTERNATIONAL
Borland International
4113 Scotts Valley Drive
Scotts Valley, CA 95066
Telex 172373

California residents add 6% sales tax. Outside U.S.A. add $15.00. (If outside of U.S.A. payment must be by bank draft payable in the U.S. and in U.S. dollars.) Sorry, no C.O.D. or Purchase Orders. C1

# Beneath Apple ProDOS

## A Technical Manual




This book serves as a companion to the ProDOS manuals provided by Apple Computer, Inc. It provides additional information for the advanced programmer or even for the novice Apple user who wants to know more about his disk operating system.

Readers of our earlier book, *Beneath Apple DOS*, will notice that we have retained the basic organization of that book, which has been widely praised for its clear organization and attention to detail.

Includes information on...

- How to access ProDOS and/or the Apple floppy drives directly from machine language
- How to fix damaged diskettes
- Errors and omissions in Apple's documentation
- Customizing ProDOS to fit your needs
- How diskettes are formatted
- The internal logic of ProDOS

*Beneath Apple ProDOS* presents a critical, non-Apple perspective of ProDOS. This book explains how an operating system works and provides many examples of ProDOS programming.

ISBN 0-912985-05-4 **$19.95**

QS QUALITY SOFTWARE

21601 Marilla Street
Chatsworth, California 91311
(818) 709-1721


*Works* and *Flight Simulator II* were the only high-fliers in May. From *Bank Street Writer* down, all Top Thirty programs suffered diminished sales. It's important to keep in mind that relative movement upward in the Top Thirty this month does not necessarily represent positive sales and marketing progress in terms of numbers sold or profits.

Only two new programs made the Top Thirty, although some former inhabitants regained the list. Debuting on the chart were *Beyond Castle Wolfenstein* and *Bank Street Speller*.

# Business 10

| This Month | Last Month | |
|---|---|---|
| 1. | 1. | **AppleWorks**, Rupert Lissner, Apple Computer |
| 2. | 2. | **PFS:File**, John Page and D.D. Roberts, Software Publishing Corporation |
| 3. | 3. | **PFS:Report**, John Page, Software Publishing Corporation |
| 4. | 5. | **Multiplan**, Microsoft |
| 5. | 4. | **Quick File IIe**, Rupert Lissner, Apple Computer |
| 6. | 6. | **PFS:Graph**, Bessie Chin and Stephen Hill, Software Publishing Corporation |
| 7. | 10. | **BPI Accounts Payable**, John Moss and Ken Debower, Apple Computer |
| 8. | 7. | **VisiCalc: Advanced Version**, Software Arts/Dan Bricklin and Robert Frankston, VisiCorp |
| 9. | 9. | **VisiCalc**, Software Arts/Dan Bricklin and Robert Frankston, VisiCorp |
| 10. | 8. | **BPI General Accounting**, John Moss and Ken Debower, Apple Computer |

# Utility 10

| This Month | Last Month | |
|---|---|---|
| 1. | — | **Zoom Grafix**, Dav Holle, Zooom |
| 2. | 7. | **Graphics Magician**, Chris Jochumson, David Lubar, and Mark Pelczarski, Penguin Software |
| 3. | 3. | **DiskQuik**, Harry Bruce and Gene Hite, Beagle Bros |
| 4. | 4. | **Global Program Line Editor**, Neil Konzen, Beagle Bros |
| 5. | 7. | **Apple Mechanic**, Bert Kersey, Beagle Bros |
| 6. | 1. | **Silicon Salad**, Bert Kersey and Mark Simonsen, Beagle Bros |
| 7. | — | **ProDOS User's Kit**, Apple Computer |
| 8. | — | **Alpha Plot**, Bert Kersey and Jack Cassidy, Beagle Bros |
| 9. | — | **Double-Take**, Mark Simonsen, Beagle Bros |
| 10. | 2. | **Beagle Basic**, Mark Simonsen, Beagle Bros |

# Home 10

| This Month | Last Month | |
|---|---|---|
| 1. | 2. | **Music Construction Set**, Will Harvey, Electronic Arts |
| 2. | 1. | **Home Accountant**, Bob Schoenburg, Larry Grodin, and Steve Pollack, Arrays/Continental Software |
| 3. | 3. | **Dollars and Sense**, Frank E. Mullin, Monogram |
| 4. | 4. | **ASCII Express: The Professional**, Bill Blue and Mark Robbins, United Software Industries |
| 5. | 5. | **Micro Cookbook**, Brian E. Skiba, Virtual Combinatics |
| 6. | — | **Financial Cookbook**, Stan Trost, Electronic Arts |
| 7. | 6. | **Crossword Magic**, Steve and Larry Sherman, L&S Computerware |
| 8. | — | **Data Capture 4.0**, George McClellan and David Hughes, Southeastern Software |
| 9. | 10. | **Softerm II**, Lynn Stricklan, Softronics |
| 10. | — | **ThinkTank**, Dave Winer and John Llewellyn, Living Videotext |

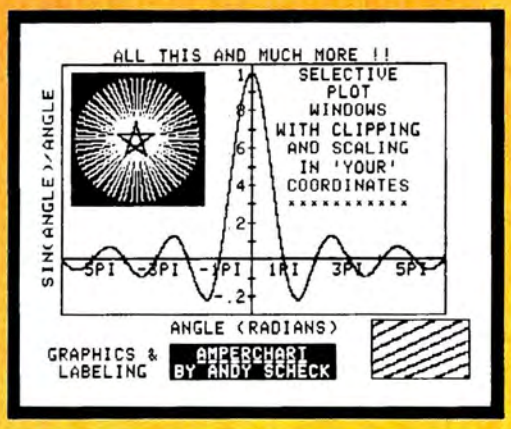


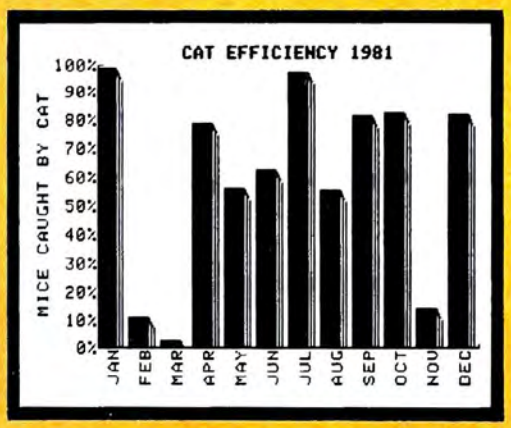
The **only** charting package that supports **Double Hi-Res** from

## *Roger Wagner Publishing, Inc.*

"If you want to have the freedom to create **your own** custom charts and other Hi-Res graphics, then the Routine Machine &Chart is your key to making your Apple do what **you** want."

*—Roger Wagner, President*




# ROUTINE MACHINE &CHART™

## "Not just for programmers anymore..."

Once upon a time, only professional programmers could take full advantage of what a computer could do. Now, we've made things easy for you too! With the RM &Chart you'll be able to create charts and other Hi-Res graphics on your own Apple, the way **you** want them!

The RM &Chart package includes a two-sided diskette packed with fantastic ways for you to use **both normal and double high resolution graphics.** With RM &Chart, anyone can add **custom graphics commands** to ordinary Applesoft to create one of the most powerful graphics systems imaginable for the Apple computer. And it's easy too! Adding a RM &Chart command to your own programs takes **literally less than a minute!**

### Routine Machine &CHART gives you:

- Complete charting commands including automatic scaling and axes generation; even Log scaling!
- Hi-Res labels (in regular or double Hi-Res graphics) to add text to any picture.
- Regular & Double graphics printing for Epson printers.
- 3D graphics commands for any rotation & scaling.
- Special "window" routines to do Hi-Res windows; even pull-down menus like the Macintosh!

**FREE BONUS!**
Easy-Chart demo program creates line, bar & pie charts from your own data!

## PRICE: Only $39.95!

Compatible with Apple II/II+, IIe and IIc computers.
Plus, Routine Machine &Chart is copyable & listable!
(Double Hi-Res features require an Apple IIc or Apple IIe with EXTENDED 80 column card)

Ask for these easy to use RM packages: RM &Array, RM &Screen, RM &Sampler I, and RM &Sampler II (formerly Routine Machine)

Roger Wagner PUBLISHING, INC.

10761 Woodside Avenue • Suite E • P.O. Box 582 • Santee, CA 92071 • 619/562-3670

# Softalk Presents The Bestsellers

*BCW* jumped into eighteenth, but what was more remarkable was that it didn't seem to affect the sales of *Castle Wolfenstein*. *Castle Wolfenstein* has been one of the most consistent performers in the Apple market.

*Bank Street Speller*, a joint project of Sensible Software and the Bank Street College of Education, had a ready market in the thousands of users of *Bank Street Writer* and took advantage of that fact to rank twenty-sixth in its initial full month of distribution.

Sales of Apple III software continue as light as support for George McGovern's candidacy. Relatively new program introductions are now fueling the III software market. *III E-Z Pieces*, the Apple III version of *AppleWorks*, was the leader for the second straight month. *Keystroke*, the new database manager from Brock, was second, followed by *PFS:File* and *PFS:Report*. No other software sold in significant numbers. The accounting packages from Great Plains Software had the greatest market penetration of other packages for the III.

*Julius Erving and Larry Bird Go One-on-One* remained eighth on the Top Thirty and first on the Arcade 10. The surprise among arcade entries was the relative strength of Bill Budge's *Pinball Construction Set*. It moved up to third on the specialty list and actually rejoined the Top Thirty.

*Bank Street Speller* was the only new program to appear on the Word Processing 10 list, a list that suffered from top to bottom by the presence of *AppleWorks* in the market. Surprising was the resurrection of old-timer *EasyWriter II*. Its sales weren't anything to write home about, but they were greater than had been measured any time in the recent past.

Sales of education programs, until now the real growth area within the Apple market, suffered the most in May. There were no significant switches in relative position—everyone was down.

The same five programs headed the Adventure 5 listing. *Sorcerer* went up and *Death in the Caribbean* went down, but the composition of the list stayed the same. A surprisingly strong performer was *Hi-Res Adventure #1: Mystery House* from Sierra On-Line. *Mystery House* was the original hi-res adventure back in 1980. Its success was the foundation for all the hi-res adventures that have followed.

*Beyond Castle Wolfenstein* was the only new entry in the Strategy 5 listing. *Flight Simulator II* was the runaway leader.

*Wizardry* remained the Fantasy 5 champ. The genre reverted to oligopolistic form when *Ultima II* displaced *Questron* for fifth.

*AppleWorks* was head and shoulders above all other Business 10 programs in an otherwise little-changing list.

The biggest upset of the month occurred in the Home 10, where *Home Accountant* was not the leader for the first time since February, 1982, when education software was still part of the Home list and *Typing Tutor* was the leader. *Music Construction Set* topped the list, with *Home Accountant* barely wresting second from arch-rival *Dollars and Sense*. As was the case with much of the position shuffling that occurred this month, it wasn't that *Music Construction Set* and *Dollars and Sense* were so hot, but that *Home Accountant* was a bigger victim of soft sales.

*Zoom Grafix* led the Hobby—uh, make that Utility 10, followed by *Graphics Magician* from Penguin. Beagle Bros had a couple on the list also, like third, fourth, fifth, sixth, eighth, and consecutively on down to seventeenth. Maybe that fellow Kersey knows whereof he speaks. ◨

Apple-franchised retail stores representing approximately 4.45 percent of all sales of Apple and Apple-related products volunteered to participate in the poll.

Respondents were contacted early in June to ascertain their sales for the month of May.

The only criterion for inclusion on the list was the number of units sold—such other criteria as quality of product, profitability to the computer store, and personal preferences of the individual respondents were not considered.

Respondents in June represented every geographical area of the continental United States.

Results of the responses were tabulated using a formula that resulted in the index number to the left of the program name in the Top Thirty listing. The index number is an arbitrary measure of the relative strength of the programs listed. Index numbers are correlative only to the month in which they are printed; readers cannot assume that an index rating of 50 in one month represents equivalent sales to an index rating of 50 in another month.

Probability of statistical error is plus or minus 3.12 percent, which translates roughly into the theoretical possibility of a change of 3.41 points, plus or minus, in any index number.

# The Top Thirty

| This Month | Last Month | Index | |
|---|---|---|---|
| 1. | 2. | 145.99 | **AppleWorks**, Rupert Lissner, Apple Computer |
| 2. | 1. | 98.27 | **Flight Simulator II**, Bruce Artwick, SubLogic |
| 3. | 5. | 43.17 | **Bank Street Writer**, Gene Kuzmiak and the Bank Street College of Education, Broderbund Software |
| 4. | 7. | 40.33 | **PFS:File**, John Page and D.D. Roberts, Software Publishing Corporation |
| 5. | 4. | 38.05 | **Apple Writer IIe**, Paul Lutus, Apple Computer |
| 6. | 6. | 35.78 | **PFS:Write**, Sam Edwards, Brad Crain, and Ed Mitchell, Software Publishing Corporation |
| 7. | 3. | 33.51 | **MasterType**, Bruce Zweig, Scarborough Systems |
| 8. | 8. | 30.67 | **Julius Erving and Larry Bird Go One-on-One**, Eric Hammond, Julius Erving, and Larry Bird, Electronic Arts |
| 9. | 12. | 25.56 | **Word Juggler IIe**, Tim Gill, Quark |
| 10. | 17. | 24.99 | **Music Construction Set**, Will Harvey, Electronic Arts |
| 11. | 9. | 23.29 | **Lode Runner**, Doug Smith, Broderbund Software |
| 12. | 10. | 23.26 | **Wizardry**, Andrew Greenberg and Robert Woodhead, Sir-tech |
| 13. | 14. | 21.58 | **Home Accountant**, Bob Schoenburg, Larry Grodin, and Steve Pollack, Arrays/Continental Software |
| 14. | 21. | 21.52 | **Dollars and Sense**, Frank E. Mullin, Monogram |
| 15. | 13. | 19.31 | **Typing Tutor**, Dick Ainsworth, Al Baker, and Image Producers, Microsoft |
| 16. | 18. | 19.31 | **Sensible Speller**, Charles Hartley, Sensible Software |
| 17. | — | 18.95 | **Zoom Grafix**, Dav Holle, Zooom |
| 18. | — | 18.74 | **Beyond Castle Wolfenstein**, Silas Warner, Muse |
| 19. | 11. | 18.71 | **PFS:Report**, John Page, Software Publishing Corporation |
| 20. | 28. | 18.59 | **ASCII Express: The Professional**, Bill Blue and Mark Robbins, United Software Industries |
| 21. | 15. | 18.17 | **Zork I**, Infocom |
| 22. | 16. | 17.98 | **Apple Logo**, Logo Computer Systems, Apple Computer |
| 23. | 21. | 15.90 | **Multiplan**, Microsoft |
| 24. | 20. | 15.33 | **Quick File IIe**, Rupert Lissner, Apple Computer |
| 25. | 18. | 14.76 | **HomeWord**, Ken Williams and Jeff Stephenson, Sierra On-Line |
| 26. | — | 14.20 | **Bank Street Speller**, Sensible Software and the Bank Street College of Education, Broderbund Software |
| 27. | — | 14.17 | **Pinball Construction Set**, Bill Budge, Electronic Arts |
| 28. | — | 13.06 | **Graphics Magician**, Chris Jochumson, David Lubar, and Mark Pelczarski, Penguin Software |
| 29. | 28. | 13.03 | **DiskQuik**,Harry Bruce and Gene Hite, Beagle Bros |
| 30. | — | 13.00 | **Exodus: Ultima III**, Lord British, Origin Systems |

# COMMITTED TO EXCELLENCE:

## OUR COMMITMENT IS YOUR GUARANTEE OF SOFTWARE THAT CHALLENGES, ENTERTAINS, AND INTRIGUES!




### The WIZARDRY Phenomenon Continues!

Now, better than ever, the Wizardry adventure continues with LEGACY OF LLYLGAMYN. Cast spells, work your way through a 3-D maze and enjoy the thrill of Wizardry with our newest software innovation--WINDO-WIZARDRY™. Its Lisa-like windows help you play faster and more efficiently than ever before! All the information you'll ever need is at your fingertips' command. SOFTALK's Review Editor, Roe Adams, calls LOL "...an excellent game! It's a landmark in graphics advancement." LEGACY OF LLYLGAMYN is a new world of excitement!

### "The Best Yet!"

*Margot Comstock Tommervik, Editor, SOFTALK*

# SIR-TECH SOFTWARE INC.

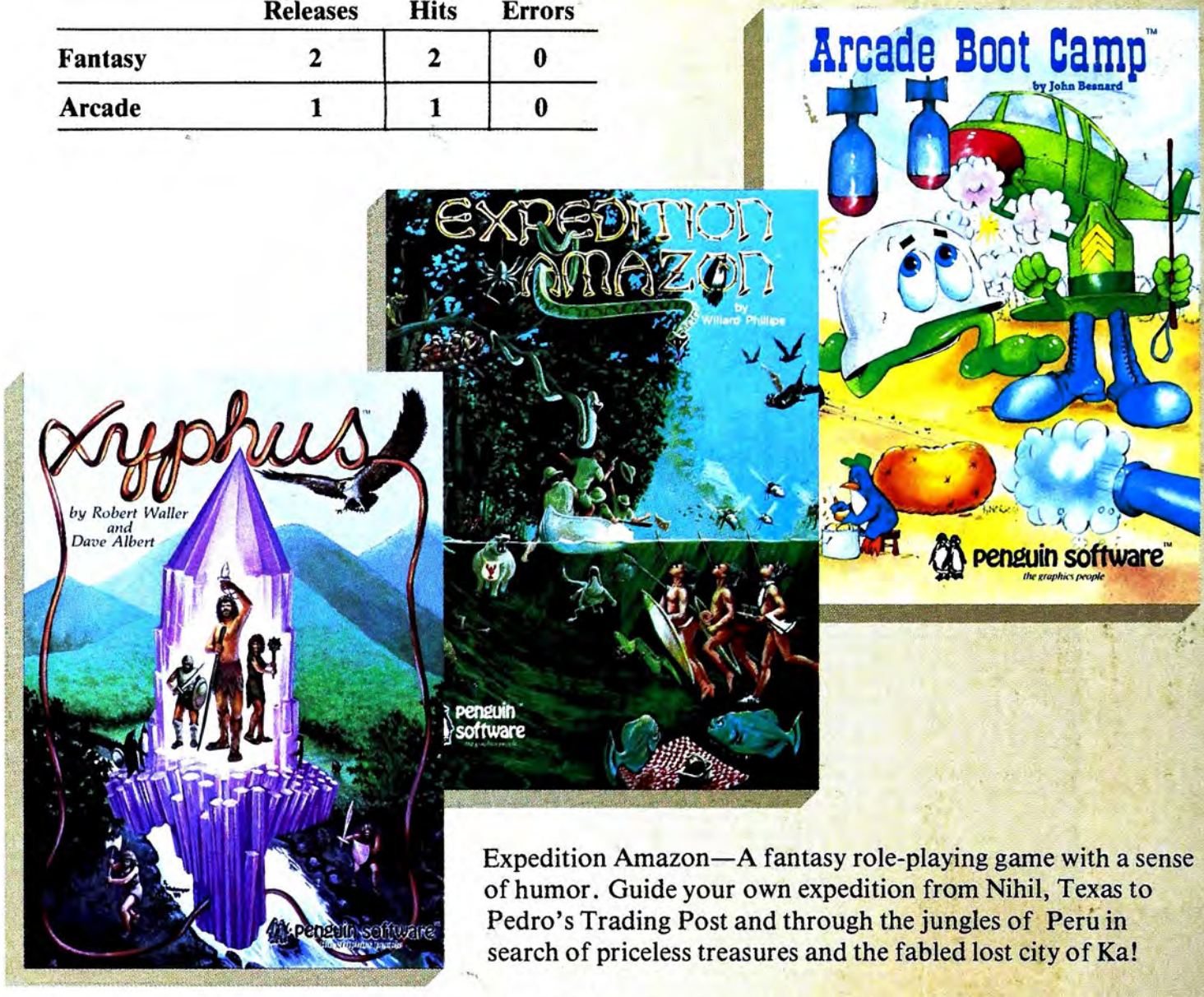
Apple is a registered trademark of Apple Computer, Inc.

SIR-TECH SOFTWARE INC., 6 MAIN STREET, OGDENSBURG, NY 13669, (315) 393-6633

ALL SOFTWARE AVAILABLE FOR THE APPLE AT YOUR FAVORITE RETAILER

# Penguin Scores Again!

| | Releases | Hits | Errors |
|---|---|---|---|
| **Fantasy** | **2** | **2** | **0** |
| **Arcade** | **1** | **1** | **0** |




Expedition Amazon—A fantasy role-playing game with a sense of humor. Guide your own expedition from Nihil, Texas to Pedro's Trading Post and through the jungles of Peru in search of priceless treasures and the fabled lost city of Ka!

Arcade Boot Camp—Tired of getting 30 seconds of arcade play for your quarter? Face forward, Civilian, and march over to your dealer for this one. Train in five areas vital to arcade skills: Driving, Chopper Flying, Shooting, Jumping & Ducking, and Obstacle Course.

Xyphus—Explore the Lost Continent of Arroya as you develop a band of warriors and spellcasters in preparation for the final confrontation with Xyphus, Lord of Demons! This fantasy role-playing game features four-player independent movement and six separate scenarios, each set in a different region with different types of creatures, weapons, and spells. A true breakthrough in its genre, **Xyphus** is destined to become a classic.


**penguin software™**
*the graphics people*

830 Fourth Ave.
P.O. Box 311
Geneva, IL 60134
(312) 232-1984



Expedition Amazon, Arcade Boot Camp, Xyphus, and Penguin Software are trademarks of Penguin Software, Inc.