

THE APPLE II MAGAZINE

# incider

AN IDG COMMUNICATIONS PUBLICATION

March 1989  
USA \$2.95  
Canada \$3.95  
U.K. £2.20

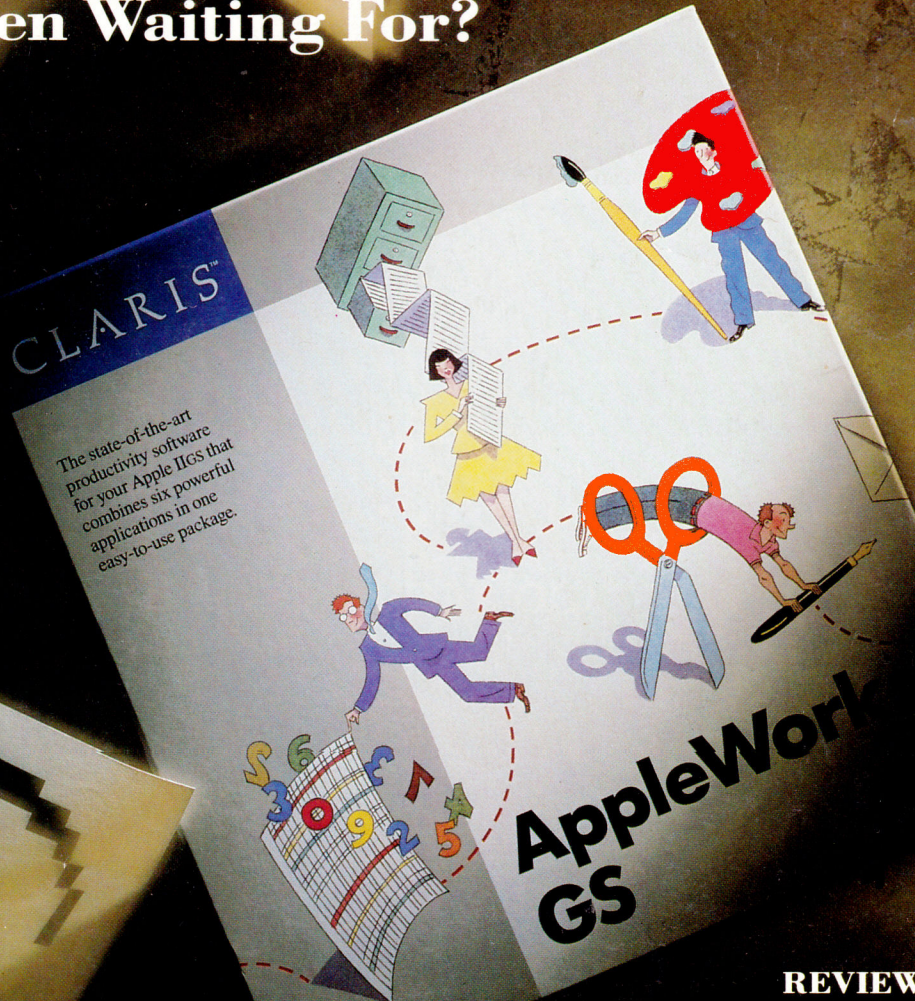
## APPLEWORKS GS

### Is This What You've Been Waiting For?

### 12 Ways to Prepare Your Tax Return

### DB Master Pro More Powerful Than Any Mortal Database

### Who Really Needs A Hard-Disk Drive?



#### REVIEWS

- Deskpak
- Slide Shop
- FutureSound
- Iconix
- Arkanoid GS
- Warlock GS
- Bubble Ghost GS
- Serve & Volley GS



# A2

\*\*\*\*\*5-DIGIT 22901  
 300480 MOR 0626P095 048H JAN90  
 Dr. Kenneth Buchholz  
 www.AppleOnline.com

# Think fast!

Finding yourself in between a rock and a hard place? When a slow disk drive cuts into your productivity, count on Inner Drive - your *life line* to speed and convenience. With new programs coming on three disks or more, hard drives are quickly becoming more of a need than a want. So don't spend your time fumbling through disks and waiting for programs and data to load - get Inner Drive. Inner Drive Features: Completely internal, simple to install - No risk, 15 day trial - Heavy duty Power supply and fan - 1 year warranty - Tested and formatted, ready to run in ProDos and GS/OS - Complete with controller card - and speed, speed, speed. Available in IIgs and IIe versions.

It seems like the more memory you get, the more memory you need and the memory card that comes with the IIgs just doesn't quite cut it (shall we call it a lemon?) with it's 1 megabyte limitation. G.S. Juice Plus, probably the first large capacity IIgs memory board to be 100% DMA compatible, is built with the high quality you demand, and affordability you expect from Applied Ingenuity. G.S. Juice Plus is expandable to 4 megabytes using 1 Meg Drams, which are more cost effective than the 256K memory chips. Applied Ingenuity is the only manufacturer that will give you a trade-in on any memory board you may already have, when you buy a G.S. Juice Plus. Over Drive, the most compact external hard drive for the Laser 128, IIe, and IIgs, should be available by the time you see this ad, the price is estimated to be \$399. IIC owners! Applied

Ingenuity hasn't forgotten you, we plan to release our Internal hard drive for the IIC in the near future. Impossible? Don't you believe it! Also watch for our 9600 baud modem, introductory price is estimated at under \$300 for the first month.

We've been sort of iconoclastic

lately, when really the quality of our competitors stuff is good. But, if you want the same good quality and performance and you like to save a lot of dough, then Applied Ingenuity is for you. Give Applied Ingenuity a try, we think you'll like what you get, because we try harder.

*Anyone can 'engineer a high cost product, but it takes Ingenuity to make quality affordable.* Ninja: Rick DePalma. Computer Operator: David Westbrook, President of Applied Ingenuity.

**Call: 800-346-0811 or 818-960-1485**

14922M Ramona Blvd. Baldwin Park CA 91706

20 Megabyte OD \$399  
20 Megabyte ID \$499  
40 Megabyte ID \$650  
IIgs 1 Megabyte \$299  
Plus shipping & handling  
Always call for lowest prices

prices subject to change without notice

# We turn Apple<sup>®</sup> owners into Apple users. For only \$6.65 a month.



A subscription to Softdisk brings you two 5<sup>1</sup>/<sub>4</sub>" disks\*, chock-full of great programs for your Apple<sup>®</sup> II (c, e, +, GS) each month for just \$6.65.

## Learn all the capabilities of your Apple II.

Softdisk takes you beyond the two or three programs you bought for your Apple II. Without spending a fortune, Softdisk will introduce you to new software *you can use* each month. You will get AppleWorks<sup>™</sup> templates, spread sheets, accounting applications, graphics, educational programs and specialized utilities that make your Apple II easier to work with. There are even some terrific games as a bonus.

Softdisk programs are *original software*, not public domain, so you will build a quality software collection as you learn. Each month you will sharpen your computing skills and become a smarter software buyer. You just can't buy better computing experience.

### Contents of Issue #84 (Available as a back issue)

**Thousand-Year Date Book**—Keep track of important appointments.

**Li'l Black Book**—AppleWorks<sup>™</sup> template that helps you keep track of names, addresses and phone numbers.

**Print Shop<sup>™</sup> Graphics**—Flags from all over the world.

*Plus 8 more great programs!*



## FREE SOFTWARE with your order.

Try Softdisk for six months for only \$39.95. As a bonus, we will send you FREE—200 Print Shop<sup>™</sup> Graphics Vol. 4 for use with Brøderbund's Print Shop<sup>™</sup> program.

## Money-back guarantee.

If you are not satisfied with your purchase for any reason, return your first issue for a full refund. The 200 Print Shop Graphics are yours to keep. You can't lose, so order today!

# Call toll free 1-800-831-2694.

**YES!** Please rush me my free 200 Print Shop Graphics Vol. 4 and start my six-month subscription to Softdisk for my Apple II for only \$39.95 postage paid. (Canada/Mexico \$49.95, Overseas \$59.95) Make checks payable to Softdisk, Inc. in U.S. funds. (Louisiana residents add 4% sales tax).

Two 5<sup>1</sup>/<sub>4</sub>" disks     One 3<sup>1</sup>/<sub>2</sub>" disk

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip + 4 \_\_\_\_\_

Home Phone ( \_\_\_\_\_ ) \_\_\_\_\_

Discover     AmEx     VISA/MC     Payment Enclosed (U.S. funds only!)

Card # \_\_\_\_\_ Exp. \_\_\_\_\_

Signature \_\_\_\_\_

SOFTDISK, INC. P.O. Box 30008 • Shreveport, La. 71130-0008 IN039

# If all the speed and power of the TimeOut programs overwhelms you.



**The Cheetah: a powerful, finely-tuned and well developed creature;** its swiftness and agility only matched by its ability to overwhelm any object in its path. This graceful animal darts across the terrain with a fluid and seemingly effortless strength.

**The TimeOut enhancements** add power, speed and productivity throughout AppleWorks. They're fast. Faster than any other AppleWorks enhancements on the market. And they're powerful.

**But don't let this overwhelm you.** As powerful and swift as TimeOut enhancements are, underneath they are easy to use and backed by an unusually friendly and loyal group of people. We stand behind every product we sell with a money-back guarantee and a team of customer service and technical support personnel to answer any questions you may have.

**So don't be afraid to take a closer look.** All of our software programs are so well

integrated within AppleWorks, you would think they had always been there. You are guaranteed a winning combination that has no equal in the Apple II market.

**And it doesn't stop there.** We are continually striving to upgrade and improve our software to meet the challenging needs of today's market. Included in our TimeOut series are these powerful enhancements to AppleWorks.

**TimeOut QuickSpell** catches spelling errors in record time from inside AppleWorks. It checks for spelling errors 50 times faster than the nearest competition. It also automatically finds double words and lets you add "unknown" words to a custom dictionary for future reference.

**TimeOut SuperFonts** produces Macintosh-quality Word Processor output and allows you to use a variety of fonts and sizes. Use any combination of styles including plain text, bold, outline, italic, subscript, superscript, underline, shadow and negative. You can insert graphics into



Look closer.

your Word Processor documents. And, with the paint application that we've included, creating and touching up graphics is a breeze.

**TimeOut Graph** quickly produces outstanding looking graphs to enhance your spreadsheets. Present your data in nine different graph styles including Bar, Stacked Bar, Line, Pie, Exploded Pie, XY (scatter), Area, Hi-Lo and Point. It also features automatic and manual axis scaling and a variety of fill patterns. And, customizing graphs is quick and easy with the paint application we've included.

**TimeOut SideSpread** rotates your spreadsheets 90 degrees, enabling you to print

them sideways. It allows printing of the entire spreadsheet or any portion.

Look for these and other TimeOut products at your local dealer. If they don't have them, tell them to get on the stick.

So what are you waiting for?

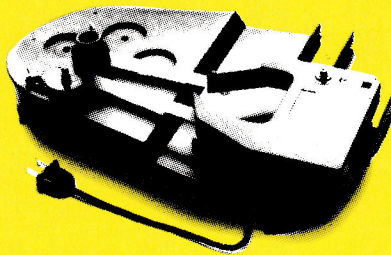
Unleash the Power.™



# Re-ink Any Fabric Ribbon Automatically For Less Than 5 ¢ With

## MAC INKER™

Over 100,000 sold since 1982



FREE BOTTLE OF INK,  
RESERVOIR CAP & INK METER

### MAC INKER

|  |         |
|--|---------|
| IMAGEWRITER I AND II.....              | \$42.00 |
| EPSON .....                            | \$42.00 |
| UNIVERSAL (INCL. IMAGEWRITER LQ) ..... | \$68.50 |
| MULTICOLOR IMAGEWRITER .....           | \$80.00 |
| MULTICOLOR ADAPTER ONLY .....          | \$40.00 |

Shipping \$3.00

- Dark, lubricated ink extends print-head life. Re-ink in color too! Bottle \$3.00; pint \$18.50. We have a full range of special inks, heat transfer inks, cartridges and Mac Inkers available.
- Over 16,000 cartridge/spools supported.
- Dedicated Mac Inkers available for extra large or special cartridges.

## RIBBONS

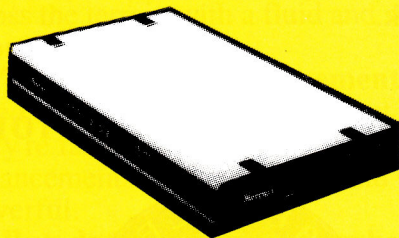
|                                     |            |
|-------------------------------------|------------|
| Imagewriter Cartridge .....         | \$3.15 ea  |
| 4 Color Imagewriter Cartridge ..... | \$10.00 ea |

**ORDER TOLL-FREE 1-800-547-3303**

## MODEMS

|   |          |
|---|----------|
| Mercury 1200AT .....                        | \$109.00 |
| Mercury 2400 .....                          | \$239.00 |
| Capricorn World<br>Minimodem * .....        | \$169.00 |
| Quick Link MAC software<br>(w/ modem) ..... | \$15.00  |
| Commworks Apple software<br>w/ modem .....  | \$60.00  |
| Cable .....                                 | \$15.00  |

\* Capricorn - 300/1200 baud, supports both US & European standards.



100% Hayes Compatible!  
Shipping \$5.00

- 24 month warranty
- Status lights
- Speaker
- Call progress monitoring

## DATA SWITCHES

4 pos. 8 pin switch \$50.00



Cable \$15.00  
Shipping \$5.00

DB 25, Centronics & 9 pin model available

We have switches and buffers for any application, at the best price in the nation. Ask for brochure.

**Cables:** We carry cables for Apple computers and peripherals. Rapid turnaround on custom orders.

**SPECIAL OFFER:** For orders of \$100.00 or more. Tell us where you read this ad and get a free keychain, beeper, and flashlight combined! A \$15.00 value!

30 day money back guarantee  
on all products. 24 hour shipping.

IN OREGON (503) 626-2291

## Computer Friends

14250 N.W. Science Park Drive  
Portland, OR 97229,  
Telex 4949559, Dealers Welcome.

Publisher Paul Boule  
Editor in Chief Dan Muse  
Managing Editor Eileen T. Terrill  
Senior Editor Paul Statt  
Technical Editor William Kennedy, Ph.D.  
Review Editor Lufe Low  
Copy Editor Ellen Ratner Otis  
Editorial Assistant Janet Cote  
West Coast Editor Jeff Cable  
Contributing Editors Cynthia E. Field  
Eric Grevstad  
Scott Mace  
Robert M. Ryan  
Tom Sherman  
Ruth K. Witkin  
Field Editor Babs Cringely

### Design

Art Director Linda Sweeney  
Senior Designer/Ad Graphics Dianne K. Ritson  
Production Manager/Designer Varvara Auer

### Advertising

Associate Publisher/ National Sales Manager Dale Strang (800) 441-4403  
Northeast Sales Representative Peter Slinguff (800) 441-4403  
Western Sales Representative James Burns 3350 W. Bayshore Rd. Suite 201 Palo Alto, CA 94303 (415) 328-3470  
Northwest Sales Representative Janet Wright (415) 328-3470  
Marketplace/Classifieds Sales Representative Fiona Davies (800) 441-4403  
Advertising Coordinator Mary Hartwell (800) 441-4403  
Administrative Assistant Carmen Bryer  
Western Sales Assistant Kathleen Roberts

### Marketing Services/Promotion

Marketing Manager Peg Brown  
Marketing Assistant Rita Rivard

### Corporate Production

Director of Corporate Production Dennis Christensen  
Manufacturing Manager Leslie A. Walden  
Typesetting Manager Lindy Palmisano  
Typographer Cynthia Swan

### IDG Communications/Peterborough

President/CEO Michael S. Perlis  
Vice President/General Manager Roger Murphy  
Vice President Stephen Twombly  
Corporate Circulation Director Frank S. Smith  
Single-Copy Sales Manager Linda Ruth  
Direct-Sales Manager Mike Carroll  
Newsstand Promotion Manager Debbie Walsh  
Circulation Director, inCider Megan Lane (800) 525-0643  
Director of Credit, Sales, and Collection William M. Boyer  
Audits and Statistics Cecile Giguere  
Founder Wayne Green

inCider's BBS (bulletin-board system)  
On line 24 hours: (603) 924-9801

inCider (ISSN #0740-0101) is published monthly by IDG Communications/Peterborough, Inc., 80 Elm Street, Peterborough, NH 03458. Phone: (603) 924-9471. Second-class postage paid at Peterborough, NH, and additional mailing offices. (Canadian second class mail registration number 9590.) Subscription rates in U.S. are \$27.97 for one year, \$43.00 for two years and \$59.00 for three years. In Canada, \$34.97, U.S. funds, one year only. In Mexico, \$32.97—one year only, U.S. funds drawn on a U.S. bank. Nationally distributed by International Circulation Distributors. Foreign subscriptions (surface mail), \$47.97—one year only, U.S. funds drawn on a U.S. bank. Foreign subscriptions (air mail), \$82.97 prepaid, U.S. funds drawn on U.S. bank, one year only. Postmaster: Send address changes to inCider, Subscription Services, P.O. Box 58618, Boulder, CO 80322-8618. (Send Canadian changes of address to: inCider, P.O. Box 1051, Fort Erie, Ontario L2A 5N8.)



# The IIGS just got up to speed.

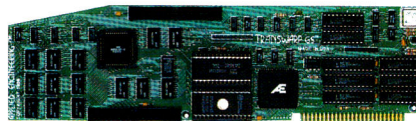
**T**ransWarp GS,<sup>™</sup> Applied Engineering's new accelerator for the IIGS, is shipping now.

Employing the latest surface-mount technology. Incorporating not two, but five layers of circuitry. Meet the most technologically advanced board we've ever produced. TransWarp GS.

With it, your IIGS rips along at 7 MHz, compared to its native 2.8. The difference isn't merely noticeable, it's astounding. Pull-down menus fly open. folders leap off the finder, screens change in an eyeblink. Your IIGS feels like a color Mac...it's an entirely new computer environment!

## **Full compatibility.**

Completely compatible with all standard hardware and software, TransWarp GS has been extensively



*More than twice as fast—that's computing at TransWarp speed!*

tested by all the major publications and by Applied Engineering.

## **So complicated, it's simple.**

Plug in one connector, then insert TransWarp GS into slot 3 or 4 (the board won't override either slot's function), set your control panel and prepare yourself for warp speed.

Switching back to normal (or merely fast) speed is as easy as accessing the control panel. And in the future, when even faster micro-processor chips become available, you'll be able to switch-out chips inexpensively.

From AppleWorks GS to Zany Golf,

TransWarp GS transforms the IIGS into the computer we all knew it could be.

**TransWarp GS Accelerator \$399**

## **Order Today!**

To order or for more information, see your dealer or call (214) 241-6060 today, 9 am to 11 pm, 7 days. Or send check or money order to Applied Engineering. MasterCard, VISA and C.O.D. welcome. Texas residents add 7% sales tax. Add \$10 outside U.S.A.

**AE APPLIED ENGINEERING<sup>®</sup>**  
*The Apple enhancement experts.*

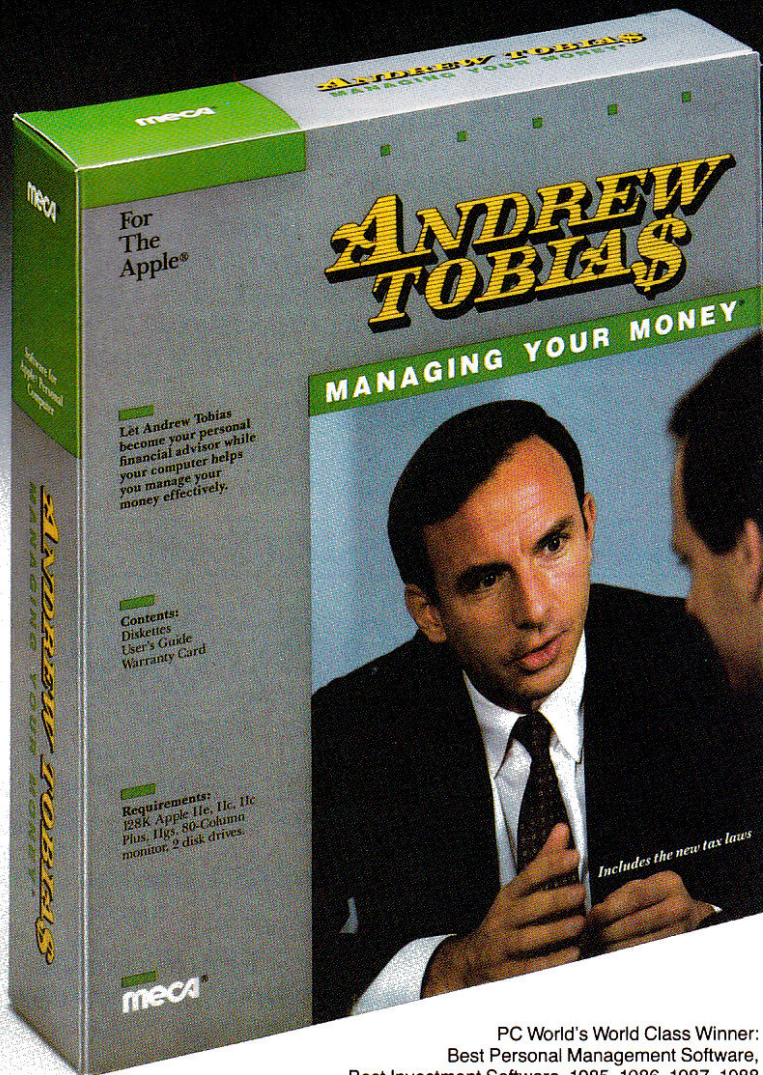
A Division of AE Research Corporation.

**(214) 241-6060**

P.O. Box 5100, Carrollton, TX 75011

Prices subject to change without notice. Brand and product names are registered trademarks of their respective holders.

# THE FINANCIAL POWER YOU NEED TO SUCCEED ...MADE SIMPLE.



**Andrew Tobias' Managing Your Money gives you the tools you need to make better financial decisions. And it's surprisingly easy to learn and use.**

Now over a quarter of a million users rely on Managing Your Money for mastery over their personal or business finances.

Managing Your Money gets you organized. It keeps you on track. It helps you make the hard decisions with complete knowledge and a new sense of confidence. What's more, Managing Your Money saves bookkeeping time and earns you the extra dollars that come with better financial management.

But perhaps best of all, Managing Your Money is written by Andrew Tobias in a straightforward, easy-to-understand style that demystifies finance. You don't have to be a business school graduate or a computer wiz to use and enjoy the financial power of Managing Your Money - you probably won't even need the manual.

**"Considered by computer industry experts to be one of the best all-around programs ever written, it's easy to use even if you're a novice at computer technology and personal finance."**

New York Daily News, "Money Talks,"  
October 4, 1987

PC World's World Class Winner:  
Best Personal Management Software,  
Best Investment Software, 1985, 1986, 1987, 1988

Clip and send the coupon with a \$5.00 check to receive a demonstration disk that previews the power and simplicity of Managing Your Money and receive \$35.00 worth of coupons and rebates . . . FREE.  
Or call: **1-800-835-2246** ext. 12.

- Sets up budget and monitors cash flow.
- Automates payment of routine bills.
- Writes, prints, and records checks and invoices by tax category.
- Manages accounts payable and receivable (with aging).
- Tax planning section reflects up-to-date tax laws.
- Life insurance: How much you need and what to expect to pay for it.
- Financial Calculator covers mortgage, retirement, college planning, rental property analysis, and more.
- Prints loan amortization schedules.
- Portfolio Manager records and analyzes your investments.
- Net Worth Calculator compiles your personal or business balance sheet.
- Built-in word processor and home banking feature.\*

\* IBM version only.

**meca®**

© 1988 • MECA • 355 RIVERSIDE AVENUE, WESTPORT, CT 06880  
For 256K IBM PC, XT, AT, PS/2, TANDY 3000, 1200HD, 1000, APPLE IIe (128K, Two Drives) IIc, IIc Plus, IIgs,  
Macintosh Plus, SE, II, (Two disk drives, one at least 800K).  
Available in 3 1/2" and 5 1/4" diskettes.

Circle 186 on Reader Service Card.

**YES!** Enclosed is \$5 (check or money order). Please send me the Managing Your Money (MYM) demo disk and \$35 worth of coupons and rebates good on the purchase of MYM and the MYM Plus Plan.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_

Zip \_\_\_\_\_

**My computer is:**

• IBM or IBM Compatible

• Apple IIe, IIc, IIgs

• Macintosh

Return to: **MECA Ventures, Inc.**

355 Riverside Avenue • Westport, CT 06880

INC



## ARTICLES

### 34 AppleWorks GS: Worth the Wait?

The spotlight's on six integrated applications in AppleWorks' much-awaited 16-bit debut. Before taking a bow, though, this outstanding software package must confront the power constraints of the IIGS.

### 39 DB Master Pro: In a Class by Itself

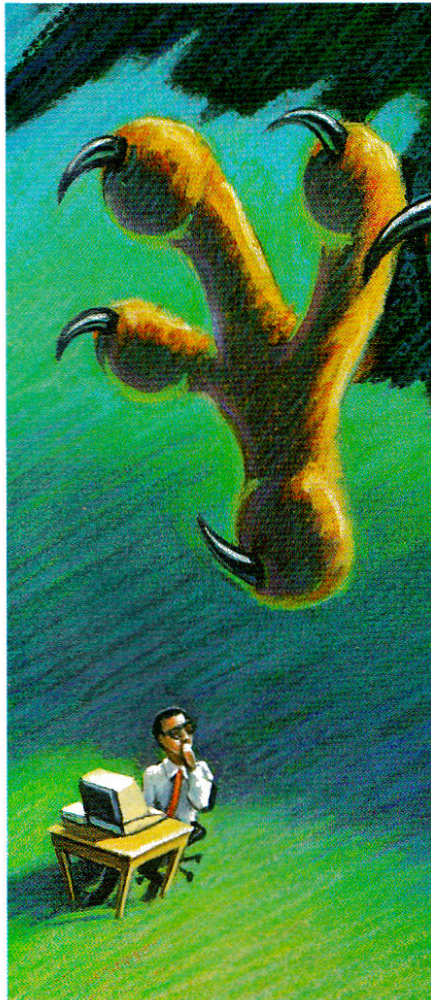
Unmatched by other Apple II database-management programs, DB Master Professional offers brawn and brain—powerful features for high-level performance *and* a sophisticated design for easy operation.

### 47 Do You Need a Hard-Disk Drive?

Is it time to bid farewell to your floppies? *inCider* looks at the advantages of hard-disk drives—the speed and storage capabilities that are attracting more and more Apple users.

### 50 Tax Time: It's Closing In

Forms, files, exemptions, and schedules—don't get tangled up in a web of paperwork and confusion this year. Apple II tax-preparation programs help you face April 15 with your records in order and the IRS at bay.



p. 50

## COLUMNS

**inCider's View**  
East-Coast WIMPs  
by Dan Muse

**Status Report**  
Is Math Revolting?  
by Paul Statt

**AppleWorks in Action**  
Spreadsheet Billing System  
by Ruth K. Witkin

**Press Room**  
Easter Parade  
by Cynthia E. Field, Ph.D.

### Field Trip

Welcome to the Real World  
by Cynthia E. Field, Ph.D.

85

## DEPARTMENTS

### Letters

12

### News Line

16

National Science • A Good Old Computer • Apple Library Group Meets • Product Updates • Apple Bits

### Apple Clinic

22

Battery Included: GS Battery • SCSI Lost • No-Buffers Blues • Old IIc Drive, New 128EX • Quickies • Not Another Proofer!

by William P. Kennedy, Ph.D.

### Reviews

30

Deskpak • FutureSound • Slide Shop • Iconix • At a Glance

### Games Editors Play

82

Warlock GS • Bubble Ghost GS • Arkanoid GS • Serve & Volley GS • Short Takes

### New Products

90

### Hints/Techniques

92

Apple Macros • Auto Quit

### Reader Services

103

### Coming Attractions

103

### Editors' Choice

104

Fast Company: TransWarp GS

71

*Applesoft Adviser will return in May. Mace on Games returns next month with a look at three fantasy role-playing adventures.*

## East-Coast WIMPs

by Dan Muse, Editor in Chief

Our magazine's editorial offices in Peterborough, New Hampshire, are about as far away from Apple headquarters as you can get without leaving the country. The 3000-mile distance doesn't keep us from tracking down information on new Apple products, though. And as we put out this issue of *inCider* in the dead of a New England winter, there's not much else to do but ski, skate, and speculate on the next Apple II.

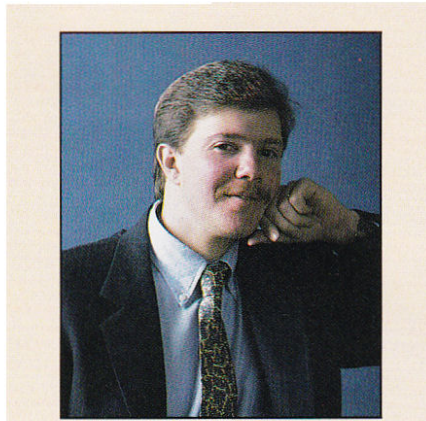
As we anticipate a new IIGS, the biggest question we're asking is how much like a Macintosh will it be. In addition to rumors of a new GS in the spring, we hear talk about a low-end K-12 Macintosh in the fall—we wonder how much like an Apple II it will be.

The lines are blurring between Apple's two computers. The lines are still there, and they're blurrier on the hardware side than on the software side, but they are blurring. You still can't run Apple II software on a Mac, or Mac software on a II. You can convert files easily, though.

Depending on how you look at things, you could draw two different conclusions. Cynics—a category we admittedly fall into from time to time—see a plot to bring death to our dear companion, the Apple II. Pragmatists, on the other hand, will argue that Apple II users have benefited from Macintosh development and *vice versa*, so there's nothing to fear.

In last month's Letters section (p. 12), two *inCider* readers took exception to comments directed at the Macintosh. Shelly Lisoskie of Lynnwood, Washington, was upset by *The Road Apple's* motto, *Sack the Mac*. "Don't Apple II users realize there was once an Apple I?" she asks.

Martin Lavoie of Montreal objected to



*"Apple IIs have benefited from Mac development, so there's nothing to fear."*

a tongue-in-cheek riddle asking what you call a person who use windows, icons, mice, and pull-down menus. *WIMP* was the answer, to which Martin responded, "*WIMP* was the word, but don't IIc owners, GS owners, and now IIE owners use window, icons, mice, and pull-down menus?" We thought it was cute, but the point that the II line has benefited from the Mac is valid.

The familiar Apple interface for software, which gained popularity because of the Macintosh, is now a standard for GS software as well as many programs for 8-bit Apple IIs.

Not everyone agrees, however, on whether or not that's a benefit. Many Apple II owners believe the AppleWorks file-card interface is the true standard for Apple II software. After all, AppleWorks is used by more than a million II users,

Beagle Bros has capitalized on the AppleWorks interface to build a strong line of add-on products, and several other companies have produced popular products that adhere to the AppleWorks interface.

Even if you don't like the point-and-click approach to software, it's difficult to argue that the biggest gift Apple II users can thank the Macintosh for is hardware. Apple's printers, disk drives, and modems work with both the II and the Mac. Apple wouldn't have developed a laser printer, a local-area network, or a CD-ROM drive just for the Apple II. Also, because Macs have SCSI built in and you can buy an Apple SCSI card for your IIE or GS, third-party companies that make SCSI hard-disk drives for the Macintosh have an Apple II product automatically. The availability of laser printers and local-area networks has increased the life span of the II by helping it get into markets that Apple hasn't traditionally targeted for the II—namely business.

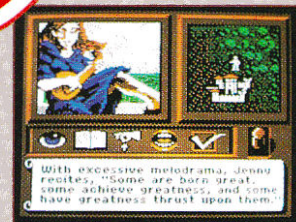
How has the Apple II helped the Macintosh? The continued success of the line reminds Apple how important expandability is. Look at the Macintosh II—expansion slots, color, modularity (keyboard, monitor, drives). The key ingredient of the Apple II—unlimited potential—went into the design philosophy of the Macintosh II.

We're learning to overcome Mac envy. We're adjusting to the fact that as the II line evolves, it will survive by incorporating Mac-like features while clinging to its own strengths. Even though we're surviving another cruel New England winter, I guess we're turning into WIMPs after all. ■

Why is a "rad" surfer hanging out with a Shakespeare-spouting elf maiden, a shining knight for hire, and a bunch of other off-beat folks? Find out in...

# Tangled Tales™

*The Misadventures of  
a Wizard's Apprentice*



APPLE II SCREENS SHOWN

Coming in March to your favorite software retailer for Apple II and Commodore 64/128!

Not available at your local retailer? Call 1-800-999-4939 (8am to 5pm EST) for VISA/MC orders; or mail check/money order (U.S. \$) to ORIGIN, 136-B Harvey Road, Londonderry, NH 03053. All versions \$29.95. Allow 1-2 weeks for delivery.

# GOLEM COMPUTERS

PRESENTS

# Hot Disks!

Home & Productivity



### CT-20 Disk Drive System

- Works with the Apple II+, IIe, IIGS
- 20.5 Megabytes, Formatted capacity
- 68MS Average seek time
- SCSI Interface

■ Price \$630.

### CT-30 Disk Drive System

- Works with the Apple II+, IIe, IIGS
- 31.5 Megabytes, Formatted Capacity
- 40MS Average seek time
- SCSI Interface

■ Price \$700.

### CT-40 Disk Drive System

- Works with the Apple II+, IIe, IIGS
- 43.00 Megabytes, Formater capacity.
- 25MS Average seek time.
- SCSI Interface

■ Price \$800.

### CT-20c Disk Drive System

- Works with Apple IIc, IIc+, IIGS
- Attaches to floppy port daisy-chain
- Compatible w/ all Apple floppy drives
- Compatible w/ all add on RAM
- Zip Chip compatible
- DOS 3.3 support available. Req. soft
- Upgradeable to SCSI system
- 20.5 Megabytes, Formatted capacity
- 68MS Average seek time
- SmartPort Interface

■ Price \$685.

### All Chinook Disk Drive Systems

- Come with Disk Drive, Controller Card, Cables, EasyDrive Disk Management Software
- Free technical support
- One year warranty on parts & labor.



CHINOOK

### UTILITY/LANGUAGE

|   |         |
|---|---------|
| <b>BEAGLE BROS.</b> Super Macroworks    | 31.     |
| Timeout - Superfonts, Quickspell        | ea. 47. |
| Timeout-Filemaster, Sidespread,         |         |
| Power Pack, DeskTools II, Thesaurus     |         |
| Desktools                               | ea. 31  |
| Timeout Ultramacros, Spreadsheets       | ea. 35. |
| Timeout Graph                           | 52.     |
| Timeout Macrotools, Macrotools II       | ea. 18. |
| <b>BERKLEY SOFTWORKS</b> GEOS (IIe/IIc) | 86.     |
| <b>BIG RED COMPUTER</b>                 |         |
| Labels, Labels, Labels                  | 27.     |
| <b>CENTRAL POINT</b> Copy Two Plus      | 23.     |
| <b>PINPOINT</b> Point to Point          | 68.     |
| <b>ROGER WAGNER</b> Graphics Exchange   | 27.     |
| Merlin 8/16 (PRO DOS)                   | 75.     |
| Softswitch (IIGS)                       | 40.     |
| <b>TERRAPIN</b> Logo                    | 66.     |
| Logo Data Toolkit                       | 33.     |

|  |         |
|--|---------|
| <b>TML</b> Pascal (IIGS), Basic (IIGS) | ea. 83. |
| Source Code Library (IIGS)             | 32.     |
| Speech Toolkit (IIGS)                  | 46.     |
| <b>UNITED SOFTWARE</b>                 |         |
| ASCII Express (PRO DOS)                | 70.     |
| ASCII Express Mousetalk                | 65.     |

### HOME/PERSONAL

|  |         |
|--|---------|
| <b>ACCOLADE</b>                          |         |
| Graphics Studio (IIGS)                   | 46.     |
| <b>BAUVILLE</b> 816/Paint (IIGS)         | 50.     |
| Award Maker Plus                         | 24.     |
| <b>BRODERBUND</b>                        |         |
| The Print Shop (IIGS),                   |         |
| Fantavision (IIGS)                       | ea. 35. |
| The Print Shop Library (IIGS)-           |         |
| Sampler, Party                           | ea. 23. |
| The Print Shop                           | 29.     |
| The Print Shop Library 1, 2, 3           | ea. 15. |
| The Toy Shop                             | 33.     |
| <b>ELECTRONIC ARTS</b>                   |         |
| Deluxe Paint II (IIGS)                   | 68.     |
| Arts Part I, II, Seasons & Holidays      | ea. 22. |
| Music Construction Set (IIGS)            | 36.     |
| Instant Music (IIGS)                     | 36.     |
| <b>EPYX</b> Print Magic                  | 40.     |
| <b>FUNK SOFTWARE</b> Sideways            | 45.     |
| <b>INTUIT</b> Quicken                    | 32.     |
| <b>MECA</b> Managing Your Money 3.0      | 89.     |
| <b>MECC</b> Calendar Crafter             | 60.     |
| <b>MEDIAGENIC/ACTIVISION</b>             |         |
| Writer's Choice Elite (IIGS)             | 59.     |
| Paintworks Plus (IIGS)                   | 46.     |
| Paintworks Gold (1.25MB Req.)            | 66.     |
| Draw Plus (IIGS), Music Studio (IIGS)    | 59.     |
| Paint, Write, Draw Bundle (IIGS)         | 115.    |
| <b>MONOGRAM</b>                          |         |
| Dollars & Sense (128K/48K)               | ea. 72. |
| <b>ROGER WAGNER</b> The Write Choice     | 43.     |
| Mousewrite (IIc/IIe, IIGS)               | 87.     |
| <b>SPRINGBOARD</b> The Newsroom          | 36.     |
| Clip Art Collection 1, 3                 | ea. 20. |
| Clip Art Collection 2, Certificate Maker | ea. 26. |
| <b>UNISON WORLD</b> Printmaster Plus     | 31.     |
| Art Galery I, II                         | ea. 19. |



|  |        |
|--|--------|
| <b>Electronic Arts: Cartooners (IIGS)</b>    | \$ 40. |
| Arcadia: <b>AAARGH (IIGS)</b>                | \$ 24. |
| Sierra On Line: <b>Manhunter: New York</b>   | \$ 33. |
| Masterplay: <b>Star Saga One</b>             | \$ 53. |
| Berkley: <b>GeoPublish</b>                   | \$ 66. |
| Timeworks: <b>Publish it 2</b>               | \$ 86. |
| Big Red Computer: <b>PS Lovers Utilities</b> | \$ 27. |
| Broderbund: <b>Times of Lore</b>             | \$ 27. |
| Unicorn: <b>Animal Kingdom (IIGS)</b>        | \$ 33. |

**FOR FAST SERVICE 1-800-248-0363**

Mon. thru Fri. 7am - 6pm Sat. 9am - 4pm Pacific Time

FOR **FAST SERVICE** 1-800-248-0363

Mon. thru Fri. 7am - 6pm  
Sat. 9am - 4pm Pacific Time

# GOLEM COMPUTERS

P.O. BOX 6698  
WESTLAKE VILLAGE, CA 91360

## SPECIAL OF THE MONTH

Howard Soft  
Tax Preparer  
\$167.00

### SOFTWARE

#### ENTERTAINMENT

- ACCOLADE Testdrive 23.
- Mean 18 (IGS), Hardball (IGS) ea. 30.
- Bubble Ghost (IGS), Mini Putt (IGS) ea. 24.
- Serve & Volley (IGS), 4th & Inches (IGS) ea. 30.
- BRODERBUND** Ultima IV, V ea. 40.
- Ultima I, II, 2400 A.D., Times of Lore Wings of Fury, Lode Runner, Airheart ea. 23.
- BUENA VISTA**
- Who Framed Roger Rabbit 30.
- CINEMAWARE** King of Chicago (IGS) 30.
- Defender of the Crown (IGS) 30.
- ELECTRONIC ARTS** Bard's Tale Marble Madness (IGS), Strike Fleet Skate or Die (IGS), Zany Golf (IGS) ea. 23.
- Hunt for Red October, Tomahawk (IGS) ea. 27.
- Bard's Tale (IGS), Bard's Tale II, (IGS) ea. 33.
- Bard's Tale II, III, Westland ea. 33.
- Chessmaster 2000, Chuck Yaeger AFT Chessmaster 2100 (IGS) ea. 26.
- Legacy of Ancient, Death Lords ea. 26.
- World Tour Golf (IGS) 27.
- EPYX** World Games (IGS) 27.
- World Games, Winter Games Winter Games (IGS) 27.
- Dive Bomber, LA Cradown ea. 27.
- Street Sports: Basketball/Baseball ea. 26.
- Street Sports: Soccer (IGS, II/IIc) ea. 26.
- Sub Battle, Destroyer (II/IIc, IIGS) ea. 26.
- California Games (II/IIc/IIIGS) ea. 26.
- The Games-Summer Edition 30.
- Final Assault (IGS) 30.
- LOGICAL DESIGN** Mancala (IGS) 27.
- Vegas Gambler (IGS), Trango (IGS) ea. 27.
- Vegas Craps (IGS), Backgammon (IGS) ea. 27.
- MEDIAGENIC/ACTIVISION**
- Rampage 24.
- Might and Magic 33.
- Last Ninja (IIGS) 27.
- Black Jack Academy (IIGS) 27.
- Shanghai (IIGS) 29.
- Maniac Mansion 23.
- Championship Baseball/Football ea. 24.
- Championship Basketball (IIGS) ea. 26.
- MICROPROSE** Pirates (II/IIc, IIGS) ea. 22.
- Silent Service, F-15 Strike Eagle ea. 22.
- Silent Service (IIGS) 26.
- MINDSCAPE** Balance of Power Gauntlet, Paper Boy ea. 26.
- GAUNTLET (IGS), Paper Boy (IIGS) ea. 30.
- Super Star Ice Hockey (IGS) 30.
- Shadowgate (IIGS) 33.
- Uninvited (IGS), Dejavu (IIGS) ea. 33.
- PBI SOFTWARE** (All IIGS)
- Sea Strike, Monte Carlo ea. 26.
- Tower of Myrarglen, Alien Mind ea. 36.
- Cavern Cobra, Strategic Conquest ea. 33.
- SIERRA ON-LINE** Thexder (IIGS) 24.
- King's Quest I, II, III ea. 31.
- King's Quest I, II, III, IV (IIGS) ea. 33.
- Space Quest I, II (IIGS) ea. 33.
- Leisure Suit Larry (IIGS) 26.
- Police Quest I, II (IIGS) 33.
- SIR-TECH** Wizardry 33.
- Knight of Diamonds, Legacy of Lyliganym ea. 33.
- Return of Werdar 40.
- Wizardry 5 33.
- SPECTRUM MOLOBYTE** Tetris 27.

#### EDUCATION

- BARRON'S** Study Program For SAT V.2 32.
- BRITANICA** Jigsaw (IGS) 27.
- Algebra, 1, 2, 3, 4 ea. 25.
- Algebra 5 & 6 40.
- BRODERBUND** Science Tool Kit Science Tool Kit Module 1, 2, 3 ea. 26.
- Where In The USA is Carmen San Diego 27.
- Where in the World is Carmen San Diego 27.
- Where in Europe is Carmen San Diego 24.
- DAVIDSON & ASSO.**
- Math & Me, Reading & Me ea. 24.
- Math & Me (IGS), Reading & Me (IGS) ea. 29.
- Math Blaster Plus, Alge-Blester ea. 29.
- Read and Roll 29.
- Word Attack, Spell II, Grammar Gremlins ea. 29.
- Word Attack Plus 29.
- DESIGNWARE** Spellcopier, Math Maze Grammar Examiner, States & Traits ea. 26.
- THE BODY** Transparent, European Nations Designasaurus IIGS, II/IIc ea. 25.
- ELECTRONIC ARTS**
- Mavis Beacon Teaches Typing (IIGS) 33.
- Mavis Beacon Teaches Typing 27.
- FIRST BYTE** (for IIGS) (512K Req.) MathTalk, First Shapes, KidTalk ea. 30.
- Speller Bee, Smoothtalker ea. 30.
- MathTalk Fractions, First Letter & Words ea. 30.
- GREAT WAVE**, Kids Time II (IIGS) ea. 26.
- HARDCOURT, BRACE, JOVANOVIICH** Computer Prep for the ACT 29.
- Computer Prep for the SAT 26.
- ILS SOFTWARE**
- Computer Prep for SAT, GRE ea. 33.
- MINDSCAPE** Crossword Magic 33.
- SIERRA ON LINE**
- Mixed Up Mother Goose (IIGS) 21.
- SIMON & SCHUSTER**
- Typing Tutor IV (II/IIc/IIGS) ea. 29.
- THE LEARNING COMPANY**
- Reader Rabbit (IIGS) 36.
- Writer Rabbit, Think Quick, Rocky's Boots (II/IIc/IIGS) ea. 30.
- Math Rabbit, Reader Rabbit, Gertrudes Secrets, Magic Spells (II/IIc/IIGS) ea. 26.
- Children's Writing/Publishing Center 40.
- UNICORN SOFTWARE**
- All About America (IIGS) 40.
- Math Wizard (IIGS), Animal Kingdom (IIGS) ea. 33.
- WEEKLY READER** Sticky Bears - ABC's, Numbers, Shapes, Opposites, Reading, Basics, Typing, Drawing, Music, Spellgrabber, Town Builder ea. 24.
- ABC's Talking (IIGS) 30.

#### BUSINESS

- ACTIVISION** List Plus (IIGS) 59.
- BPI** (PRODOS runs on IIGS) General Accounting, AP, AR, Payroll, Inventory Control ea. 131.
- BERKLEY SOFTWARES** GeoPublish 66.
- BRODERBUND** Bank Street Writer Plus 50.
- CLARIS** Appleworks GS (1.25M) 215.
- Appleworks (II/IIc) 165.

- Multiscribe GS 77.
- Multiscribe (II/IIc) 60.
- DAC SOFTWARE** DAC-Easy Accounting 60.
- ELECTRONIC ARTS** Delux Write II (IGS) 53.
- Delux Write II/Print II Combo (IIGS) 85.
- MILLIKEN** Medley (IIGS) 129.
- PBI** Visualizer (IIGS) 66.
- Visualizer (II/IIc) 47.
- PEACHTREE** Back to Basics Acct. Sys. 129.
- SENSIBLE SOFTWARE** Sensible Writer Sensible Speller IV (DOS, PRO DOS) ea. 58.
- Sensible Grammar Checker 55.
- Graphics Department 68.
- SEVEN HILL** Graphics Writer 90.
- SOFTWARE PUBLISHING**
- PFS: Graph (128K PRO DOS) 75.
- PFS: File & Report (128K PRO DOS) 75.
- PFS: Workmates (128K PRO DOS) 120.
- PFS: Write w/Speller (128K PRO DOS) 75.
- SOFTWOOD** Softwood GS File 61.
- SPRINGBOARD** Publisher 88.
- Shoots-Newsletter 20.
- Works of Arts - Assort.: Sampler, Education, Holiday Fonts ea. 26.
- TIMEWORKS** Publish It 53.
- Font Pack 1, II, Symbols and Slogans, People, Places & Things ea. 27.
- Publish It 2 86.
- WORDPERFECT** Wordperfect (IIGS), (II/IIc) ea. 93.

#### COMPUTERS

- LASER COMPUTERS**
- Laser 128 375.
- Laser 128EX 445.
- Laser 128EX/2 Call

#### MEMORY & INTERFACE

- APPLIED ENGINEERING**
- Prices change frequently  
Call for Current Pricing
- Ram Factor 512K (II+, IIc, IIGS) 340.
- Ram Factor 1MB (II+, IIc, IIGS) 546.
- Ram Works III 512K (IIc) 300.
- Ram Works III 1MB (IIc) 515.
- GS-Ram 256K (IIGS) 175.
- GS-Ram 512K (IIGS) 280.
- GS-Ram 1MB (IIGS) 510.
- GS-Ram PLUS 1MB 530.
- GS-Ram PLUS 2MB 940.
- Z-Ram Ultra 3 512K + Clock + Z-80 (IIc) 420.
- Z-Ram Ultra 3 1MB + Clock + Z-80 (IIc) 625.
- Trans Warp (II+, IIc) 170.
- Z-80Plus (II+, IIc, IIGS) 120.
- Z-80c (IIc) 125.
- Phasor (II+, IIc, IIGS) 130.
- Serial Pro (II+, IIc, IIGS) 110.
- Parallel Pro, Timemaster HO ea. 77.
- PC Transporter 768K 510.
- Ramcharger, RamKeeper 144.
- Sonic Blaster 98.
- Audio Animator 180.
- Transwarp GS 46.
- ORANGE MICRO** Hotlink (IIc) Call.
- Grappler C/MAC/GS, Prograder ea. 74.
- Imagebuffer 46.

- THIRDWARE**
- Fingerprint GS! (IIGS) 78.
- Fingerprint Plus (IIc, II+) 88.
- Fingerprint IIc (IIc) 53.
- THUNDERBOLT** ThunderScan 170.

#### HARD DISK DRIVES

- CHINOOK** Call
- CMS External w/SCSI Interface (IIc, IIGS) 605.
- 20MB (Stackable) 605.
- 60MB (Stackable) 895.

#### FLOPPY DISK DRIVES

- AMERICAN MICRO**
- A 5 Drive (IIGS, Datsychainable) 5 1/4" 145.
- APPLIED ENGINEERING**
- TransDrive Dual 315.
- TransDrive Single 200.
- LASER COMPUTER**
- External Disk Drive (5 1/4" Laser) 90.
- External Disk Drive (5 1/4" II/IIc) 95.
- External Disk Drive (3 1/2") 180.
- Universal Disk Controller 77.

#### MODEMS

- ANCHOR AUTOMATION**
- Anchor 2400 (External) 180.
- APPLIED ENGINEERING** Datalink 1200 185.
- Datalink 2400 135.
- EPIC TECHNOLOGY**
- 2400 Classic II w/Proterm 175.
- 2400 Mini w/Proterm (External) 170.
- PROMETHEUS Promodem 2400A 180.
- SUPRA 2400 External 149.

#### MONITORS

- LASER COMPUTER**
- Color RGB Monitor 325.
- Amber, Green Monitor ea. 105.
- MAGNAVOX** RGB/Compoit (CMR762) 285.

#### ACCESSORIES

- BLANK MEDIA** (Bulk) Call
- CH PRODUCTS**
- Mach III w/Fire Button (II+, II/IIc, IIGS) ea. 34.
- Flight Stick 50.
- Mach IV Plus (IIGS/IIc) 59.
- KENSINGTON** System Saver 64.
- Turbo Mouse ADB (IIGS) 115.
- System Saver IIGS 73.
- KURTA** Apple I/SGS Tablet (IIGS) 320.
- LASER COMPUTER** Mouse 51.
- Expansion Box 55.
- Cables - Parallel, Serial, RGB, Modem ea. 16.
- MOUSE SYSTEMS A + Mouse** 75.
- A + Mouse ADB (IIGS) 85.
- RIBBONS** Call

#### PRINTERS

- CITIZEN** Tribute 124 410.
- LASER** 190A (Imagewriter I) 225.
- PANASONIC**
- KX 1080i (80 col., 120 cps, NLQ) 194.
- KX-1091i (80 col., 160 cps, NLQ) 225.
- STAR MICRONICS** NX-1000 210.
- NX-1000 Rainbow (Color) 265.
- SEIKOSHA** 1000AP (Imagewriter I) 235.

FOR CUSTOMER SERVICE CALL 1-805-499-7785 Monday thru Friday 9 a.m. to 5 p.m. - Pacific Time

To order call toll free or send check or money order to the P.O. Box only. VISA/MC orders welcome. Sorry, no C.O.D. Personal and company checks, allow 10 working days to clear. Specify computer type, if to back order or to send refund. California residents add 6% sales tax. Include phone number with order. All sales are final. Defective items will be replaced or money refunded, at our discretion. Call for Return Authorization number. We are not responsible for suitability or compatibility. Restocking fee of 15% will apply. Shipping and handling: All shipments U.P.S. if possible. Continental U.S. - Software: add \$5.00; min. Hardware: add 5% (\$6.00 min). APO, FPO Alaska, Hawaii, Puerto Rico and Canada. Software: add \$8.00 min. Hardware: add 10% (\$10.00 min).

ALL ITEMS SUBJECT TO AVAILABILITY. PRICES AND STIPULATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

1111 Rancho Conejo Blvd. #407

IN CALIFORNIA CALL 1-805-499-0197

Newbury Park, CA 91320

Mon. thru Fri. 7am - 6pm - Sat. 9am - 4pm Pacific Time

## ORDERS ONLY 1-800-248-0363



## Shareware Beware

I think readers should know about an unfortunate experience I had with a shareware developer. After a friend gave me a copy of Disk Disintegrator Deluxe, I sent a \$29.95 check to its author, Logix Innovations, in Quebec. Two weeks after mailing the check, I received a letter stating that the author received my order, but the commercial version of this software wasn't available yet. The letter also stated that I'd receive D.D. Deluxe v. 4.3 within three to four weeks and that Logix wouldn't cash my check until it shipped my order.

My check cleared two months later. After another two months I wrote again, inquiring about the software. To date, I haven't received the software or an answer to my letter.

We should be aware of the risk we take in sending money to a shareware author; there's no guarantee we'll receive the software.

**Phyllis E. Delph**  
7414 Oakmont Drive  
Santa Rosa, CA 95409-6306

*Order through our Shareware Connection, and you won't get cheated (ad, p. 98).—eds.*

## Sad Eyes

I'm quite fond of typing in *inCider's* programs, but you printed GS BASICs' game of Life ("Life Goes On," October 1988, p. 78) in such small letters that it's impossible to read. The same problem occurred in "Labyrinthian Caverns" (Applesoft Adviser, December 1988, p. 86).

**Martin A. Townsley**  
644 Highway 98W  
Destin, FL 32541

I'm a computer teacher and was excited to read "Amazing Mazes" (Applesoft Adviser, November 1988, p. 96). It's a perfect application for my second-semester BASIC class. The listing's print

is so small, though, I couldn't read it well enough to type it in. I hope this isn't going to become standard practice.

**Marilyn Hogue**  
5301 Aspenknoll Court  
Cincinnati, OH 45230

*What—no magnifying glass? We're sorry so many of you had difficulty reading the program listings in the previous issues. We goofed. We wanted to run the listings smaller to save space, but weren't farsighted enough to see the problems it would create. If you'd like copies of these listings in a readable size, send us a self-addressed envelope. —eds.*

## Inching Along

In October's AppleWorks Q&A, (p. 74) Brooks Weisblatt stated he can't print four characters per inch with his ImageWriter II. You responded that the printer can print only 9, 10, 12, 13.4, 15, or 17 cpi. I have no trouble printing the desired characters per inch by going to the Printer Options menu and selecting *CI* and the proper number. What's the problem?

**Jack L. Oxley**  
4649 Twin Post Road  
Dallas, TX 75244

*The problem is that inCider believed the docs and not the facts. Sorry. —eds.*

## Proper Coverage

Since your initial review of Applied Engineering's PC Transporter (June 1988, p. 77), I've seen no mention of it in your magazine. PC Transporter is a unique device that makes the Apple II very powerful, and I'd hoped you'd continue covering this fantastic product.

Transporter is much more powerful than a PC clone, but because its manual isn't straightforward or well written, its capabilities go unnoticed. AE could have written an installation manual and a separate user's guide instead of combining

all the information into one manual.

Apple magazines should be explaining how to use ProDOS devices with Transporter and what software works with it.

**Randall S. More II**  
HHC, 32nd Signal Battalion  
Box 73  
APO NY 09757

*We reviewed PC Transporter because it's a product for your Apple II. Because we're not an MS-DOS magazine, though, we're reluctant to devote much regular space to a product that is in effect a PC clone. What do you think? Let us know whether or not you want more coverage of PC Transporter in inCider. —eds.*

## On the Radio

Why doesn't *inCider* ever mention software that can aid amateur radio operators in either upgrading or in communications? Other publications advertise IBM- and Commodore-compatible software and hardware, but no one mentions Apple. Does this mean the Apple-owner ham must break down and purchase an IBM or Commodore?

**Jim Campbell**  
711 North Columbia Avenue  
Campbellsville, KY 42718

*We're afraid so—as far as we know, no radio software is available for the Apple II. We wish there were and we wish someone would tell us about it if there is. —eds.*

## Foreign Image

In "GS Over There" (Apple Clinic, November 1988, p. 22), Bill Kennedy wrote that generally you can use only the international version of the ImageWriter II overseas. That information, however, doesn't correspond to my experience here in Germany.

I'm using two ImageWriters—both standard 110/60 stateside models. I brought the ImageWriter I from home and purchased the ImageWriter II at our

# ZIMCO

INTERNATIONAL, INC.

85-39 213 St., Queens Village, NY 11427

**FREE SHIPPING\***

**On All Orders**

## COMPUTERS

|                           |       |                             |       |
|---------------------------|-------|-----------------------------|-------|
| LASER 128 Computer        | \$365 | Z-RAM ULTRA 3 w/1 M.        | \$634 |
| LASER 128EX Computer      | \$423 | APLUS MOUSE IIc/Mac         | \$79  |
| GENUINE APPLE:            |       | CH Flightstick              | \$48  |
| Apple IIc+ CPU            | \$635 | CH Mach II Joystick IIc/II+ | \$36  |
| Apple IIc CPU             | \$650 | Extended 80 col. for IIc    | \$29  |
| Apple I/GS                | \$849 | Fan & Surge Prot.           | \$29  |
| Apple MacPlus SE, II, IIx | call! | JOYSTICK for IIc/GS         | \$24  |
|                           |       | Kensington System Saver     | \$62  |
|                           |       | KOALA Pad Plus              | \$84  |

## DRIVES

|  |        |  |       |
|--|--------|--|-------|
| GENUINE APPLE 3.5" 800K drive (IIGS/Mac)               | \$325  | KRAFT 3-but. joystick                            | \$30  |
| Apple UniDisk 3.5 w/Catalyst (IIc, IIe II+)            | \$365  | LASER 128 Mouse                                  | \$55  |
| Applied Engineering with a 1 year warranty 5.25" drive | \$110  | LASER 128K cables                                | \$21  |
| Controller   | \$46   | Lower Case ROM II+ only                          | \$19  |
| GENUINE APPLE 5.25" drive for IIc IIGS                 | \$250  | ORANGE MICRO:                                    |       |
| Harddisk 205C w/SCSI                                   | \$819  | Hotlink serial-to-parallel                       | \$54  |
| Harddisk 405C w/SCSI                                   | \$1290 | Progripper IIc/IIGS                              | \$84  |
| CENTRAL POINT 3.5" Drive                               | \$187  | Pro-Gripper IIc/IIc                              | \$79  |
| Controller   | \$69   | w/buffer   | \$115 |
| CMS Stack Drive for IIc/IIGS                           | \$632  | Serial Gripper Plus                              | \$64  |
| SD20-A2S   | \$830  | Parallel Printer Interface                       | \$40  |
| SD43-A2S   | \$830  | Graphics Printer Card                            | \$55  |
|  |        | 80 Column Card IIc                               | \$59  |
|  |        | 16K RAM CARD for II+                             | \$35  |
|  |        | SMT For. Printer card/cable                      | \$40  |
|  |        | STREET ELEC. Cricket IIc                         | \$125 |
|  |        | Echo IIc IIc+/GS                                 | \$59  |
|  |        | SUPER SERIAL CARD                                | \$59  |
|  |        | Surge Suppressor w/6 outlets and circuit breaker | \$24  |
|  |        | w/fan and 2 outlets for IIc or II+               | \$24  |
|  |        | Thunderware ThunderScan for Imagewriter only     | \$179 |

|       |  |                     |        |
|-------|--|---------------------|--------|
| RDIME |  | 20 Plus ext. IIc/GS | \$665  |
|       |  | 40 Plus ext. IIc/GS | \$999  |
|       |  | 60 Plus ext. IIc/GS | \$1200 |

## HARDWARE

|                |  |                         |       |
|----------------|--|-------------------------|-------|
| GENUINE APPLE: |  | Apple IIc MOUSE         | \$79  |
|                |  | Apple IIc MOUSE         | \$119 |
|                |  | Apple IIc enhance. kit  | \$59  |
|                |  | Apple IIc mem. exp. cd. | \$182 |
|                |  | Apple IIc 256k exp. kit | \$125 |
|                |  | Apple Numeric Keypad    | \$85  |
|                |  | Apple SCSI card         | \$109 |
|                |  | Apple Super Serial Card | \$109 |

|                      |  |                                    |        |
|----------------------|--|------------------------------------|--------|
| APPLIED ENGINEERING: |  | 16 Channel 12-bit A/D              | \$205  |
|                      |  | Buffer Pro 32K                     | \$82   |
|                      |  | Buffer Pro 256K                    | \$179  |
|                      |  | IBM Keyboard w/cable               | \$115  |
|                      |  | PC Transporter 384K                | \$365  |
|                      |  | PC Transporter 768K                | \$523  |
|                      |  | PC Trans. Inst. II+/IIc            | \$29   |
|                      |  | Parallel Pro                       | \$80   |
|                      |  | Phasar                             | \$132  |
|                      |  | Packet Rocket 16K II+              | \$67   |
|                      |  | RamCharger                         | \$134  |
|                      |  | RGB Colorlink                      | \$118  |
|                      |  | Ramfactor w/Ok                     | \$141  |
|                      |  | Ramfactor w/256k                   | \$221  |
|                      |  | Ramfactor w/512k                   | \$330  |
|                      |  | Ramfactor w/1 Meg                  | \$560  |
|                      |  | Ramfactor Exp. w/Ok                | \$148  |
|                      |  | Ramfactor Exp. w/1 M.              | \$545  |
|                      |  | Ramfactor Exp. w/2 M.              | \$949  |
|                      |  | Ramfactor Exp. w/3 M.              | \$1344 |
|                      |  | Ramfactor Exp. Kit                 | \$20   |
|                      |  | RamKeeper                          | \$139  |
|                      |  | Ramworks OK                        | \$90   |
|                      |  | Ramworks w/64                      | \$164  |
|                      |  | Ramworks w/256k                    | \$169  |
|                      |  | Ramworks w/512k                    | \$284  |
|                      |  | Ramworks 2 Meg. exp. card w/1 Meg. | \$545  |
|                      |  | Ramworks III w/OK                  | \$103  |
|                      |  | Ramworks III w/256k                | \$186  |
|                      |  | Ramworks III w/512k                | \$293  |
|                      |  | Ramworks III w/1 Meg.              | \$514  |
|                      |  | Ramworks III w/1.5 Meg.            | \$799  |
|                      |  | Ramworks III w/2 Meg.              | \$1454 |
|                      |  | RGB Digital Prism                  | \$97   |
|                      |  | Serial Pro                         | \$110  |
|                      |  | TimeMaster II H.O.                 | \$75   |
|                      |  | Transitive Single                  | \$201  |
|                      |  | Transitive Double                  | \$285  |
|                      |  | Transwrap Accelerator              | \$165  |
|                      |  | Viewmaster 80 II+                  | \$115  |
|                      |  | Z-80 Plus                          | \$113  |
|                      |  | Z-80C                              | \$119  |
|                      |  | Z-Ram 16-bit chip                  | \$60   |
|                      |  | Z-RAM ULTRA 1 w/Ok                 | \$109  |
|                      |  | Z-RAM ULTRA 1 w/256k               | \$186  |
|                      |  | Z-RAM ULTRA 1 w/512k               | \$299  |
|                      |  | Z-RAM ULTRA 2 w/Ok                 | \$156  |
|                      |  | Z-RAM ULTRA 2 w/256k               | \$239  |
|                      |  | Z-RAM ULTRA 2 w/512k               | \$349  |
|                      |  | Z-RAM ULTRA 2 w/1 M.               | \$670  |
|                      |  | Z-RAM ULTRA 3 w/Ok                 | \$216  |
|                      |  | Z-RAM ULTRA 3 w/256k               | \$299  |
|                      |  | Z-RAM ULTRA 3 w/512k               | \$410  |

## MONITORS

|                     |       |                             |       |
|---------------------|-------|-----------------------------|-------|
| APPLE Color Comp    | \$315 | Tax Preparer (HowardSoft)   | \$150 |
| APPLE Monochrome    | \$109 | To Her Is Human             | \$30  |
| APPLE RGB Analog GS | \$459 | Webster's Spell (Sim.&Sch.) | \$37  |
| Amber or Green Mono | \$110 | WORDPERFECT IIGS.e.c.       | \$95  |
| MAGANVOX RGB 14"    | \$229 | WORDSTAR 2X (MicroPro)      | \$175 |

## PRINTERS

|                           |        |                                   |       |
|---------------------------|--------|-----------------------------------|-------|
| APPLE Imagewriter 32K Op. | \$80   | (Please ask for the IIGS version) |       |
| Imagewriter II (no cable) | \$465  | DELUXE PAINT                      | \$73  |
| Imagewriter IIGS          | \$1080 | GRAPHIC WRITER                    | \$109 |
| LASERWRITER IINT          | \$3899 | HACKER                            | \$25  |
| LASERWRITER IISC          | \$2099 | INSTANT MUSIC                     | \$37  |
| LASERWRITER IINTX         | \$5399 | LEARNING CO.                      |       |
| CITIZEN 120D              | \$175  | Reader Rabbit GS                  | \$37  |
| MSP-15                    | \$378  | Writer Rabbit GS                  | \$30  |
| EPSON LX800               | \$205  | Magic Spells GS                   | \$25  |
| LQ500                     | \$360  | Math Spells GS                    | \$25  |
| LQ800                     | \$410  | Mastertracks MIDI                 | \$170 |
| FX850                     | \$375  | MICROPROSE:                       |       |
| PANASONIC KXP-1080        | \$179  | Silent Service GS                 | \$25  |
| KXP-1091                  | \$209  | Pilates GS                        | \$25  |
| KXP-1092                  | \$345  | MINDSCAPE:                        |       |
| KXP-1592                  | \$439  | Defender o.1. Crown               | \$31  |
| KXP-1595                  | \$508  | King of Chicago GS                | \$31  |
| Panasonic Laser 4450      | \$1699 | SDI                               | \$31  |
| STAR NX-1000 Parallel     | \$185  | Paperboy                          | \$25  |
| NX-1000 Rainbow           | \$235  | Gauntlet                          | \$25  |
| TOSHIBA P321SL            | \$499  | MIGHT & MAGIC                     | \$34  |

## SOFTWARE

|                             |       |                            |       |
|-----------------------------|-------|----------------------------|-------|
| ACTIVISION Postcards        | \$17  | MUSIC CONSTRUCTION         | \$38  |
| APPLEWORKS v2.0             | \$197 | MUSIC STUDIO               | \$54  |
| ASCII EXPRESS ProDOS        | \$70  | NEWSMAKER                  | \$55  |
| Autoworks                   | \$45  | PAINTWORKS PLUS            | \$54  |
| BANK STREET WRITER PLUS for |       | PBI Software:              |       |
|                             |       | Sea Strike GS              | \$24  |
|                             |       | Monte Carlo GS             | \$24  |
|                             |       | Tower of Myraqlen GS       | \$31  |
|                             |       | Allen Mind GS              | \$31  |
|                             |       | Visulizer GS               | \$54  |
|                             |       | Pinpoint IIGS Starter Pack | \$97  |
|                             |       | PRINT SHOP                 | \$36  |
|                             |       | Random Hs. II Write GS     | \$49  |
|                             |       | Roger Wagner:              |       |
|                             |       | Mousewrite GS              | \$90  |
|                             |       | Softswitch GS              | \$38  |
|                             |       | SPECTRUM HOLOBYTE:         |       |
|                             |       | Gato                       | \$25  |
|                             |       | Orbitor                    | \$33  |
|                             |       | Wilderness                 | \$31  |
|                             |       | SIERRA ONLINE:             |       |
|                             |       | King's Quest 1/2/3GS       | @330  |
|                             |       | Leisure Suit Larry GS      | \$25  |
|                             |       | Space Quest IIGS           | \$31  |
|                             |       | Softview Taxview GS        | \$64  |
|                             |       | Talking Textwriter GS      | \$150 |
|                             |       | TOP DRAWER GS              | \$54  |
|                             |       | Typing Tutor IV GS         | \$30  |
|                             |       | WORDPERFECT GS             | \$95  |
|                             |       | Writers Choice Elite IIGS  | \$54  |

**LASER 128EX ..... \$423**

**IMAGEWRITER II with cable and color ribbon ..... \$489**

**Hayes Compatible Modem 300/1200 bps w/ cable .. \$249**

## MARCH MADNESS FREE BONUS

Every 100<sup>th</sup> order in March will receive a free bonus from our RMA/discontinued stock shelf. Values up to \$250.00! Bonus items are "As Is". Sorry, no peeking!

## IIGS

|                       |       |
|-----------------------|-------|
| APPLE IIGS Computer   | \$849 |
| Apple IIGS mem. exp.  | \$182 |
| Apple IIGS system fan | \$39  |

|  |        |
|--|--------|
| Applied Engineering:                     |        |
| Colorlink GS/Analog                      | \$97   |
| GS-RAM 0k                                | \$104  |
| GS-RAM 256k                              | \$183  |
| GS-RAM 512k                              | \$293  |
| GS-RAM 1Meg                              | \$514  |
| GS-RAM 1.5Meg                            | \$747  |
| GS-RAM Plus 1 Meg                        | \$519  |
| GS-RAM Plus 2 Meg                        | \$899  |
| GS-RAM Plus 3 Meg                        | \$1319 |
| GS-RAM Plus 4 Meg                        | \$1725 |
| PC Trans. Inst. IIGS                     | \$37   |
| AST Ramstack Plus IIGS                   | \$100  |
| AST Vision Plus IIGS                     | \$203  |
| Kensington Sys.Saver IIGS                | \$79   |
| KURTA IS ADB Digitizing Tablet w/ stylus | \$299  |
| Joystick for IIGS                        | \$24   |

|                        |       |
|------------------------|-------|
| MOIDEAS                |       |
| Conservator IIGS       | \$124 |
| Professional Digitizer | \$139 |
| Supersonic (Stereo)    | \$50  |
| Supersonic Digitizer   | \$50  |

|                                       |       |
|---------------------------------------|-------|
| ORANGE MICRO                          |       |
| Juice Box GS                          | \$62  |
| Gripper c/Mac/GS                      | \$84  |
| Rampac 512k GS                        | \$239 |
| Street Elec. Echo lib for the IIc+/GS | \$106 |
| SUMMAGRAPHICS                         |       |
| BH Pad Plus ADB IIGS                  | \$329 |

PX. Neither printer has had a problem running from a 220/110 transformer at 50 hertz.

Robert Van Epps  
c/o Bamberg Elementary School  
APO NY 09139-0005

## Abacadata Update

If you purchased or received a copy of Abacadata's Design Your Own Home/Architecture program between October 18 and December 12, 1988, the company encourages you to examine your 5 1/4-inch disk for a possible defect (3 1/2-inch disks are unaffected). To check for the error, use your mouse to go to the line icon, then try pressing Control-N (to turn off measurements) or the tab key (to show feet and inches). If the software responds immediately, your disk is okay. If the response is erratic or delayed, you'll need a new disk. (If you're not using both the mouse and the 5 1/4-inch version, you shouldn't experience any problem.) To get your free replacement, send your protected 5 1/4-inch disk only to Abacadata Ltd., P.O. Box 2440, Eugene, OR 97402. □

## CORRECTION

Formula 10 in our January 1989 AppleWorks in Action spreadsheet tutorial (p. 60) contains an error. The description should read: @CHOOSE (G4, J9, J10, J11, J12). □

inCider welcomes readers' comments. We reserve the right to edit letters for clarity, style, and space. Please address your correspondence to Letters, inCider, Elm Street, Peterborough, NH 03458.

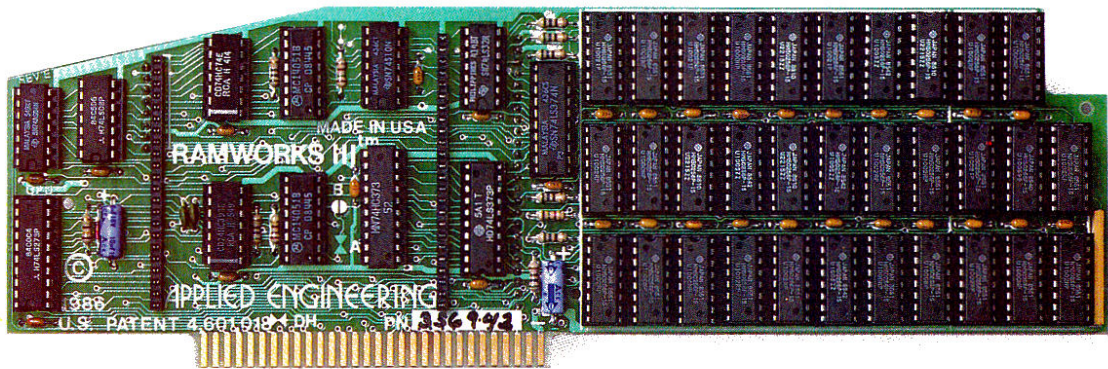
**No EXTRA CHARGE**  
**DISCOVER / VISA / MASTERCARD**

**1-800-227-6647 Orders Only.**  
For All Inquiries, Tech Support & NY:  
**Call 718-479-7888**

Free shipping via UPS/USPS ground within the continental U.S. \*Add insurance and handling fee to all orders. We cannot guarantee prices or weather, both tend to change. Call for current prices & sale flyer. Min. restocking fee 20%. No returns without prior authorization. (InCider 3/89)

# RamWorks® III

*Patented Performance from the Recognized Leader*



*The Best Selling, Most Compatible, Most Recommended, Most Expandable Card Available.*

## **The AppleWorks Amplifier.**

While RamWorks III is recognized by all memory intensive programs, NO other expansion card comes close to offering the multitude of enhancements to AppleWorks that RamWorks III does. Naturally, you'd expect RamWorks III to expand the available desktop, after all Applied Engineering was a year ahead of everyone else *including Apple* in offering more than 55K and we still provide the largest AppleWorks desktops available. But a larger desktop is just part of the story. Look at all the AppleWorks enhancements that even Apple's own card does not provide and *only* RamWorks III does. With a 265K or larger RamWorks III, *all* of AppleWorks (including printer routines) will automatically load itself into RAM dramatically increasing speed by eliminating the time required to access the program disk drive. Switch from word processing to spreadsheet to database at the speed of light with no wear on disk drives.

RamWorks eliminates AppleWorks' internal memory limits, increasing the maximum number of records available from 1,350 to over 22,000. *Only* RamWorks increases the number of lines permitted in the word processing mode from 2,250 to over 22,000. *Only* RamWorks expands the maximum clipboard limit from 250 to 2,042 lines. And *only* RamWorks offers a built-in printer buffer, so you won't have to wait for your

printer to stop before returning to AppleWorks. And auto segments large files so they can be saved on two or more disks. You can even have Pinpoint or MacroWorks and your favorite spelling checker in RAM for instant response.

RamWorks, nothing comes close to enhancing AppleWorks so much.

## **The Most Friendly, Most Compatible Card Available.**

Using RamWorks III couldn't be easier because it's compatible with more off-the-shelf software than any other RAM card. Popular programs like AppleWorks, Pinpoint, TimeOut series, HowardSoft, FlashCalc, ProFILER, Managing Your Money, SuperCalc 3a and VIP Professional to name a few (and most hardware add on's like ProFile and Sider hard disks). RamWorks is even compatible with software written for Apple cards. But unlike other cards, RamWorks plugs into the IIe auxiliary slot providing our super sharp 80 column text (U.S. Patent #4601018) in a completely integrated system while leaving expansion-slots 1 through 7 available for other peripheral cards.

RamWorks III is compatible with all Apple IIe's, enhanced, unenhanced, American or European versions.

## **Highest Memory Expansion.**

Applied Engineering has always offered the largest memory for the IIe and

RamWorks III continues that tradition by expanding to 1 full MEG on the main card using standard RAMs, more than most will ever need (1 MEG is about 500 pages of text)...but if you do ever need more than 1 MEG, RamWorks III has the widest selection of expander cards available. Additional 512K, 1 MEG, or 2 MEG cards just snap directly onto RamWorks III by plugging into the industry's only low profile (no slot 1 interference) fully decoded memory expansion connector.

## **It Even Corrects Mistakes.**

If you've got some other RAM card that's not being recognized by your programs, and you want RamWorks III, you're in luck. Because all you have to do is plug the memory chips from your current card into the expansion sockets on RamWorks III to recapture most of your investment!

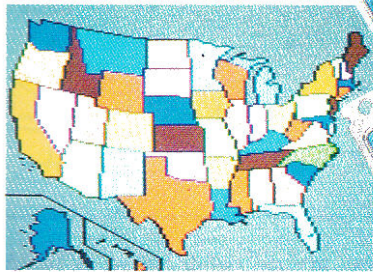
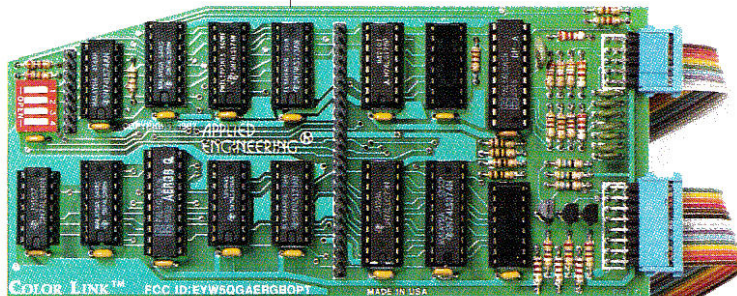
## **The Ultimate in RGB Color.**

RGB color is an option on RamWorks and with good reason. Some others combine RGB color output with their memory cards, but that's unfair for those who don't need RGB *and* for those that do. Because if you don't need RGB Applied Engineering doesn't make you buy it, but if you want RGB output you're in for a nice surprise because the RamWorks RGB option offers better color graphics plus a more readable 80 column text (that blows away any



composite color monitor). For only \$129 it can be added to RamWorks giving you a razor sharp, vivid brilliance that most claim is the best they have ever seen. You'll also appreciate the multiple text colors (others only have green) that come standard. But the RamWorks RGB option is more than just the ultimate in color output because unlike others, it's fully compatible with all the Apple standards for RGB output control, making it more compatible with off-the-shelf software. With its FCC certified design, you can use almost any RGB monitor because only the new RamWorks RGB option provides both the new Apple standard analog and the IBM standard digital RGB outputs (cables included). The RGB option plugs into the back of RamWorks with no slot 1 interference and remember you can order the RGB option with your RamWorks or add it on at a later date.

*ColorLink™  
RGB Option*



like the product so much that I am buying one for my own system." inCider magazine said "RamWorks is the most powerful auxiliary slot memory card available for your IIfx, and I rate it four stars...For my money, Applied Engineering's RamWorks is king of the hill."



*"I wanted a memory card for my Apple that was fast, easy to use, and very compatible; so I bought RamWorks."*

*Steve Wozniak, the creator of Apple Computer*

Apple experts everywhere are impressed by RamWorks' expandability, versatility, ease of use, and the sheer power and speed that it adds to any IIfx.

- Can use 64K or 256K RAMs
- Powerful linear addressing 16 bit coprocessor port
- Automatic AppleWorks expansion up to 3017K desktop
- Accelerates AppleWorks
- Built-in AppleWorks printer buffer
- 100% compatible with all standard IIfx software
- RamDrive™ and ProDrive™ the ultimate emulation software included free
- Memory is easily partitioned allowing many programs in memory at once
- Compatible RGB option featuring ultra high resolution color graphics and multiple text colors with cables for both the new Apple and standard IBM type monitors
- Self diagnostics software included
- Lowest power consumption (U.S. Patent #4601018)
- Takes only one slot (auxiliary) even when fully expanded
- Socketed and user upgradeable
- Software industry standard
- Advanced Computer Aided Design
- Used by Apple Computer, Steve Wozniak and virtually all software companies
- Displays date and time on the AppleWorks screen with any ProDOS compatible clock
- Much, much more!

### Quality and Support of the Industry Leader.

RamWorks III is from Applied Engineering, the largest, most well supported manufacturer of Apple peripherals and the inventor of large RAM cards for the Apple. With our 5 year warranty and outstanding technical support, you're assured of the most trouble free product you can buy.

### It's Got It All.

- 15 day money back guarantee
- 5 year warranty
- Built-in super sharp 80 column display (U.S. Patent #4601018)
- Expandable to 1 MEG on main card
- Expansion connector for possible future expansion to 16 MEG

### True 65C816 16 Bit Power.

RamWorks III has a built-in 65C816 CPU port for direct connection to our optional 65C816 card. The only one capable of linearly addressing more than 1 MEG of memory for power applications like running the Lotus 1-2-3™ compatible program, VIP Professional. Our 65C816 card does not use another slot but replaces the 65C02 while maintaining full 8 bit compatibility.



### Endorsed by the Experts.

A+ magazine said "Applied Engineering's RamWorks is a boon to those who must use large files with AppleWorks...I

|                                  |               |
|----------------------------------|---------------|
| <b>RamWorks III with 64K</b>     | <b>\$239</b>  |
| <b>RamWorks III with 256K</b>    | <b>\$249</b>  |
| <b>RamWorks III with 512K</b>    | <b>\$389</b>  |
| <b>RamWorks III with 1 MEG</b>   | <b>\$669</b>  |
| <b>RamWorks III with 1.5 MEG</b> | <b>\$999</b>  |
| <b>RamWorks III with 3.0 MEG</b> | <b>\$1749</b> |
| <b>Ram Expander + 1 MEG</b>      | <b>\$649</b>  |
| <b>Ram Expander + 2 MEG</b>      | <b>\$1099</b> |
| <b>65C816 16 Bit Card</b>        | <b>\$159</b>  |
| <b>ColorLink RGB Option</b>      | <b>\$129</b>  |

RamWorks III. The industry standard for memory expansion of the Apple IIfx. ORDER YOUR RamWorks III TODAY. See your dealer or call (214) 241-6060, 9 a.m. to 11 p.m., 7 days, or send check or money order to Applied Engineering.

MasterCard, Visa and C.O.D. welcome. Texas residents add 7% sales tax. Add \$10.00 if outside U.S.A.

**AE APPLIED ENGINEERING™**  
*The Apple enhancement experts.*  
A Division of AE Research Corporation.

**(214) 241-6060**

**P.O. Box 5100, Carrollton, TX 75011**

*Prices subject to change without notice.*

# NEWS LINE

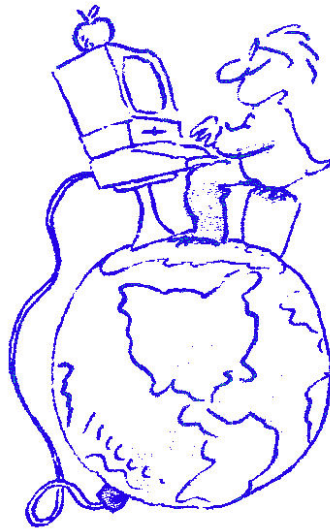
by Paul Statt, Senior Editor

## NATIONAL SCIENCE

The National Science Foundation will introduce science and math teachers to computers in the classroom this summer at its Project ExCELS workshop, to be held at Indiana University of Pennsylvania near Pittsburgh.

High-school science teachers will learn how to connect their microcomputers to the "real world"—the important art of computer interfacing. Conference participants will take home an interface board, software, sensors, and electronic components to set up experiments.

The math teachers (grades 2-12) will receive, in addition to two weeks' training, math software created by the ExCELS project and \$2000 worth of commercial software to use at home. Everybody at



the program will also learn to telecommunicate by modem.

Project ExCELS runs from June 26 through July 14 and is free (excluding transportation) to accepted participants. The application deadline is March 15, 1989; contact John W. Butzow or LeeAnn Schlemmer at the College of Education, 104 Stouffer Hall, Indiana University of Pennsylvania, Indiana, PA 15705, (412) 357-2480.

## A GOOD OLD COMPUTER

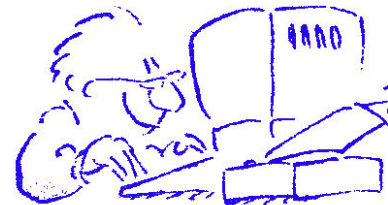
The New York man always seemed hopelessly behind the times. In college, he still had something called a record player when everyone else was buying a hi-fi. When he finally bought a hi-fi, he learned to his dismay that it was monaural when everyone else had stereo.

Now he has upgraded his sound system (the one that finally replaced his old hi-fi) by adding a compact-disc player. But the first time he showed it off to friends, someone remarked at the irritating brittleness of CD sound, and someone else said she couldn't wait for digital audio tape.

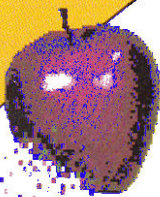
Personal computers produced special anxiety. The man works as a writer, one who makes a lot of typing errors, and he found himself increasingly embarrassed to

turn in typed manuscripts splotted with erasures and White-Out. Other people he knew produced pristine copy from computers. A few had forsaken paper altogether and submitted their work on disks, or over the phone by modem.

A major writing project forced the issue: He needed a computer. But he remained hopelessly intimidated by the thought of buying one—he couldn't even understand the advertising. A friend finally came to his rescue with the loan of a castoff Apple. The writer spent a weekend learning about the keyboard, the dot-matrix printer, and the old writing program, and



### APPLE BITS



■ So What Software (Fountain Valley, CA) has a new **toolbox interface** for fanatic Applesoft BASIC programmers who want to use all the power of the IIGS. Call-Box is the working name.

■ Echelon (Los Gatos, CA) is a new company in the LON business—**local-operating network**. That's "home control" in English. Familiar Apple names like Mike Markkula, Wendell Sander, and Arthur Rock are on the board of directors. We wonder if Echelon got any help when the home-control company CL9 (founded by familiar Apple name Steve Wozniak) closed.

■ Techware (Miami, FL) is working with Apple as they try to iron out a deal to combine **TutorTech and HyperCard**.

■ Did AppleLink's popularity start the "**price war**" among the other national information services?

■ Berkeley Softworks (Berkeley, CA) isn't selling as much **Apple GEOS** as it did Commodore GEOS.

■ What builder of Apple II "clones" is teaming up with a developer of non-ProDOS productivity software to market an **inexpensive Apple II** solution?

■ Toshiba's latest **laptop** will take a full-sized expansion card, such as the Trackstar Apple II emulation board. Is this the "portable Apple II"? □

## PRODUCT UPDATES

●MicroProse (Hunt Valley, MD) has dropped prices on its **Value Line** games—Conflict in Vietnam, Crusade in Europe, Decision in the Desert, NATO Commander, and Solo Flight—to a mere \$19.95 each.

●Fischer America's (Fairfield, NJ) new robotic construction kit, **Computing**

**Experimental** (\$379), teaches "methods of artificial intelligence" and much more with your Apple II Plus, IIe, or IIGs.

●Data East (San Jose, CA)—Karate Champ, Kung Fu Master, and Com-

mando—has joined up with sports-software pioneer Scott Orr, founder of **GameStar** (GFL Football, GBA Basketball, and Championship and Star League Baseball). Looks like a good blend of action and strategy.

●Facts on File (New York, NY) has shipped the first **Apple CD-ROM** product: Public Domain Software on File, almost 200 good, tested programs for all Apple IIs for only \$195. Call (800) 322-8755, (212) 683-2244 in New York, Alaska, or Hawaii, or (416) 441-2992 in Canada. □

found he liked them. When he called offering to buy the Apple, his friend was patronizing: "I couldn't take any money for it. I'm just glad it's found a good home. It's so old and

primitive. I don't think it has any value any more."

No value? The writer, working happily with 5.25-inch floppy disks, wondered what his friend could have meant. He decided that ages of computers, in a time of accelerating high tech, are calculated like dogs' ages, multiplying each year by seven. Thus his Apple might be thought of as more than 40

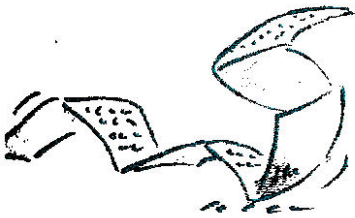
years old, easy to dismiss as worthless.

But the writer, also over 40, has come to understand how much value may still be found in the serviceable victims of premature obsolescence. Let his friends spend thousands on their baffling 60-megabyte hard-disk systems or spiffy laptops that store huge memories on the trim new 3.5-inch disks. Let them warn that his

5.25-inch floppies are going the way of the old 45-r.p.m. records.

So what, he says, with an affectionate eye on the out-of-date Apple. Those 45s sounded good enough on his old record player as he listened to the doo-wop music of his youth, and he still has a box of them in his closet.

*(Copyright 1988 by The New York Times Company. Reprinted by permission.)*



## APPLE LIBRARY GROUP MEETS

*inCider* wasn't there and probably it's just as well. At its meeting in New Orleans, Louisiana, last June, the Apple Library User Group, according to its newsletter, discussed the Apple II often:

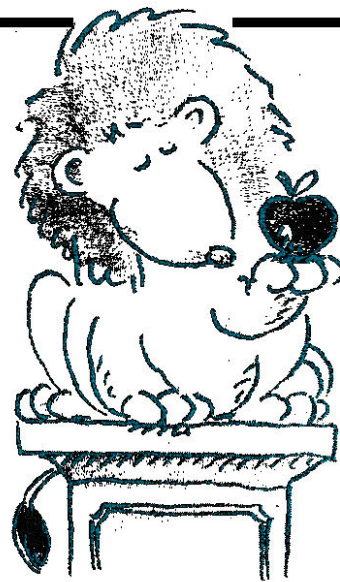
●The Academic Libraries group heard about "the transition from the Apple II to the Macintosh in [the] music library."

●The Desktop Publishing

group expressed "frustration at making the transition from Apple IIe to Macintosh, and [the wish] that Apple would make the transfer of text and data simple...."

●The Macintosh group noted that "libraries with a heavy investment in the Apple II series ... are particularly concerned over migrating to the Macintosh line in some other fashion than through telecommunications links."

It might seem that the "transitions" and "migra-



tions" would be easier if librarians simply continued to use their Apple IIs, but "most users were reporting on Macintosh applications; there was little, if any, discussion of other Apple computers."

Probably nobody dared mention Laser computers. ■

*We're always looking for news of the Apple world. If you're making news, send your press releases and photographs to News Line, inCider, Elm Street, Peterborough, NH 03458.*

## Is Math Revolting?

by Paul Statt, Senior Editor

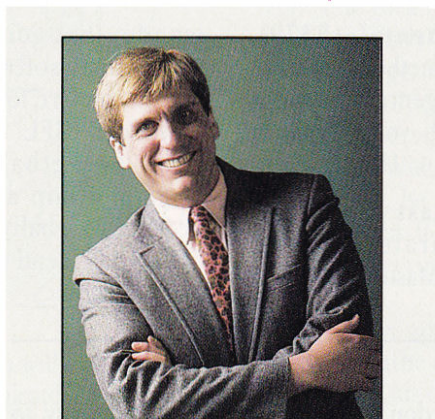
**Y**ou don't need to know much math to run a computer anymore, but you'd better know how to handle a computer before you tackle modern math.

That's what I learned from *The Mathematical Tourist* (W.H. Freeman, New York 1988, cloth \$17.95), a collection of essays that Ivars Peterson, the book's author, calls "snapshots of modern mathematics." Modern math is an experimental, empirical science; it's an artistically visual science. But the key to modern mathematics is the computer: Calculating machines have radically changed the art of calculation.

Fractal geometry, for instance, is the study of objects that don't quite exist—at least not in our three-dimensional world. Fractal objects have fractional dimensions; a fractal object might not be quite as flat as a square or quite as solid as a cube. "Fractal geometry and computer graphics are inextricably linked," is how Peterson understates the matter. True fractal objects exist only on the monitors of powerful computers; they could only be imagined before computers could simulate drawings of them.

The trick is that a fractal object is "self-similar." Imagine a box of cornflakes that pictures a boy who's pouring cornflakes from a box, which pictures a boy . . . Each part looks like the whole. A fractal object, for example, might look like a triangle, every side of which is another triangle, with ever smaller triangles on ever smaller sides.

What good are fractals? That's always a reasonable question to ask a mathematician, and Peterson, the math and physics editor of the weekly magazine *Science News*, never forgets the "who" or the "why" of his story. Fractal geometry draws pretty pictures. The "beauty of mathematics" you squinted and strained



*"Calculating machines have radically changed the art of calculation."*

at but didn't quite see in geometry class is pretty plain in Peterson's "gallery of modern mathematics"—16 color plates.

The pictures are practical because fractal geometry can provide a "shortcut" to the creation of realistic computer graphics without dedicating megabytes of memory to storing them. Alert telecommunications programmers will recognize the concept of graphics "packing": To save disk space, send a rule for drawing the picture, not the picture itself. Fractal geometry could make photographic-quality animation possible on home computers; George Lucas of LucasFilm is fascinated by the technology's promise for the next *Star Wars* as well as the next *Maniac Mansion*.

*The Mathematical Tourist* covers a wider territory than fractals, but I was impressed throughout the tour that Peterson "talked to the locals"—working

mathematicians—and usually discovered some practical purpose for other abstract concepts such as number theory, higher dimensions, cryptography, topology, and chaos. These are traveler's tales: You don't need to be a native to read and enjoy them, but it helps to have studied the language in high school.

The modern mathematics you'll meet in *The Mathematical Tourist* is still the "queen of sciences," but hardly their Margaret Thatcher, rigidly enforcing "law and order" on rough, delinquent disciplines like physics and chemistry. Math's both more useful and more fun, thanks to computers.

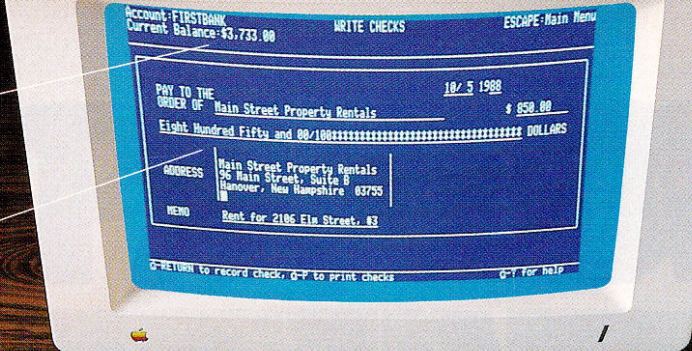
I've been hearing that the Apple II is Apple's educational computer. I hear now that "education isn't only for kids," which seems to mean that adults could learn with Apple IIs, too. The trouble is I don't want to learn to add fractions or solve word problems. (Most kids don't, either—I learned that much when I taught math.) I don't see much "educational software" for the Apple II that teaches as much math as *The Mathematical Tourist*. I wish I did. Where's the software that would encourage children—or adults—to experiment with numbers or to create pictures with them? The richest math software for the Apple II, 20 years after its birth, is Logo, the computer language that makes abstract concepts visible to the child who takes control of the computer.

A computer makes a great teaching machine; it can teach Spanish, English, or social studies. But the computer isn't shaping those disciplines anew, as it is mathematics. Teaching mathematics without a computer is like teaching home ec without a kitchen. Teaching math with a computer through "drill and practice" is like teaching home ec in the kitchen, but never turning on the oven. ■

Quicken automatically updates your check register, recalculates balances, and prints your checks.

Quicken is easy because it looks like your paper checkbook, plus it faithfully follows the AppleWorks user interface.

Quicken can export to AppleWorks for custom reports: Budget vs. Actual, Income and Expenses, P&Ls, and more.

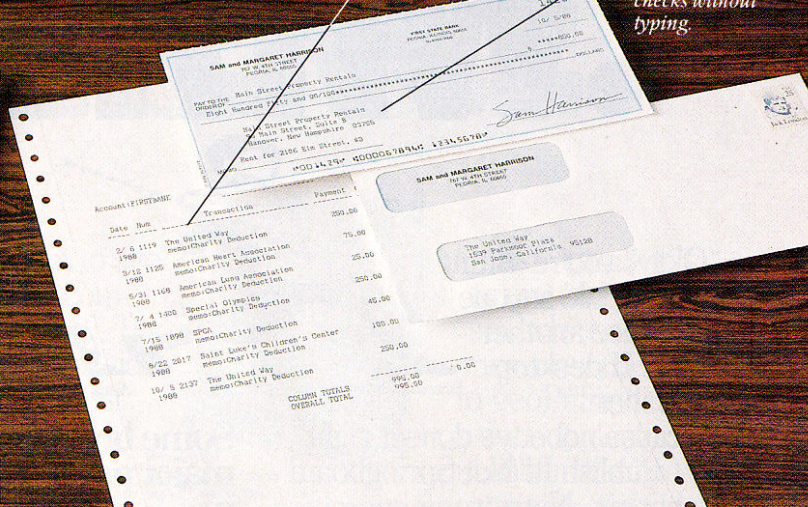
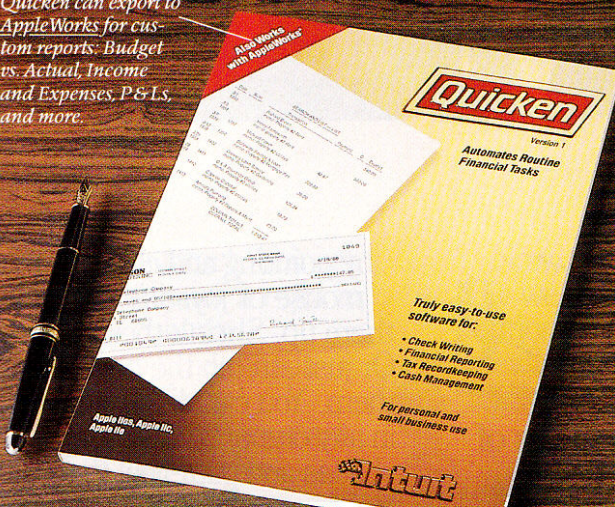


Quicken gives instant financial organization of:

- Spending
- Taxable Income and Deductions
- Rental Property and Job Costs.

Quicken eliminates work. It actually writes recurring checks without typing.

Dramatic Speed on Apple IIIGS



# End Financial Hassles. Quicken®, \$49.95

Quicken is the absolute fastest, easiest way to do your personal or small business finances. Quicken saves you hours of time while perfectly organizing your finances.

## Forget Financial Hassle

Quicken is so automatic, it does your financial work for you. It actually learns your regular bills. Just confirm the payment amounts on your auto loan, utilities, or other bills. Quicken does 14 automatic bookkeeping steps and hands you the printed checks already addressed for mailing. All you do is sign them and seal the envelopes. Quicken keeps complete records of your finances so you know exactly how much money you have and where it's going.

## Finish Financial Work in Seconds

Instead of dreading tax time, use Quicken to print itemized lists supporting each tax deduction. Quicken is extremely fast. It does in seconds what used to take many minutes or even hours. Want the year's spending for Job 104 or Account 3072? The answers are just seconds away.

## No Accounting Mumbo Jumbo

Quicken is as easy as the pen and paper you use now. You'll see the familiar checkbook and check register right on your screen. The only thing that changes is how fast you finish your financial chores. This is bookkeeping that's totally hassle-free.

## The World's #1 Selling Financial Software

Here's why Quicken is the world's most popular:

*Thanks to Quicken, I'm automating my personal checking account. I've never seen such an easy-to-use manual or software that's so simple to use.*

Martin Blumenthal, in *Cider Magazine*

*With the power of AppleWorks so readily available, it's more than good... it's indispensable. Home and small business checking software used to be too expensive, too hard to use, and too rigid, and it took too long. Quicken has changed all that.*

Ken Landis, A+ Magazine

## Use Alone or with AppleWorks®

Quicken transfers your data directly to AppleWorks to create customized reports and spreadsheets. That means you can see your finances any way you like.

## Flexible for Personal or Business Use

No other financial software provides more flexibility to handle the wide range of personal or business needs, from personal tax record-keeping to property management. With unlimited income and expense categories, Quicken keeps track of spending by whatever categories you desire.

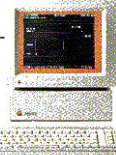
Quicken works for service and manufacturing businesses, doctors, consultants, designers, and retailers. Quicken is for anyone who wants relief from bookkeeping hassles.

## Try Quicken FREE for 30 Days

Order Quicken from the coupon below, or through our toll-free 800 number. If you're not completely satisfied with Quicken for any reason, simply return it for a full refund. No questions asked.

### Specifications:

Compatibility: Apple® IIGS, IIc, IIcPlus, IIx (IIc requires extended 80-column card), with one or two floppy disk drives, or hard disk. Any printer. No modem required. AppleWorks is optional. Other: FREE technical support. Not copy-protected. Checks are pre-approved by all financial institutions in the U.S. and Canada. Sample checks and order form are enclosed in Quicken package. Quicken is also available for the Macintosh®.



\$49<sup>95</sup>

I want to try Quicken on your no-risk 30-day guarantee. If not completely satisfied, I may return it within 30 days for a full refund. Quicken for \$49.95 plus \$3.00 shipping and handling. California residents add sales tax.

**Call 800-624-8742**  
(in California, call 800-468-8481),

or send this coupon with your check or credit card number to Intuit.

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_  
Zip \_\_\_\_\_ Phone \_\_\_\_\_

Apple (5 1/4" disk)  Apple (3 1/2" disk)  Macintosh  
 Check enclosed (no purchase orders, please).  
 Visa  MasterCard  Am Ex

Card Number \_\_\_\_\_  
Expiration Date \_\_\_\_\_



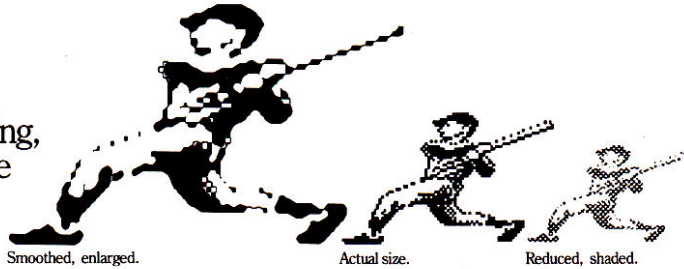
540 University Avenue  
Palo Alto, California 94301

# FINALLY, A DESK WITH A SIZEABLE

"Okay," you're asking, "why would anyone introduce another Apple II desktop publisher?"

Because nobody's done it right. Not Publish It! Not Springboard Publisher. Not anyone.

At least, not until geoPublish.™ Feature for feature, it's the easiest, most powerful publishing program for your Apple II.



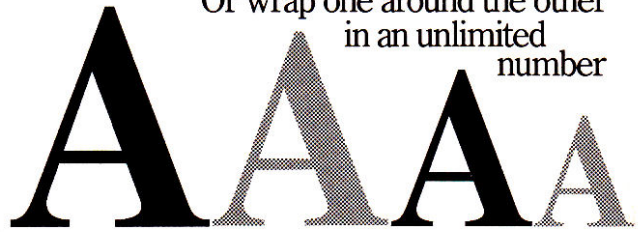
## Some breakthroughs of major proportions.

With geoPublish, you can do almost anything with text and graphics just

by pointing and clicking your mouse or joystick. Blow them up. Shrink them down. Or just stretch the heck out of them. You can display graphics in any one of 32 different shades and patterns. Text in **bold**, outline, underline or *italic*.

You can lay text over graphics. Graphics over text. Or wrap one around the other in an unlimited number

Text wraps around graphics.



Headline fonts up to 192 points (over 2½" high), shaded or patterned.

Lay text over graphics; graphics over text.

of layouts, with headlines up to 192 points (over 2½ inches high).

And speaking of layouts, geoPublish not only lets you store all of your originals, it also comes with 24 style sheets built right in. Which means you spend less time contending with columns and more time perfecting your printed page.

**We're very big in the import business.**

None of your old files are too complex for geoPublish to handle. Because its Text Grabber™ converts almost any text (like AppleWorks, MultiScribe, WordPerfect) instantly,



True sideways text.

Flow text across multiple pages.

# TOP PUBLISHER LE DIFFERENCE.

with formats intact. You just import it and pour it right in, column by column.

All in less time than it took to describe it.

You can enlarge your art collection too, by clipping from the most popular programs. It doesn't matter if it's Print Shop, Newsroom, Print Master or Dazzle Draw — because geoPublish has great taste when it comes to imported art.

**Cutting the competition down to size.**

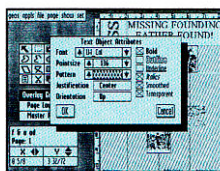
With geoPublish, you



Lay out a newsletter. Flow text. Preview entire page.



Zoom in for detail work.



Full range of text and graphic capabilities.

find really big differences in even the tiniest places. For example, the zoom option gets you down to the smallest details. The smoothing option automatically irons out bumpy pixels. And then there's the feature most worth waiting for: a redraw function that doesn't make you wait an eternity for one change.



Print out poster size documents with a LaserWriter.

Now, you want to see how we turn the competition on its head? Try sideways text. Real sideways stuff, not just letter-stacking.

**The long and the short of it.**

How packed is geoPublish? Well, we've only got two pages and we're still not done. So here's a little list of things that reduces the other guys to tears:

Full LaserWriter support for near typeset

quality and giant size posters.

An "object-oriented" Graphic Toolbox with 16

tools including lines, squares, splines, circles, ellipses and 32 different shades and patterns. A free clip art sampler. Full integration with the entire GEOS™ family of applications. And more. Add to that how



Print up to 16 pages on one sheet with a LaserWriter.

much easier it is to use and you can see why nobody measures up to geoPublish. The grown-up desktop publisher that has the competition shrinking in fear.

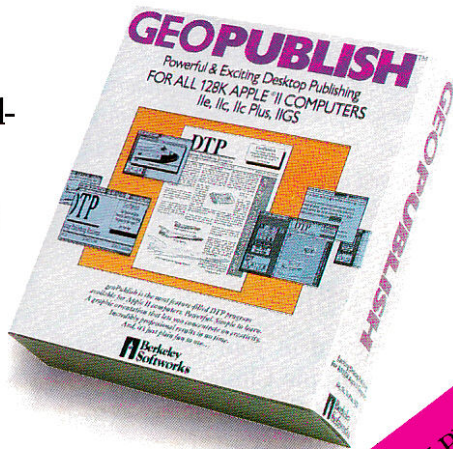
**SYSTEM REQUIREMENTS:** Apple IIc, IIc Plus, IIe (or compatibles; IIe need not be enhanced), IIGS, with 128K memory, double hi-res graphics capability, joystick or mouse, 5¼" or 3½" disk drive.

geoPublish is not copy protected. Package includes clip art, easy to use manual, both 5¼" and 3½" disks, authoritative quick reference cards.

**GEOPUBLISH:** To order call 1-800-443-0100 ext. 432 (California residents add 7% sales tax.) \$2.50 US/\$5.50 Foreign for shipping and handling. Allow four to six weeks for delivery. GEOS, geoPublish, Text Grabber and Berkeley Softworks are trademarks of Berkeley Softworks. LaserWriter, Apple IIe, IIc, IIc Plus, IIGS, Print Shop, Newsroom, Dazzle Draw, Print Master, AppleWorks, MultiScribe, WordPerfect, Publish It! and Springboard Publisher are trademarks of companies other than Berkeley Softworks.

**Berkeley Softworks**

The brightest minds are working with Berkeley.



# GEOPUBLISH

INTRODUCTORY PRICE!  
JUST \$99.95 THROUGH  
JANUARY 31, 1989!

## Battery Included

by William P. Kennedy, Ph.D., Technical Editor

### GS Battery

What happens and what should I do when the battery in my IIGS runs down? Is it rechargeable?

**David Ellis**  
APO NY

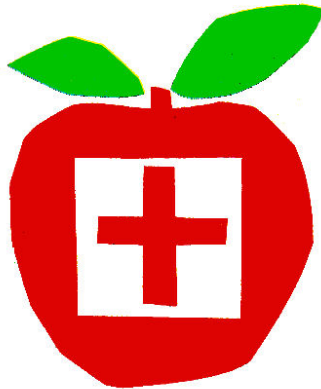
One of the cylinders soldered to your IIGS motherboard just under the power supply is a 3-volt lithium-sulfide battery. Your GS uses it to power the computer's internal clock and 256 bytes of RAM (random-access memory) that the Control Panel and other applications use. The battery is expected to wear down only after several years of normal use. Then, when you've turned off the power to your GS, the clock will stop ticking and the Control Panel's nondefault settings will disappear. You'll still be able to access the Control Panel, even set the clock to the correct time, and it'll tick along just fine when the power is on.

Unfortunately, the battery isn't rechargeable, nor does the GS charge it when it's turned on, because an overcharged battery may explode. Consequently, when the battery goes, you'll just have to take your GS to the dump and buy a new one. How's that for planned obsolescence?

No, not really. Maria Fleezer, a service technician at a local ComputerLand, assures me that you can take your GS to any authorized Apple dealer to replace the battery. Until then, remember this: Your GS uses the battery only when it's turned off. Hence, the more you use your GS, the longer the battery'll last.

### No-Buffers Blues

I was interested in your response to Peter Shadix (Apple Clinic, December 1988, p. 21). I get the "no buffers available" ProDOS error when I try to run a game program using the BASIC "-" (dash) command. CLOSE doesn't help, and, with 128K of RAM in my IIE, I should have suf-



*"Remember—the more you use your GS, the longer the battery'll last."*

ficient memory. Besides, I can run the game from Bird's Better Bye. Why is that?

**Dave Woodring**  
Vermontville, NY

In some cases, including yours, Dave, the error message is a bit misleading. Rather than generating a "no buffers available" error, BASIC.SYSTEM should've told you that your game program, also a .SYSTEM file, is too long to fit into your Apple's free RAM.

Here's why: ProDOS, the disk-operating system you're using with your Apple II, can load programs or data only into the first 64K of RAM, also known as the "main bank" (64K per bank), even though you have more memory. It's up to your application to move data to other banks.

After you subtract the memory ProDOS uses, along with its buffers (at least one 1K RAM buffer to load a file) and the memory your Apple uses for the text screen, and so on, less than 46K of main-bank RAM is available to

load applications. Compound that with .SYSTEM programs loading initially at address 8192, not zero, and the RAM space available to your program shrinks to less than 36K. Apple limits .SYSTEM files to 36,608 bytes (35.75K) or less. The game program you sent me on disk doesn't exceed that latter limit.

You couldn't "launch" your game using the "-" (dash) command, however, because ProDOS loaded another .SYSTEM program, BASIC.SYSTEM, into the main memory bank when you booted the disk. ProDOS needs BASIC.SYSTEM to translate BASIC commands, such as the dash, into commands ProDOS can recognize, much as BASIC translates commands into machine language, which your Apple's microprocessor can recognize. BASIC.SYSTEM uses "main bank" memory to the tune of 10.25K, leaving only about 24.5K of RAM available to load your 34K program.

You have two other ways to "launch" your game when you boot the disk, though. You've already discovered one of them: Use ProDOS' or some other "quit" routine (Bird's Better Bye is just one of several), because they don't use BASIC.SYSTEM and thus let you load and execute programs less than 36K in length.

Another way is to make your game the first or only disk file with the suffix .SYSTEM. That's because ProDOS searches for and executes the first .SYSTEM program found in the volume directory when you boot the disk. I RENAMED BASIC.SYSTEM to OLD.BS on the disk you sent me, for example, making your game the only .SYSTEM file. It worked fine. Now if I can only figure out the game.

### SCSI Lost

I've got a General Computers FX-20 hard-disk drive interfaced to my IIGS via an Apple SCSI card. Everything worked fine until I upgraded to GS/OS. Not only won't the hard drive boot, but it doesn't show up on the desktop when I boot a ►



# DISK ACCELERATOR

## THE MULTI-KACHE CARD



Does most of your computing consist of "hurry up and wait" data processing? The gap between processor speed and data I/O speed has grown alarmingly wide. Speed is critical and nothing can be more irritating than waiting for your disk drives to play catch up. Ohio Kache Systems has eliminated this problem with the Multi-Kache Card.

Your computer is capable of working at higher speed if only it could receive information quicker...faster processors won't help if there's no data to process.

OKS Multi-Kache is a complete disk management system...superior to anything on the market today. The Multi-Kache Card guarantees that your system will show dramatic speed improvements or your money back! You must be satisfied!

- The Multi-Kache Card is up to 40 times faster than other controller cards.
- Multi-Kache Card runs at 8MHz.
- The Multi-Kache Card is transparent in operation.
- Multi-Kache can daisy-chain drives.
- Multi-Kache controls both 3.5 and 5.25 drives.
- The Multi-Kache Card will extend the life of your drives.
- Multi-Kache comes standard with 256K of cache memory.
- Multi-Kache can be upgraded to 1 meg of cache memory.
- The Multi-Kache Card is compatible with Apple II+, IIe and II GS.



Ohio Kache Systems Corp.  
4162 Little York Road, Suite E  
Dayton, Ohio 45414-2566  
513-890-3913

Multi-Kache Card is a registered trademark of Ohio Kache Systems Corp.  
Apple II+, IIe and II GS are registered trademarks of Apple Computers, Inc.

For more information call us toll free at

**1-800-338-0050**

or write for our free brochure.

## SPECIAL INTRODUCTORY OFFER

### 30 Day Money Back Guarantee

- 256K version — \$274.95 (recommended for the IIe.)
- 1 Meg version — \$549.95 (recommended for the II GS.)
- Free brochure on the Multi-Kache card.

Ohio orders add 6% sales tax.

Add \$5.00 per order for shipping and handling.

Mail to: Ohio Kache Systems Corp.  
4162 Little York Road, Suite E  
Dayton, Ohio 45414-2566

Allow 6-8 weeks Delivery

Enclosed \$ \_\_\_\_\_ Check \_\_\_\_\_ VISA \_\_\_\_\_ MC \_\_\_\_\_

Card # \_\_\_\_\_

Expiration Date \_\_\_\_\_

Name \_\_\_\_\_

Phone # \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_

Zip \_\_\_\_\_

Company Name \_\_\_\_\_

Business Phone # \_\_\_\_\_

# Not Another Proofer!

Yes, folks, I've resolved to clean up some of the problems you've been having with the Applesoft Program Proofer we've published throughout 1988.

Carefully type in the Applesoft BASIC program shown in *Listing 1* (ignore the bracketed numbers!) and SAVE it on disk as MAKE.PROOFER; it POKEs the PROOFER program into memory (line 50). If you're using DOS 3.3, type in lines 100-120 shown in *Listing 2* instead of those in *Listing 1*.

Now type RUN. If you entered the program correctly, you should see the message "Proofer installed!" and a flashing cursor adjacent to the BASIC prompt (>). If not, press Control-Reset, LOAD MAKE.PROOFER, fix the problem, SAVE, and try RUNNING it again. Most often, you can find the error in one of the DATA statements.

If all's well, type LIST. An inverse number should appear following each program line; they should match those appearing in brackets in *Listing 1*. If not, make sure you typed the program correctly, then recheck DATA.

Use the Proofer to compare the numbers generated by your LISTED programs with those we publish. If they're the same, you typed the line(s) correctly and the program should work.

You can activate the Proofer each time you start up BASIC from ProDOS or DOS 3.3 by typing RUN MAKE.PROOFER. Or, once MAKE.PROOFER is RUN, you can BSAVE the machine-language program it creates as PROOFER,AS300,LSC5 on your disk. You then can BLOAD PROOFER and CALL 768.

Also, if you reset your Apple or use the PR# command, you'll disconnect the Proofer. Type CALL 768 to restart it. For example, to get a listing of your program with

*Listing 1. ProDOS version of MAKE.PROOFER program helps debug your typed-in versions of inCider's Applesoft BASIC programs.*

```
10 REM MAKE.PROOFER -- NEW ProDOS version!!! [7517]
20 REM by Bill Kennedy [3084]
30 REM Copyright 1989, inCider [4733]
40 REM [449]
50 FOR I = 768 TO 964: READ N: POKE I,N: NEXT I [2868]
60 CALL 768 [685]
70 TEXT : HOME : PRINT : PRINT "Proofer installed!" [2530]
80 PRINT "BSAVE it as PROOFER,AS300,LSC5" [6170]
90 END [1130]
100 DATA 162,29,160,3,173,48,190,141,180,3 [7683]
110 DATA 173,49,190,141,181,3,142,48,190,140 [8137]
120 DATA 49,190,169,0,133,60,133,61,96,201 [7707]
130 DATA 141,240,3,76,176,3,134,70,132,71 [1137]
140 DATA 186,138,105,7,170,189,0,1,201,214 [1252]
150 DATA 208,7,189,255,0,201,229,240,28,189 [1214]
160 DATA 253,0,201,40,208,6,169,141,201,141 [1283]
170 DATA 208,15,189,255,0,201,13,240,91,169 [1342]
180 DATA 0,133,60,133,61,240,83,165,60,5 [1201]
190 DATA 61,240,23,32,87,219,32,87,219,165 [1249]
200 DATA 50,72,41,63,133,50,166,60,165,61 [3332]
210 DATA 32,36,237,104,133,50,160,0,132,60 [3485]
220 DATA 132,61,177,155,200,17,155,240,41,200 [3748]
230 DATA 177,155,200,24,113,155,133,66,32,189 [3765]
240 DATA 3,177,155,240,25,32,182,3,177,155 [3487]
250 DATA 201,32,208,3,200,208,247,72,32,182 [3633]
260 DATA 3,104,201,58,240,231,177,155,208,243 [5893]
270 DATA 166,70,164,71,169,141,141,67,3,76 [5464]
280 DATA 7,195,69,66,133,66,24,101,60,133 [5270]
290 DATA 60,144,2,230,61,200,96 [3732]
```

*Listing 2. Substitutions in Listing 1 for the DOS 3.3 version of MAKE.PROOFER.*

```
100 DATA 162,29,160,3,173,83,170,141,180,3 [7698]
110 DATA 173,84,170,141,181,3,142,83,170,140 [8202]
120 DATA 84,170,169,0,133,60,133,61,96,201 [7751]
```

the proofer numbers on your printer, use the following sequence:

- 1) LOAD or type in your program.
- 2) PR#1 to activate the printer.
- 3) CALL 768 to restore the Proofer.
- 4) LIST should print your program.
- 5) PR#0 to restore printing on screen.
- 6) CALL 768 to activate the Proofer.

Those of you familiar with the older version will find that the new, improved Proofer no longer counts spaces between REM and its message or DATA and the data values. So, there shouldn't be a difference in the proofer number between

```
10 REM Only one space after REM
and
10 REM Five spaces after REM
```

Trailing spaces after a REM message or DATA list *do* count. A proofer number different from the published one by some factor of 32 is a tip-off.

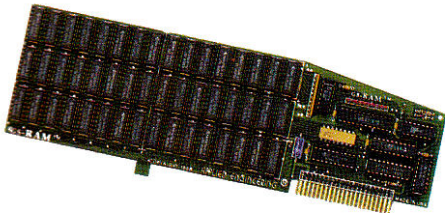
In addition, the proofer number now includes the order in which you enter a line, particularly the order of values in a DATA statement. So, 10 DATA 1,2,3 will generate a different proofer number from 10 DATA 1,3,2.

The proofer numbers published from now on *won't* match those generated by the earlier version. Drop me a line if you need that older version to help you enter programs from previous *inCider* issues. ■

# Three good reasons to buy a memory card from Applied Engineering.

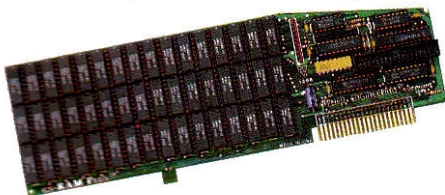
Applied Engineering makes three different memory cards for the IIGS because every IIGS owner is different. Each card was designed to suit specific needs:

**1.** **GS-RAM™** Start with as little as 256K of memory and grow in affordable 256K increments to 1.5 MEG (an amount that once sounded large, but is now considered a moderate amount of memory expansion.) Incorporates 256K x 1 chips.



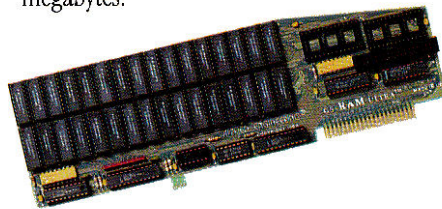
|                      |              |
|----------------------|--------------|
| <b>GS-RAM w/256K</b> | <b>\$219</b> |
| <b>1 MEG</b>         | <b>\$639</b> |
| <b>1.5 MEG</b>       | <b>\$919</b> |

**2.** **GS-RAM Plus™** Expands from 1 to 6 MEG in 1 MEG increments. Originally designed for power-users requiring a great deal of internal memory, this card has recently found favor with many moderate users. MEG-sized jumps in memory have now become practical for many users because of the enormous memory requirements of today's software titles. Incorporates 1 MEG x 1 chips.



|                            |               |
|----------------------------|---------------|
| <b>GS-RAM Plus w/1 MEG</b> | <b>\$599</b>  |
| <b>2 MEG</b>               | <b>\$1049</b> |
| <b>3-6 MEG</b>             | <b>CALL</b>   |

**3.** **GS-RAM Ultra™** AE's newest memory card incorporates a new chip - the 256K x 4, which has four times the density of 256K x 1 chips. GS-RAM Ultra offers incremental expansion like the GS-RAM and ultimate size like the GS-RAM Plus. It's expandable from 256K to 4 MEG in 256K increments, so you can start small and still grow to a massive 4 megabytes.



|                          |              |
|--------------------------|--------------|
| <b>GS-RAM Ultra 256K</b> | <b>\$239</b> |
| <b>512K</b>              | <b>\$399</b> |
| <b>768K-4 MEG</b>        | <b>CALL</b>  |

We've also added ROM sockets to the GS-RAM Ultra. ROM sockets allow hardware-based applications to be loaded permanently into EPROMs...an increasingly important feature when application become available from Applied Engineering and others.

## Consider your needs.

Need a moderate amount of memory? **GS-RAM** lets you start small and takes you up to 1.5 MEG. Need lots of memory right away? **GS-RAM Plus** is your best bet. Want to start small and leave open the possibility of a huge internal memory? **GS-RAM Ultra** is your card. And our **GS Expander™** piggyback card adds up to 2 MEG to any of the three cards. Call AE for prices.

## Trade in your Apple card.

We even offer a trade-in credit for your Apple IIGS memory card, so you can switch to an AE card with more features and greater capacity. Still have questions? Call us, we'll be happy to discuss your particular applications.

## DMA compatibility.

All three of our GS memory cards are fully DMA compatible (and they're the ONLY large-format cards that are), so they not only run all GS software, they also support *current and future* DMA peripherals.

Installation couldn't be easier, the card just plug in. And all three cards feature Applied Engineering's meticulous craftsmanship, along with our 5-year warranty, our 15-day money-back guarantee\* and our American-made pride.

## Still more:

Each of our GS memory cards comes with many other exclusive features, *disk caching* that tremendously speeds up many programs, including AppleWorks, by virtually eliminating disk access. Our *diagnostic utility* feature graphically detects the presence of bad or improperly installed chips and tests for CAS before RAS chips. And our *AppleWorks enhancement* package dramatically increases AppleWorks' word processor lines (from 7,250 to 22,500), database records (from 6,350 to 22,500), clipboard capacity (from 255 lines to 2,042) and more.

## Order today!

To order or for more information, see your dealer or call (214) 241-6060 today, 9 am to 11 pm 7 days. Or send check or money order to Applied Engineering. MasterCard, VISA and C.O.D. welcome. Texas residents add 7% sales tax. Add \$10 outside U.S.A.

**AE APPLIED ENGINEERING®**

*The Apple enhancement experts.*

A Division of AE Research Corporation.

**(214) 241-6060**

P.O. Box 5100, Carrollton, TX 75011

Prices subject to change without notice. Brand and product names are registered trademarks of their respective holders.

\*When purchased from Applied Engineering or thru a participating dealer.

GS/OS-based system disk from my 3½-inch drive. What gives?

**John Paterson**  
Brampton, Ontario

Similar to an earlier inquiry concerning 5¼-inch disk drives (Apple Clinic, February 1989, p. 22), your problem is simply another case of having to tell GS/OS you've got a special device attached to your GS. Double-

click on the Installer application found on the System Tools disk that accompanies your GS/OS System Disk. Then, select to install a SCSI hard-disk driver on your GS/OS System Disk. After that, all should be well. If not, you probably need to upgrade your SCSI card to Revision C or later. Contact an authorized Apple dealer. I believe the upgrade is "on" Apple, or at least performed for a nominal fee.

## Old IIc Drive, New 128EX

I own an older-model (beige) Apple IIc with an external 5¼-inch disk drive. I'm interested in purchasing a Laser 128EX/2 with built-in 3½-inch disk drive to increase my storage capabilities. Because of the extra cost of another external drive and because many of my most-used programs are on 5¼-inch floppies, I'll purchase the 5¼-inch internal-drive Laser 128EX/2 if my old Apple external disk drive won't work with the new Laser. Will the Apple drive work or not?

**Harriett Smith Somerville**  
Northport, AL

Your external Apple 5¼-inch disk drive will work fine with the Laser 128EX/2, although models from other manufacturers may not. So go ahead and purchase the Laser 128 EX/2 with internal 3½-inch drive.

To boot a disk in that external drive, simply press P just after you turn on your Laser 128EX/2 or after you press Control-Reset. That action selects the ROM-based control panel, where you can set the boot slot—slot 6 for the external 5¼-inch drive or slot 7 for the internal 3½-inch drive for your particular configuration.

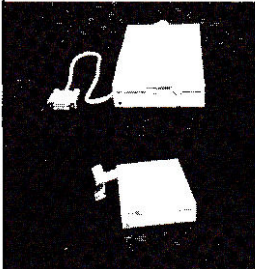
You also may want to copy the programs you've stored on 5¼-inch floppies to 3½-inch disks to take advantage of the latter format's expanded storage and access speed. The only real impediments to that transfer are copy-protected or DOS 3.3-based program disks. ■

## Quickies

**You can transfer Mac graphics to your GS with SHRConvert version 2.1 by Jason Harper. It's available as shareware on most major bulletin-board systems.**

**—Bob Johnson**  
Herperia, CA

Apple Clinic is a forum for discussing and answering your questions and concerns about Apple II hardware and software. Address your correspondence to Apple Clinic, inCider, 80 Elm Street, Peterborough, NH 03458. Because of the volume of letters, most won't appear in print, but expect a response from Dr. Kennedy via postcard.



### 5¼" DISK DRIVES FOR APPLE

**1 Year Warranty  
Parts & Labor**

**100% Compatible**

**Super Quiet**

**Adjustable Speed Control**

**Apple II, II+, IIe  
Franklin Ace 1000**

**\$79.00**

**Apple IIc, IIGS  
Apple IIe UniDisk  
Laser 128**

**\$79.00**

Shipping & Handling \$5.50

|  |   |  |
|--|---|--|
| <p>We have the <b>ABSOLUTE</b> Lowest Prices on</p> <p><b>CHECKMATE PRODUCTS</b></p> <p>Memory Saver GS..... \$109.00</p> <p>MultiRam GS<br/>256K to 2 Meg. .... from \$189.20</p> <p>MultiRam RGB IIe<br/>64K to 1 Meg. .... from \$139.00</p> <p>MultiRam IIe<br/>64K to 768K..... from \$109.00</p> <p>Q Card IIe<br/>64K to 256K..... from \$75.00</p> <p>MultiRam CX IIc<br/>256K to 1 Meg. .... from \$160.00</p> <p>Pro Term ..... \$79.95</p> <p>AI Juice Plus GS<br/>0K to 4 Meg. .... from \$65.00</p> <p>Super Expander GS<br/>1 Year Warranty<br/>0K to 1 Meg. .... from \$52.50</p> <p>Super Expander IIe<br/>1 Year Warranty<br/>W/Appleworks Expansion S-ware<br/>0K to 1 Meg. .... from \$52.50</p> <p>MINI DIN 8<br/>Switch Box<br/>A/B..... \$24.95<br/>A/B/C/D .. \$29.95</p> <p>Replacement<br/>Keyboard For IIe<br/>\$55.00</p> | <p><b>LASER 128 EX</b><br/>Three Times the Speed of a IIe<br/>Built in Memory Expansion Board</p> <p><b>\$445.00</b></p> <p>800K DISK DRIVE<br/>for II+, IIe, MAC, LASER 128<br/>\$179.00</p> <p>Extended 80 Column Card<br/>For Apple IIe</p> <p>100% Appleworks<br/>Compatible</p> <p><b>\$38.95</b></p> <p>5 Year Warranty</p> <p>Super Serial Card<br/>100% Apple Compatible</p> <p>5 Year<br/>Warranty</p> <p><b>\$48.95</b></p> <p>Graphics Printer Card w/Cable<br/>For Apple II+ &amp; IIe</p> <p><b>5 Year<br/>Warranty</b></p> <p><b>\$44.95</b></p> <p>16K Card for Apple II+</p> <p><b>5 Year Warranty</b></p> <p><b>\$34.95</b></p> <p>128K Card For Apple II+</p> <p>5 Year<br/>Warranty</p> <p><b>\$64.95</b></p> <p>80 Column Card for Apple II+<br/>\$48.95<br/>5 Year Warranty</p> <p>CPM Card for Apple II+ &amp; IIe</p> <p><b>5 Year Warranty</b></p> <p><b>\$34.95</b></p> <p>Prices subject to change without notice</p> | <p><b>UNIVERSAL Disk Controller</b><br/>Run 800K Disc Drives<br/>on your II+ and IIe<br/>\$79.00</p> <p>Disk Controller Card<br/>For Apple II, II+ &amp; IIe</p> <p>5 Year<br/>Warranty</p> <p><b>\$34.95</b></p> <p>Cooling Fan For Apple II+ &amp; IIe<br/>With Surge<br/>Suppressor</p> <p><b>\$26.95</b></p> <p>Cooling Fan<br/>For<br/>Apple IIGS</p> <p><b>\$19.95</b></p> <p>No<br/>Noise<br/>Interference</p> <p>Cables - \$9.95</p> <p>IIe to Modem<br/>IIe to IMG I<br/>IIe to IMG II<br/>Others</p> <p><b>DISKETTE STORAGE W/Lock</b></p> <p>5¼ Holds 70 Disks ..... \$6.95<br/>5¼ Holds 100 Disks ..... \$8.95<br/>5¼ Holds 120 Disks ..... \$10.95<br/>3½ Holds 50 Disks ..... \$6.95<br/>3½ Holds 100 Disks ..... \$8.95</p> <p><b>ACCESSORIES</b></p> <p>Mouse Pad ..... \$4.95<br/>Disk Notcher ..... \$4.50<br/>Disk Clean 5¼ ..... \$4.00<br/>Disk Clean 3½ ..... \$4.00<br/>LASER Add on's ..... Call<br/>Mouse ..... \$59.00</p> <p>Numeric Keypad<br/>For Apple IIe</p> <p><b>\$34.95</b></p> <p>RF Modulator<br/>II- &amp; IIe</p> <p><b>\$15.95</b></p> <p>Joystick for Apple IIe<br/>IIc, &amp; IIGS<br/>With Fire Button<br/>Same as Mach III</p> <p><b>\$24.95</b></p> |
|--|---|--|

We Ship  
2nd Day Air  
Continental US Only

VISA & MASTERCARD — NO EXTRA CHARGE    DEALER PRICING

Most Items +\$4.00 for Shipping - C.O.D. + \$2.50

**MEMORY PLUS DISTRIBUTORS, INC.**

505 South 48th Street, Suite #104

Tempe, Arizona 85281

**(602) 820-8819**

**(602) 830-6457**

**FAX# (602) 968-3211**

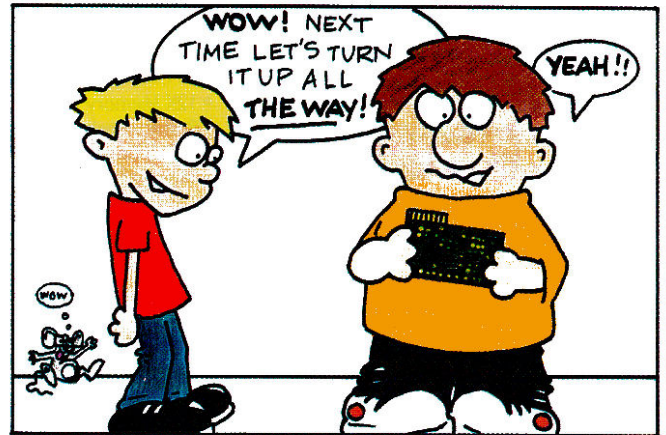
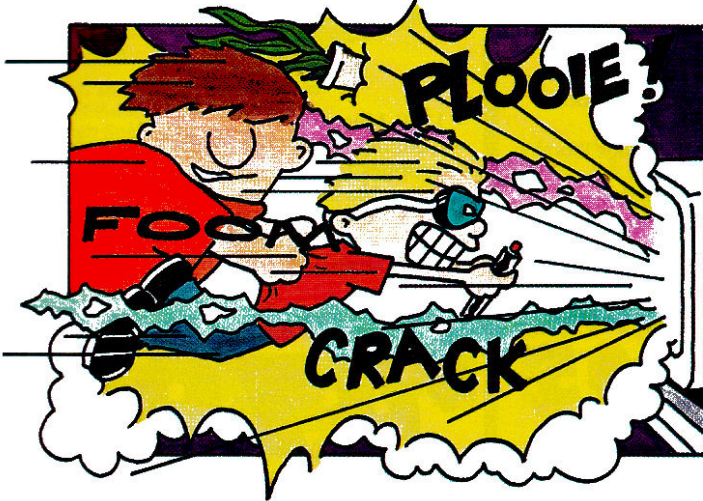
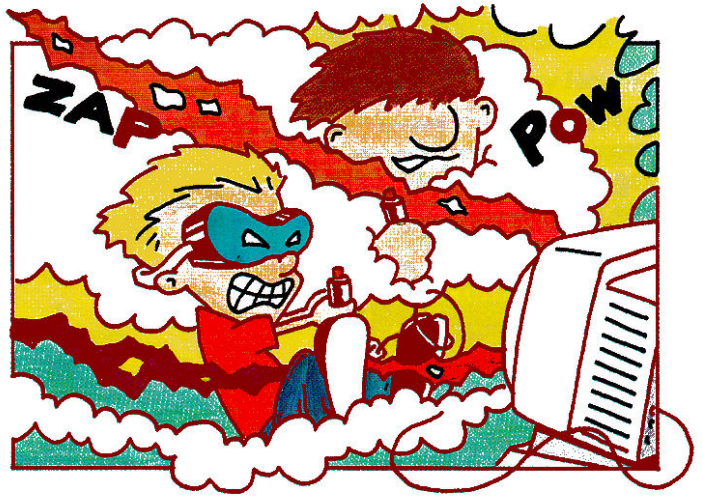
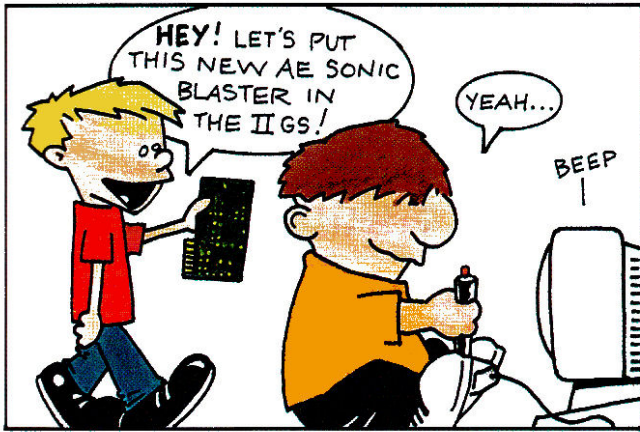
Serving Apple Users Since 1983

We Ship  
2nd Day Air  
Continental US Only

We carry only the  
Highest Quality products for  
your Apple.  
That's why we are  
the **LARGEST**  
and  
the **BEST!**

10 a.m. to 5 p.m.  
M.S.T.  
Mon - Fri.  
University & School P.O.  
Accepted

20% Restocking charge  
on returned items



## Serious Fun

Okay, we're willing to admit that sometimes we take things a little too seriously. We get wrapped up in developing ways to make your IIGS more productive, and occasionally forget how much fun it can be.

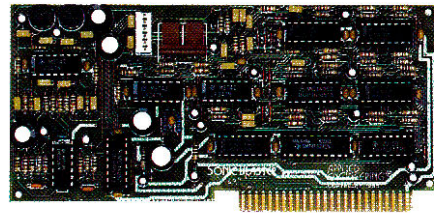
Our new Sonic Blaster™ is a full-featured stereo digitizer. You can record, amplify, edit and play back in rich, full stereo...and that's just the serious side.

It's also an awesome sound effects amplifier that'll knock your socks off playing great new IIGS games like Tomahawk, 4th and Inches, Winter Games, Silent Service and Zany Golf, to name a few.

Noises and sound effects fill the room. The difference is incredible. Use your own speakers, amplified or unamplified. Our own powerful software is included free, so there's nothing more to buy.

Sonic Blaster. It's why they put the "S" in IIGS. \$129.

**Order today!** To order or for more information, see your dealer or call (214) 241-6060 today, 9 am to 11 pm, 7 days. Or send check or money order to Applied Engineering. MasterCard, VISA and C.O.D. welcome. Texas residents add 7% sales tax. Add \$10 outside U.S.A.



**AE APPLIED ENGINEERING®**  
*The Apple enhancement experts.*

A Division of AE Research Corporation.

**P.O. Box 5100, Carrollton, TX 75011, 214-241-6060**

Prices subject to change without notice. Brand and product names are registered trademarks of their respective holders.

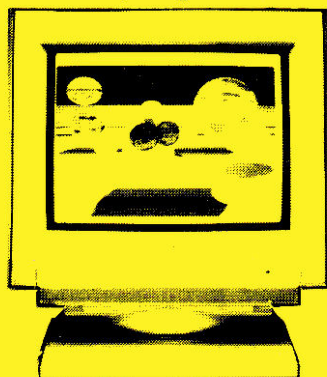
# COMPUTER DIRECT

Since 1979

**WE WON'T BE UNDERSOLD!\***

Prices Expire 3-31-89

## Magnavox Macintosh® Color Display Monitor



- 640 x 480 resolution
- Glossy CRT Faceplate
- Signal cable included
- 2 year warranty

**Super Low Price**

**\$599<sup>95</sup>**

List \$799

## Typewriter/Printer\* The Versatile Professional Electronic Typewriter For The Home Or Office



- 60,000 Word Dictionary
- Self Demonstration
- Word-Right AutoSpell
- 16 Character Display
- 12K Memory
- Battery Back-Up
- 5 Line Correction
- WordEraser
- Relocate
- Auto Return
- Auto Center
- Auto Underscore
- Auto Half Space
- Auto Zone
- End of Page Warning
- Decimal Tab
- 10, 12, 15 Pitch
- Auto Paper Insert

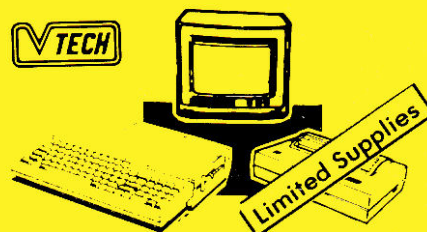
\* Apple, IBM®, or Commodore Parallel Port Interface & Cable List \$149.95 Sale \$79.95

**Our Low Sale Price**

**\$199<sup>95</sup>**

List \$499

## The Popular Laser Complete Apple IIe & IIc Compatible System



- 128K Memory
- Genuine IBM® printer included while supplies last
- Laser 128 Apple Compatible Computer
- 12" Amber or Green monitor
- Quality Word Processor, Spreadsheet and Database

**Our Low Sale Price**

**\$479<sup>95</sup>**

List \$1409

## Laser 128/Apple IIc or IIe 160K 5 1/4" Disk Drive

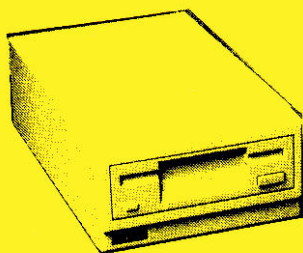
- 256 Bytes/Sector
- 5 1/4" Floppy Disk Drive
- 160K Bytes Capacity
- For Laser 128/Apple IIc or IIe

**Our Low Sale Price**

**\$87<sup>95</sup>**

List \$299

## Laser 128, Macintosh, Apple IIc, IIe or II plus 800K 3 1/2" Disk Drive



- For Laser 128, Macintosh
- 800K Memory
- Apple IIc, IIe, or II plus
- 3 1/2" Micro Disk Drive

**Our Low Sale Price**

**\$199<sup>95</sup>**

List \$299

## FREE CATALOG



**Call For Your Free Catalog With Everything You Need For Apple**

## 5 1/4" Floppy Disks

100% Certified • Lifetime Guarantee

**19¢ each**

**Double Sided Double Density**

**Lots of 25**



**Made in the USA**

## 3 1/2" Micro Disks

100% Certified • Lifetime Guarantee

**Double Sided Double Density**

**Lots of 50**

**no limit**



**99¢ each**

**IMMEDIATE ANSWER**

**800 - BUY - WISE ext. 24**

**800 - 289- 9473 ext. 24**

Outside Service Area call 312-382-5058



**We Love Our Customers!**

**COMPUTER DIRECT  
22292 N. Pepper Rd.  
Barrington, IL 60010**

# BEST SERVICE IN THE USA

# PRICE IS NOT ENOUGH!

- 90 Day Immediate Replacement
- Free Technical Assistance
- Fast, Low Cost Delivery
- 15 Day Home Trial
- Experts in Customer Satisfaction
- Bulletin Board Service
- No Credit Card Fees
- Free Catalogs

## Hi-Speed 180 CPS NLQ 180-II Printer

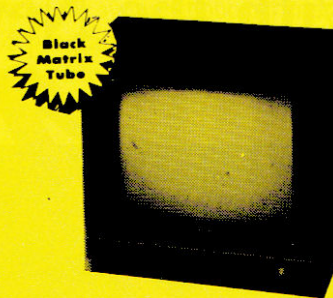
Lifetime Warranty on Printhead  
Our Best Printer Buy



- 2yr. Immediate Replacement
- Dot Addressable Graphics
- High Speed Dot Matrix
- Italics, Elite, Condensed, Pica
- Centronics Parallel Port
- 8K Print Buffer
- Near Letter Quality from front panel
- Low Cost Adapters available
- Pressure Sensitive Controls

Our Low Sale Price  
**\$149<sup>95</sup>**  
List \$499

## 13" Color Composite Monitor

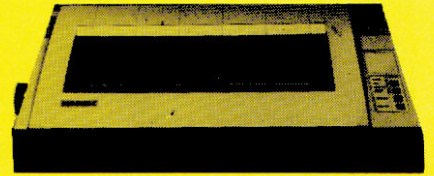


- Anti-Glare Screen
- Audio Speaker
- Volume Control
- Black Matrix Tube
- Horizontal Resolution 260 Lines
- Includes Composite Cable

Our Low Sale Price  
**\$149<sup>95</sup>**  
List \$329

## 720 CPS 15" Printer

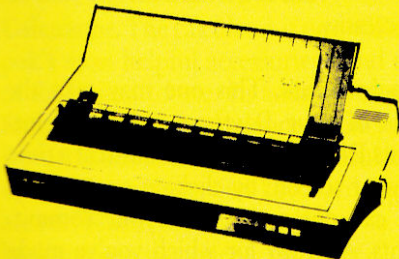
Multi-Head Wide Carriage Printer  
With High Dot Resolution



- 720 CPS - 150 CPS NLQ
- 8K Print Buffer
- Print Speed of 214 LPM In Draft
- 6 Print Heads Achieve High Dot Resolution In Higher Speed
- NLQ Speed Of 47.4 LPM
- 136 Column Wide Carriage
- IBM and Epson Mode
- Parallel Centronics Port

Our Low Sale Price  
**\$699<sup>95</sup>**  
List \$1995

## 15" 24-Pin Letter Quality Printer



- 180 c.p.s. in draft pica mode
- 60 c.p.s. in letter quality mode
- 96 user definable characters
- 32K RAM Memory
- Tractor/Friction Feed
- Uni-directional/Bi-directional
- 15" Impact Dot Matrix
- 12K Buffer
- Parallel Centronics Port

Our Low Sale Price  
**\$439<sup>95</sup>**  
List \$699

## Ultra Hi-Speed Printer

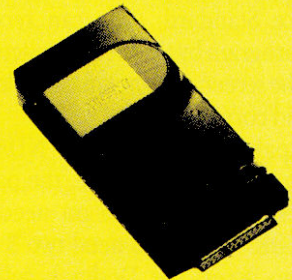
300 CPS Draft • 50 CPS NLQ  
With Color Printing Capabilities



- 300 CPS Draft - 50 CPS NLQ
- Front Panel Margin Setting
- Download Character Setting
- Variety of Characters & Graphics
- Parallel & Serial Interface Ports
- Auto Paper Load & Ejection
- IBM and Epson Mode
- Bottom Feed & 10 K Buffer
- Optional 7-Color Printing Kit ... Sale \$99.95

Our Low Sale Price  
**\$299<sup>95</sup>**  
List \$499

## 1200 Baud Pocket Modem by Migent



- Hayes compatible
- Runs on AC or battery
- Turns on/off automatically
- Small enough to put in your pocket
- Plugs directly into your serial port on many computers
- Easy to use; no switches to set
- On-screen status lights show call progress
- RS232 Compatible

Our Low Sale Price  
**\$79<sup>95</sup>**  
List \$413

VISA  
MASTER CARD  
COD

\* Prices do not include Shipping Charges. Call to get Your Lowest Delivered Cost. We insure all shipments at no extra cost to you! All packages are normally shipped UPS Ground. 2nd Day or Overnight delivery available. Minimum shipping charge per order is \$3.75. Illinois residents add 6½% sales tax. We ship to all points in the U.S.; Canada, Puerto Rico, Alaska, Hawaii, Virgin Islands and APO-FPO. (Monitors only shipped in Continental USA) Prices and availability subject to change without notice. Computer Direct will match any valid nationally advertised delivered price on the exact same product & payment method (excluding sales taxes)

# REVIEWS

**Deskpak; FutureSound; Slide Shop; Iconix; At a Glance; Games Editors Play: Warlock GS, Bubble Ghost GS, Arkanoid GS, Serve and Volley GS, Short Takes**

## In with the New

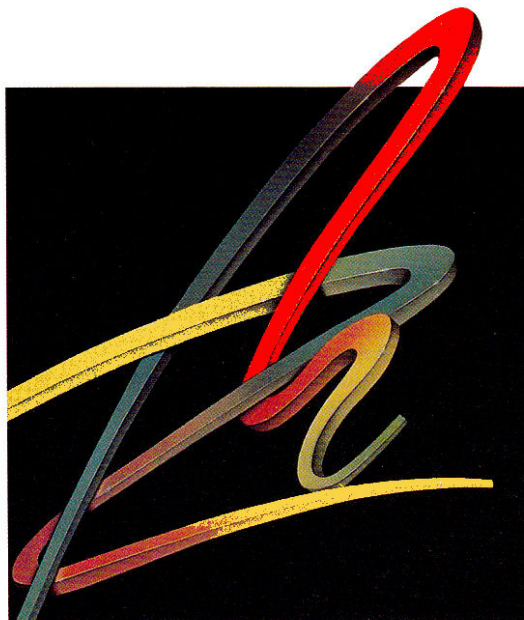
**D**esk accessories aren't for the faint-hearted. Installation procedures and system requirements can be confusing, and you'll need to spend some time getting used to them. Once you do, though, these handy pop-up utilities can help you get your work done quickly and easily.

The first thing you'll have to decide is what kind of desk accessory (DA) you can use. Classic desk accessories (CDAs) work with older ProDOS 8 programs, while new desk accessories (NDAs) work with ProDOS 16 or GS/OS programs. NDAs work only with GS programs that support Apple's Human-Interface Standard. (You can recognize such a program by the menu bar across the top of the screen and the small apple in the left-hand corner.)

Deskpak is a collection of NDAs. According to Simple Software, the package requires 512K, but plan on needing at least 768K. You'll also need two 3½-inch drives to access the Deskpak collection easily; otherwise you'll have to swap disks every time you want to load a DA or save a file. A hard disk is even better, but it's not essential.

Start by installing Deskpak on your program disk, the disk you use to boot your GS, by copying it into the desk-accessories file. The easiest way is to copy the Add DA accessory, which is designed to let you move other DAs into your program's desk-accessory file, located in the system folder.

Once you get over the installation hurdle, you can begin to enjoy the convenience this software offers you. Following is an overview of Deskpak's 19 DAs:



### DESKPAK

**Simple Software Systems**, 4612 North Landing Drive, Marietta, GA 30066, (404) 928-4388, distributed by Brown-Wagh Publishing, 16795 Lark Avenue, Suite 210, Los Gatos, CA 95030, (408) 395-3838

Desk accessories for Apple IIGS programs; 512K Apple IIGS, 768K or more recommended

\$89.95

Rating: ■■

**Add DA.** This simple desk accessory lets you conserve RAM and storage space by adding DAs to your desktop only as you need them. Using Add DA, you can select any other desk accessory while you're in the midst of a program. Most GS packages virtually fill the disks they come on, so it's difficult to install a large number

of DAs. With Add DA, you can store them on a separate disk and add them as you need them.

When you need a DA, select Add DA from the pull-down Apple menu. Then select the disk containing your DAs (you'll only have to do this once in each session) and pick the one you need. Once loaded, the accessory you've chosen will appear under the Apple menu until you reboot. Unfortunately, you can't choose multiple accessories to load at the same time, so the process can be cumbersome. That's a small price to pay, though; without Add DA, a hard drive would be

a necessity.

**Appointments.** This one may take the place of your Daytimer. The Appointments DA shows you one month at a time on your screen; by clicking on any day, you can enter and view your commitments. Any day for which you've made appointments appears on the monthly calendar with a small check in the corner. One thing to remember, though: Once you've made an appointment, the check will remain even if you delete the appointment.

### inCider's Ratings

Excellent—remarkable, a must buy ■■■■■  
Very good—impressive and recommended ■■■■  
Good—average, solid performance ■■■  
Fair—flawed but adequate ■■  
Poor—unacceptable or unusable ■



**ASCII Chart.** ASCII (American Standard Code for Information Interchange) Chart shows the decimal, hexadecimal, and mnemonic character for each ASCII code. It's a handy reference for programmers searching for the right hex-code characters; it's an application you'll either use a lot or never touch, depending on your interest in programming.

**Blackout.** If you leave your computer on and unattended, you can burn the screen image onto the surface of your monitor. With Blackout, you can preset your computer to blank out its screen when you haven't used it for a certain period of time.

Your GS is still working while the screen is shut down, so a complex database calculation, for example, won't be interrupted. When you want to work with your computer again, move the mouse or press any key, and the screen will come back to life.

**Calculator.** The calculator is one of Deskpak's most helpful accessories—and one of the easiest to use. In addition to performing standard calculations, it includes features such as cut and paste, calculation of stored numbers, and keyboard equivalents. When you're in a hurry to get back to your document, press the C key to shut off the calculator—it's quicker than sliding your mouse over to the close button.

**Calendar.** The calendar uses the same monthly format as the Appointments DA. It's designed to let you check a date in almost any month and year (from 1940 to 2039). Like Appointments, click on the month you want to see, then flip through the years with the yr+ and yr- keys.

**Clipboard.** The GS system clipboard, unlike the Macintosh clipboard, isn't accessible from every program. Instead, each program provides its own. Deskpak's clipboard DA lets you view and copy be-

tween the system clipboard and any true GS program's, making it much easier to transfer text and pictures from program to program.

**Concentrate/Puzzle.** No collection of desk accessories would be complete without a game. Deskpak has two, Concentrate and Puzzle. Concentrate tests your memory by having you flip tiles in search of two that match. Puzzle is a replica of the sequencing game originally supplied on the Macintosh. Both are fun and mildly addictive.

**File tools.** Deskpak's set of file tools lets you lock, unlock, rename, copy, and delete files without leaving your program for the operating system. It's quick, it's handy, and it works.

**Mini DB.** Mini DB is, as its name implies, a small database. It's based on the concept of the Rolodex-type file card. You can store basic information about friends, clients, or products in an accessible place. You can rename each of the seven fields, arrange your card deck, add new cards, and find text within a card.

**Notepad.** Deskpak's notepad does exactly what you'd expect: It saves up to 25 pages of notes. You can jump to any page, as long as you remember the page number, and you can print any or all of your pages.

**Password.** The password function is a handy way to protect your computer system from spying eyes. It's very useful, until you forget your password. For many of us, this accessory is best left untouched.

**Print It.** This utility lets you send a text file to your printer. Unless you use a variety of programs and therefore create text files to transfer from one program to another, it will be of limited use.

**Screen Saver.** With Screen Saver, you can

## At a Glance

**Once Upon a Time** (December 1988, p. 110, by Carol Holzberg), Compu-Teach, 78 Olive Street, New Haven, CT 06511, (203) 777-7738, \$39.95  
Rating: ■■■■

Once Upon a Time is desktop publishing for kids. Children can choose the Farm, Safari, or Main Street Storybanks, and put together tales based on those picture sets. Each Storybank contains anywhere from 26 to 32 illustrations relating to that theme. The Safari collection includes pictures of an alligator, boa, elephant, giraffe, and other creatures you'd find in the jungle.

Children select pictures and position them, then add up to three lines of text at the bottom of the page. Once Upon a Time is easy to use, but somewhat limited in its scope in that children must adhere to stories relating to the Storybank picture sets. The program doesn't print in color, but includes a set of colored pencils for the "hands-on" approach.

**Wordbench** (December 1988, p. 28, by Patricia Payne), Addison-Wesley Publishing Company, 6 Jacob Way, Reading, MA 01867, (617) 944-3700, \$149  
Rating: ■■■■

Wordbench is more a writing program than a mere word processor, adding outliner, notetaker, and brainstormer modules, plus thesaurus, spelling checker, formatting tools, print manager, viewer (to flip among documents), and macros (called *shortcuts* in this program).

The package's neatest feature is that you can categorize your jottings in the notetaker, then organize and outline, and presto—Wordbench puts it all together for a coherent first draft.

**Managing Your Money 3.0** (November 1988, p. 34, by Gregory Glau), MEGA Ventures Inc., 355 Riverside Avenue, Westport, CT 06880, (203) 222-9150, \$149.95  
Rating: ■■■■

The latest version of Managing Your Money builds on the program's initial strengths and successes. It now comes on both 3½- and 5¼-inch disks; you can send your financial data to other programs; and the software now incorporates the latest tax laws. There are also a newsletter and update service to which you can subscribe.

The program's structure is similar to that of a book. Each disk is like a chapter focusing on one area. The difference is that Managing Your Money gives you more than instructions—it also gives you the tools to put your financial matters in order. At the end of the year, the program

*Continued*

# Programs & Peripherals

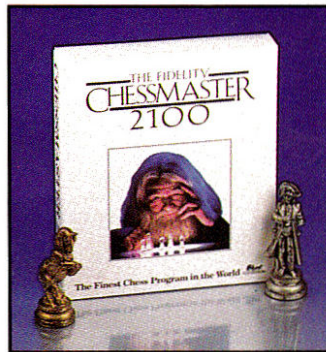
## Modems

|   |      |      |   |      |                                  |      |
|---|------|------|---|------|----------------------------------|------|
| <b>Anchor Automation</b> 1200E 2400E        | 119. | 159. | Practical Modem 1200 SA                     | 109. | Practical Modem 2400 SA          | 189. |
| <b>Applied Engineering</b>                  |      |      | <b>Prometheus</b> Pro Modem 2400 (External) | 255. | Pro Modem 2400G (Non Expandable) | 179. |
| DataLink Modem 1200B (Int II+, IIe or IIgs) | 139. |      | Pro Modem 2400A (Single Card)               | 139. | Pro Modem 1200A (Single Card)    | 119. |
| DataLink Modem 2400B (Int II+, IIe or IIgs) | 185. |      | Pro Modem 300c                              | 82.  |                                  |      |
| <b>EPIC</b> Epic 2400 Classic II Internal   | 179. |      | <b>Supra Corporation</b>                    |      |                                  |      |
| Epic 2400 Mini Modem Ext.                   | 179. |      | Supra Modem 2400 (Hayes Compatible)         | 149. |                                  |      |
| <b>Hayes</b> Hayes 1200 Baud Smartmodem     | 299. |      | <b>U.S. Robotics</b>                        |      |                                  |      |
| Hayes 2400 Baud Smartmodem                  | 449. |      | U.S. Robotics Courier 1200                  | 199. | U.S. Robotics Courier 2400       | 349. |
| <b>MDIdeas</b> Commlink 2400                | 189. |      | U.S. Robotics Courier 2400E                 | 379. | U.S. Robotics Courier HST 9600   | 689. |
| <b>Practical Peripherals</b>                |      |      |   |      |                                  |      |
| Practical Modem 1200 SA Mini                | 85.  |      |   |      |                                  |      |

## Printer Interface Cards

|  |      |  |     |  |
|--|------|--|-----|--|
| <b>Apple</b>                             |      | <b>SMT</b>   |     |  |
| Apple Super Serial Card                  | 119. | No Slot Clock  | 42. |  |
| <b>Applied Engineering</b> BufferPro 32K | 99.  | Print Tech II (Parallel Interface)   | 37. |  |
| BufferPro 128K or 256K                   | Call | <b>Thirdware</b>   |     |  |
| Serial Pro (II+, IIe, IIgs)              | 115. | Finger Print GSI Ver 2 (Includes Desktop Accessories-IIgs)                       | 79. |  |
| Parallel Pro (II+, IIe, IIgs)            | 85.  | Finger Print Plus (Specify Cables: Parallel, Serial or ImageWriter II-II+ & IIe) | 89. |  |
| <b>Orange Micro</b> Grappler C/Mac/GS    | 79.  |  |     |  |
| ProGrappler (Apple IIe or IIgs)          | 84.  |  |     |  |
| Serial Grappler Plus                     | 62.  |  |     |  |

## Chessmaster 2100 by Electronic Arts

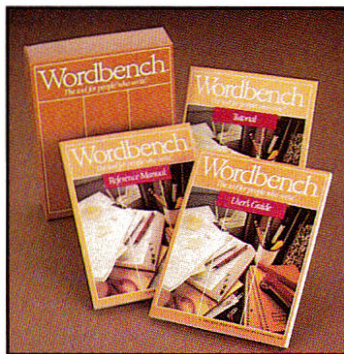


**Chessmaster 2100** is the newest release of the best chess game for the Apple II. You'll find all of the powerful, impressive features of Chessmaster 2000 plus new classic games, more in-depth analysis, and triple the number of selectable skill levels. Along with the familiar 2-D and 3-D modes, you can now view all important information at once in "War Room" mode! For novices, **Chessmaster 2100** offers 'teach' and 'hint' modes that show

how to think through a chess match, and for the aspirant grandmaster, there are over 150,000 moves in the opening library and a "Rate My Play" evaluation routine. **Chessmaster 2100** comes with a U.S. Chess Federation tutorial, offers on-line help, lets you save and print games, and lets you import your own chess set from any popular paint program!

|  |     |
|--|-----|
| <b>Chessmaster 2100</b> .....              | 29. |
| <b>Chessmaster 2100 for the IIgs</b> ..... | 33. |

## Wordbench by Addison Wesley



**Wordbench** is the new way to prepare documents that goes beyond word processing. **Wordbench** lets you start your project with a full-featured Outliner and Notetaker, helping you organize your ideas, references, and notes, long before you begin to write the first draft. Then, unleash the **Wordbench** Writer to pull all of your work together clearly and effectively, without retyping. **Wordbench** lets you add creativity and correctness to your documents

with its Brainstormer to help put your creative processes to work, a Thesaurus to help find the perfect word, and a Spellchecker to help you mind your "P's" and "Q's". And when it's time to print, **Wordbench** lets you add the text formatting you need to add impact and style to any presentation.

|                        |     |
|------------------------|-----|
| <b>Wordbench</b> ..... | 99. |
|------------------------|-----|

## Accessories

|   |      |  |             |
|---|------|--|-------------|
| <b>Apple Computer</b> Apple Mouse IIe                 | 125. | Apple Security System  | 34.         |
| Apple Mouse IIc                                       | 85.  | Printer Muffler 80   | 43.         |
| <b>Applied Engineering</b> TimeMaster II H.O.         | 79.  | Printer Muffler 132  | 58.         |
| IBM Style Keyboard or Sonic Blaster (IIgs)            | 119. | Printer Muffler Stand 80 or 132  | 24.         |
| Audio Animator (IIgs)                                 | 185. | AntiGlare Filter IIgs  | 39.         |
| <b>Asher Engineering</b>                              |      | System Saver (Platinum or Beige)   | 69.         |
| Turbo Trackball (IIe or IIgs)                         | 69.  | System Saver (IIgs)  | Special 79. |
| <b>Big Red Computer</b> Lables, Lables, Lables        | 29.  | New Turbo Mouse (Reg. or ADB)  | 119.        |
| <b>Bose</b>   |      | <b>Kraft</b>   |             |
| RoomMate Powered Speaker System                       | 229. | Universal 3 Button Joystick (IIe or IIc)   | 34.         |
| <b>CH Products</b> Hayes Flight Stick                 | 52.  | <b>Koala Technologies</b>  |             |
| Hayes Mach II Joystick (Beige or Platinum)            | 29.  | Koala Pad Plus w/Graphics Exhibitor  | 84.         |
| Hayes Mach III Joystick (Beige or Platinum)           | 36.  | <b>Kurta</b> IS ADB Tablet w/stylus (IIgs)   | 339.        |
| Hayes Mach IV Plus Quad or ADB                        | 65.  | <b>MDIdeas</b>   |             |
| Mirage Quad or ADB (Turns joystick into mouse)        | 39.  | Digitizer Professional (IIgs)  | 139.        |
| <b>Curtis</b> Curtis Emerald                          | 36.  | The Conservor (IIgs Switched Surge Suppressor w/Fan)                                     | 99.         |
| Curtis Ruby   | 55.  | SuperSonic (Stereo Card for IIgs)  | 49.         |
| <b>Cutting Edge</b> EADB-105 Extended Keyboard (IIgs) | 125. | SuperSonic Digitizer (IIgs)  | 49.         |
| <b>Digital Vision</b> Computer Eyes (IIe or IIc)      | 109. | <b>Mouse Systems</b> A+ Mouse (IIc)  | 65.         |
| Computer Eyes (IIgs)                                  | 209. | A+ ADB Mouse (IIgs)  | 85.         |
| <b>Ergotron</b> Mouse Cleaner 360° (IIgs)             | 15.  | <b>MousTrak</b> MousePad 7" x 9" Size  | 8.          |
| <b>Epyx</b> Epyx 500J Joystick                        | 27.  | MousePad 9" x 11" Size   | 9.          |
| <b>Kalmar</b>   |      | MousePad L/F (Low Friction)  | 9.          |
| Teakwood Rolltop Disk Case (Holds 50)                 | 18.  | <b>Ribbons</b>   |             |
| <b>Kensington</b> Mouse Pocket (Reg. or ADB)          | 8.   | Available colors: black, blue, brown, green, orange, purple, red, yellow, silver or gold |             |
| Mouseway (Mousepad)                                   | 8.   | ImageWriter Ribbon-Color   | 4.          |
| Apple IIgs Dust Cover or ImageWriter Cover            | 9.   | ImageWriter Ribbon-Black six pack  | 20.         |
| Mouse Cleaning Kit w/Pocket                           | 17.  | ImageWriter II - 4 Color Ribbon  | 9.          |
| Disk Drive Cleaning Kit (3.5" Drives Only)            | 20.  | ImageWriter Rainbow Pk. (6 Colors)   | 20.         |

## Utilities & Languages

|   |     |                                 |     |
|---|-----|---------------------------------|-----|
| <b>Absolt</b> AC/BASIC (16-bit BASIC Compiler for IIgs) | 84. | ORCA/Pascal Desktop Debugger    | 80. |
| <b>Big Red Computer</b>                                 |     | ORCA/Pascal DeskTop (IIgs)      | 34. |
| PS Lovers' Utility Set (AP or IIgs)                     | 29. | <b>TML Systems</b>              |     |
| <b>Funk Software</b>                                    |     | TML Basic (IIgs)                | 84. |
| Sideways Prodos & Dos 3.3                               | 45. | TML Pascal (IIgs)               | 84. |
| <b>Roger Wagner</b> SoftSwitch (IIgs)                   | 39. | TML Source Code Library (IIgs)  | 35. |
| Merlin 8/16 (IIe, IIc, IIgs)                            | 79. | TML Speech Toolkit (IIgs)       | 49. |
| <b>The Byte Works</b> ORCA/II (IIgs)                    | 39. | <b>Zedcor</b>                   |     |
|   |     | ZBASIC 4.0 Interactive Compiler | 39. |

## Disk Drives & Hard Disk SubSystems

|   |      |   |       |
|---|------|---|-------|
| <b>American Micro Research (Micro Sci)</b>      |      | <b>Cutting Edge</b> XL 30 + SCSI HD (IIe & IIgs)  | 629.  |
| A5 D Half Height 5 1/4" Drive (IIgs Daisychain) | 165. | XL 45 + SCSI HD (IIe & IIgs)                      | 829.  |
| A.5 Half Height (II+ & IIe)                     | 139. | <b>First Class</b> T6 60MB Tape                   | 709.  |
| A.5C Half Height (IIc)                          | 139. | D2 20MB HD (IIe & IIgs)                           | 509.  |
| Micro Sci C2 Controller                         | 52.  | D4/A 40MB HD (IIe & IIgs)                         | 645.  |
| <b>Applied Engineering</b> Transdrive 360K      | 219. | D4/T 40MB HD/High Perf. (IIe & IIgs)              | 855.  |
| Transdrive Dual 360K                            | 305. | D9 90MB HD/High Perf. (IIe & IIgs)                | 1465. |
| Transdrive Half Height 360K                     | 119. | D96 Combo 90MB HD & 60MB Tape (IIe & IIgs)        | 2155. |
| <b>Chinook</b> CT-20 Hard Drive (AP & IIgs)     | 665. | <b>Rodime</b> Rodime 20 Plus Ext HD (IIe, IIgs)   | 629.  |
| CT-20c Hard Drive IIc                           | 709. | Rodime 45 Plus Ext HD (IIe, IIgs)                 | 939.  |
| CT-30 Hard Drive (AP & IIgs)                    | 739. | Rodime 60 Plus Ext HD (IIe, IIgs)                 | 1019. |
| CT-40 Hard Drive (AP & IIgs)                    | 835. | Rodime 100 Plus Ext HD (IIe, IIgs)                | 1169. |
| <b>CMS</b>                                      |      | Rodime 140 Plus Ext HD (IIe, IIgs)                | 1319. |
| "SD Series - Stack" Platinum IIe, IIgs          |      | <b>Video Technology</b> Universal Disk Controller | 79.   |
| 20 MB w/SCSI II card                            | 645. | Laser 800KB Drive                                 | 185.  |
| 43 MB w/SCSI II card                            | 845. | Universal Disk Controller/800KB Drive Bundle      | 259.  |
| 60 MB w/SCSI II card                            | 950. |   |       |

## System Saver IIgs by Kensington

**System Saver IIgs** organizes your power with four outlets for your computer, monitor, and two peripherals. Two front-mounted, lighted switches put everything at your fingertips. It also protects your system from dangerous power surges, spikes and noise. It clips surges and spikes at a safe level, and filters out disruptive EMI/RFI line noise. Best of all, **System Saver IIgs** keeps your Apple cool. Its whisper-quiet fan draws cool air through the back and bottom vents of the IIgs, over the power supply (the primary source of heat), and out the top vents at the rate of 17 cubic feet per minute. Protect your investment today!



|                                |     |
|--------------------------------|-----|
| <b>System Saver IIgs</b> ..... | 79. |
|--------------------------------|-----|

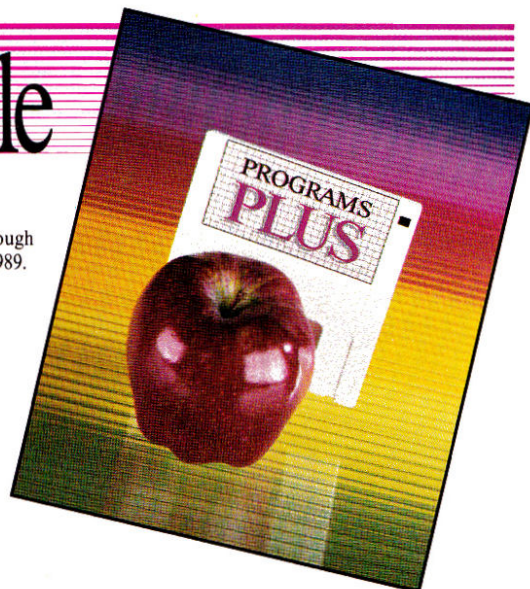
# to Polish Up Your Apple

Visit us in the Electronic Mall™ on CompuServe - GO PP

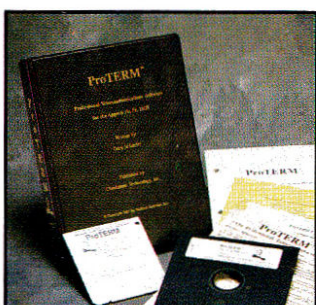
Specials good through  
March 31, 1989.

## Communication Software

|                             |             |                                       |     |
|-----------------------------|-------------|---------------------------------------|-----|
| <b>Activision</b>           |             | Grolier On Line Encyclopedia          | 32. |
| Teleworks Plus (IIgs)       | 66.         | Pinpoint                              |     |
| <b>Checkmate Technology</b> |             | Point-To-Point                        | 74. |
| ProTERM (IIgs, IIe, IIc)    | Special 95. | <b>United Software Industries</b>     |     |
| <b>CompuServe</b>           |             | ASCII: Express Pro: Prodos or Dos 3.3 | 72. |
| CompuServe Starter Kit      | 24.         | ASCII: Express Mousetalk 1.5          | 69. |



## ProTERM 2.0 by Checkmate Technology



**ProTERM 2.0** is the professional telecommunications software for everyone who owns an Apple IIgs, IIe, IIc, or Laser 128 computer with 128K+ of RAM. Its comprehensive 170-page manual, complete Hayes compatibility, and easy-access pop-up menus make it versatile and simple. Every user will benefit from its on-screen help files, the full-feature text editor, and large assortment of error-free protocols. Professionals

will value *ProTERM's* advanced features which include Procedure Files to store macros, batch and disk transfer capabilities, and its elapsed time counter (requires clock card). *ProTERM's* simple installation, password security option, and VT-100 terminal emulation make it the only choice for communicating in home, school, or business environments.

**ProTERM 2.0** ..... 95.

## Apple Compatible Computers

|   |      |  |      |
|---|------|--|------|
| <b>Video Technology</b>   |      | Laser 190A Printer<br>(Imagewriter Compatible)       | 239. |
| Laser 128 Computer  | 379. | Laser RGB Monitor                                    | 399. |
| <i>The Laser 128 includes an Expansion Slot, RGB Video Output, Parallel Printer Port, and a 10 Key Numeric Keypad!</i>                          |      | Laser Amber Monitor                                  | 99.  |
| Laser 128EX Computer  | 459. | Laser 128 2nd Disk Drive<br>(5/4", 1/2 height)       | 89.  |
| <i>The Laser EX includes a Built-in RAM Expansion Board, Universal Disk Controller, Built-In Expansion Slot, and Ports for all Peripherals!</i> |      | Laser 128 800K 3.5" Drive w/Controller               | 259. |
|   |      | Laser 128 Cables<br>(Parallel, Serial, RGB or Modem) | 16.  |
|   |      | Laser 128 Mouse                                      | 49.  |

## Backup Utilities & Boards

|                    |     |                                      |     |
|--------------------|-----|--------------------------------------|-----|
| <b>Alpha Logic</b> |     | <b>Central Point Software</b>        |     |
| Locksmith 6.0      | 36. | Copy II Plus (5.25" & 3.5" Bit Copy) | 23. |
| <b>Apple</b>       |     | <b>FWB Software</b>                  |     |
| GS/OS (IIgs)       | 34. | Disk Util II (IIgs)                  | 52. |

## Quicken by Intuit

**Quicken** is the fast, easy way to cut through personal and small business paper work. In minutes you'll get a handle on your finances without having to bother with all the burdensome terminology and repetitive entry that most accounting packages require. *Quicken* is flexible; it lets you enter an unlimited number of transactions, expense and income categories, and checking accounts. *Quicken* lets you write checks, make and track budgets, manage cash flow, and even reconcile unbalanced accounts. *Quicken* is ideal for people who need to manage any sum of money in a small amount of time!



**Quicken** ..... 34.

Now Shipping  
Standard Air by



Customer Service (203) 378-3662 • FAX (203) 381-9043  
Monday thru Friday 9 A.M. to 9 P.M.  
Saturdays 10 A.M. to 6 P.M. (Eastern Time)

### OUR POLICIES

- We accept MASTERCARD and VISA with no added surcharge.
- Your credit card is not charged until we ship.
- If we must ship a partial order the shipment that completes the order is sent freight free.
- If you are ordering by mail, we accept private and company checks. With MASTERCARD and VISA orders include card number and expiration date. Connecticut residents add 7.5% sales tax.
- Locations more than 1 day away shipped via Federal Express Standard Air service.
- Federal Express Priority 1 service also available.
- Sorry, we cannot accept COD orders.

### SHIPPING

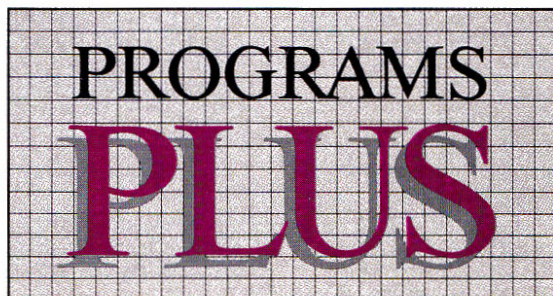
- **Continental United States:** \$4.00 (Min) per order to cover Federal Express Standard Air service. APO/FPO orders shipped 1st Class Mail (add 3% \$5.00 Min charge). **Alaska, Hawaii and Outside Continental US:** call or write for information.

### RETURNS

- Defective software will be replaced immediately by the same item. Defective hardware will be replaced or repaired at our own discretion. Call customer service at (203) 378-3662 to obtain a Return Authorization Number before returning goods for replacement. Products purchased in error subject to a 20% restocking fee.

All items subject to availability. Prices subject to change without notice.  
Mail-in orders (especially from foreign countries), please furnish telephone number.

Positively A Plus



75 Research Drive,  
Stratford, CT 06497

800/832-3201

save an on-screen graphic (320-by-640 resolution) to disk for later use. Simply select the disk to which you'd like to save.

**Start Up.** If you want a colorful picture to look at while your system loads, you can install one with Start Up.

**Scraps.** Simple Scrap and Super Scrap let you save frequently used text or graphics so that you can access them as needed without having to re-create them.

**Times Three.** Times Three is a clock; you can set it to show the time on the menu bar, or display the time and date elsewhere.

## PROBLEMS

Deskpak's major difficulty is compatibility. When we tested Deskpak with MultiScribe GS and WordPerfect, certain desk accessories crashed the system consistently. According to Kevin Seidule, one of Deskpak's designers and Simple Software's technical-support representative, the problem lies with programs' lack of adherence to Apple's Human Interface Standard. Specifically, the Start is often removed to save space, and another file designated as the Start file.

There are two solutions, according to Seidule. One is to boot from a system disk rather than from a program disk. The other is to copy the program files to a system disk. Because the system disk has the original Start file intact, there shouldn't be any compatibility problems, says Seidule. Unfortunately, many GS programs feature a renamed Start file, so this will be an ongoing problem if you don't have a hard disk. In addition, with the original Start file back, there may be no space to install a desk accessory.

Desk accessories can be a useful addition to your computer system; a good set can help you work easily and quickly. You have to decide whether they're important enough to warrant the time and effort required to configure them correctly. ■

*Patricia Payne  
Henniker, NH*



## Sound and Music

### FUTURE SOUND

**Applied Visions, Inc.,** One Kendall Square, Suite 2200, Cambridge, MA 02139, (617) 494-5417

Sound-digitizer board with full stereo output; 512K Apple IIgs (1 megabyte recommended)

\$279

Rating: ■■■■

If *graphics* was the buzzword of the mid-'80s, then *sound* will be the rage during the last two years of the decade—and rightfully so. After all, that's what the *S* in *Apple IIgs* stands for. Advancements in graphics will continue, but many people are going to be looking for ways to produce high-quality sound—with products like FutureSound from Applied Visions.

### GIVE AND TAKE

FutureSound pushes the capacity of the GS' multichannel digital-recording synthesizer to the limits. FutureSound can record sounds from virtually any source in true stereo and can produce stereo sound through right and left output jacks or a stereo headphone jack.

Installing FutureSound isn't difficult, but it takes some time and care. Applied Visions suggests you place the card in slot 6—a curious choice, because that slot is usually used for the almost obligatory 5¼-inch disk drive. Upon booting the system, the FutureSound software is programmed to look to slot 6 first. The first

*Continued*

summarizes all your transactions in as much detail as you need. Chapters include a notepad, checkbook and budget data, a tax estimator, insurance needs, a financial calculator, stock tracking, net worth, a card file, and a report generator.

The manual includes every help screen you might encounter in the program. Also, remember there will be plenty of disk swapping with 5¼-inch disks, and that can be confusing.

In all, *Managing Your Money* is an effective way to keep track of where you spend your money.

**geoPublish 2.1** (February 1989, p. 88, by Carol Holzberg), Berkeley Softworks, 2150 Shattuck Avenue, Berkeley, CA 94704, (800) 443-0100 x432, (415) 644-0883, \$99.95

Rating: ■■■■

GeoPublish is a good example of the new breed of high-end desktop publishers; it offers power and sophistication you might not have thought possible on an 8-bit, 128K Apple II. GeoPublish combines word processing with "what you see is what you get" page-layout capabilities. You can mix text with graphics for placement in up to four columns on a single page.

GeoPublish also sports a Page Graphics toolbox with several object-oriented drawing tools that can import photo scraps directly from geoPublish clip art or from other programs such as The Newsroom, PrintMaster, The Print Shop, and Dazzle Draw (with help from the Graphics Grabber).

You can also draw original line objects in a variety of patterns and brush widths, sketch geometric shapes with variable border thicknesses, and fill them with patterns. The Page Graphics tools let you add text as well in a variety of fonts, styles, and sizes.

Despite a few minor inconveniences, Apple II users suffering from GS and Macintosh envy will appreciate geoPublish.

**SuperPrint** (October 1988, p. 30, by James Trunzo), Scholastic Software, 730 Broadway, New York, NY 10003, (212) 505-3000, \$39.95

Rating: ■■■■

Scholastic Software's SuperPrint is a useful, innovative program, with clip art, fonts, and "backgrounds" included. It offers the standard variety of options—graphics-enhanced signs, letterheads, banners, and greeting cards. It surpasses most programs, however, by printing giant posters, wall-sized calendars, and bulletin-board-sized signs.

The quality of the finished product—even at its largest—is excellent, especially if you don't print in draft mode. With horizontal and vertical scrolling, you can preview the design on screen in exactly the size the program will print it.

**FingerPrint GSi** (November 1988, p. 37, by James Trunzo), Thirdware Computer Products,

4747 N.W. 72nd Avenue, Miami, FL 33166, \$99  
Rating: ■■■■

FingerPrint GSI lets you save a screen image quickly by printing it. This graphics-utility card has been available to IIe owners for some time; the new version is designed for the GS.

You can install the FingerPrint card in five minutes—the manual contains step-by-step directions and it's impossible to plug it in the wrong way. After running two installation tests, you're ready to print a screen. Press the fingerprint button, then click your mouse or hit Return. The screen starts to print, and that's all there is to it.

**Home Video Producer** (January 1989, p. 30, by James Trunzo), Epyx, 600 Galveston Drive, Redwood City, CA 94063, (415) 366-0606, \$49.95  
Rating: ■■■■

It seems that Epyx wanted to make Home Video Producer (HVP) as easy to use as possible, building in numerous features that let you type in your information and let the program take over from there. The program includes a dozen templates for commonly videotaped situations (holidays, weddings, and so on).

HVP uses menus and windows for the selection process. On-screen graphics are attractive and helpful, especially when combined with the ever-present information bars. Selection icons logically represent the functions they serve and a satisfactory number of options are included.

One of the program's most outstanding features is the large number of graphics clips available to enhance your layouts. HVP includes 75 different pictures from which to choose. When you add those choices to the various borders, backgrounds, fonts, and types of transitions offered, it becomes obvious that HVP allows for a wide variety of combinations.

**ShowOff** (December 1988, p. 34, by Carol Holzberg), Broderbund Software, 17 Paul Drive, San Rafael, CA 94903-2101, (415) 492-3500, \$59.95  
Rating: ■■■■

ShowOff may do for desktop presentation what The Print Shop did for desktop publishing. You can create overhead transparencies, a computerized "slide" show, and all sorts of other illustrations and diagrams. Compose a screen with the program's graphics tools, or arrange one from the assortment of nine clip-art stickers and 385 icons stored on disk.

After you've assembled a set of "slides," you can set them to run manually or automatically and adjust a timer to control how long each image remains on screen. You can also select the type of transition between slides—scrolling horizontally or vertically, or fading out. In addition, Broderbund is said to be currently developing a ShowOff Graphics Collection that will include more than 200 additional pictures. □

time it fails to find the board in that slot, it prompts you for the current location of the board. Thereafter, the software will check the slot you indicate.

Be careful when you're threading the cable through the vertical openings at the back of your GS; the manufacturer provides enough cable that you won't place undue strain on the connecting points, but rough handling could separate cables and connectors from each other or the board. Once you've installed the board, connect your stereo amplifiers, headphones, and microphone to the appropriate jacks.

## VERSATILE SOFTWARE CONTROL

FutureSound's software is sophisticated. You determine the recording level, then set and monitor the length and quality of your sound. To run FutureSound, you must understand the program's multitude of software controls, which range from buttons indicating track selection to a visual sound graph you'll use as a barometer to determine whether other values are set correctly.

Furthermore, FutureSound lets you program sounds to as many as 15 tracks. The system treats each track independently, but because they're all co-resident in your computer's memory, you can play back any number of tracks simultaneously. Couple the number of track combinations with the ability to vary playback volume, speed, and special effects and you begin to get an idea of FutureSound's versatility.

## EXTRA EFFECTS

Among the selections at the top of the menu screen is Bag of Tricks, a collection of six effects you can apply to an entire recording or any part of one. For example, you can blank out portions of your recording; make segments of your recordings softer or louder; or even play the current track backward if you like.

The software includes three other effects you can add to your recordings—they should prove to be the most popular because they're the most fun. "Stutter"

lets you create what FutureSound accurately labels the "Max Headroom" effect. For those of you not familiar with the 1987 season's popular futuristic television show or the Max Headroom commercials, Stutter produces a rapid repetition of a letter, syllable, or word ("M-M-Max Head-Head-Headroom," for example).

"Echo" reproduces your sound, while "Fade" lets you mark a segment of your recording to fade gradually in or out.

Once you've recorded something, you can edit it in a number of ways: You can erase tracks one at a time or collectively, completely or by sections; you can change and reset original values and combine portions of one recording with another ("splicing") by overwriting segments of the destination track or by inserting segments at any particular point. Just indicate beginning and end points on the counters found on the main screen and the FutureSound software does the rest. A third splicing option, "Mix," is more powerful, however. Mixing melds the digitized sounds on one track with those on another.

Take care when using any of the Splicing options, because these operations actually modify the sound you've recorded and you can't undo any changes you make.

## SOUNDS GOOD

FutureSound offers numerous options and excellent performance when it comes to recording instrumental or vocal sounds; it would be worth the price if it did nothing else. FutureSound's ability to play in true stereo is just as impressive as its other features, though.

Whether you make your own recordings or simply use programs that take advantage of the GS' sound, you'll be impressed and pleasantly surprised by the beautiful music and stunning sound effects your GS can produce. Of course, the quality of the sound depends on the quality of your stereo speakers. FutureSound is certainly capable of pushing the sounds out of the computer, but your equipment at the other end must complement it.

*Continued on p. 78*



# APPLEWORKS

With *six* applications in one smoothly integrated package, AppleWorks GS sets a new standard in 16-bit software—but does the Apple IIGS have the power to handle it?

**T** By **ERIC GREVSTAD**

he program you've been waiting for is now the program you'll be waiting for. AppleWorks GS, Claris Corporation's all-new, 16-bit successor to the incomparable 8-bit AppleWorks, is just as colorful, powerful, and easy to use as IIGS owners had hoped. It's a remarkable program, destined to become the standard in GS productivity software. Unfortunately, it's also destined to become the standard example of the pros and cons affecting all IIGS software: Are graphics icons and dialog boxes worth having if you must wait five seconds to scroll a page, or 30 seconds for commands to execute, as you stare at a half-drawn screen where a dialog box used to be?

AppleWorks GS' position is particularly difficult because it's not a simple software upgrade, but the rebirth of a legend—a IIGS program designed to replace the best Apple II program of all time. Given that impossible task, Claris deserves an ovation. AppleWorks GS' merit goes beyond its mouse-controlled menus and windows, or even its integration of six functions to 8-bit AppleWorks' three. New users or families will find it a true all-in-one solution. AppleWorks veterans will discover across-the-board improvements, plus the appeal of combining word processing, spreadsheet work, and database management with glamorous graphics and desktop publishing.

But veterans should think hard before making the switch. AppleWorks GS is software that strains the limits of GS hardware. While the program itself is reasonably priced (and Claris' upgrade prices more reasonable still), it takes an expensive, fully loaded IIGS system to deliver barely adequate performance—snail-like performance, to anyone used to the speed of 8-bit AppleWorks with an expanded-memory card. Macintosh and MS-DOS users will envy the power of AppleWorks GS, but Apple II buffs may feel that changing from old to ►



# GS: worth the wait?





new AppleWorks is like changing from David to Goliath.

There's more depth to AppleWorks GS than one magazine feature can describe. Future articles in *inCider* will explore the strengths, weaknesses, and secrets of the program in detail. The discussion here presents an overview and first impressions from testing production copies of the software, which shipped in late October 1988.

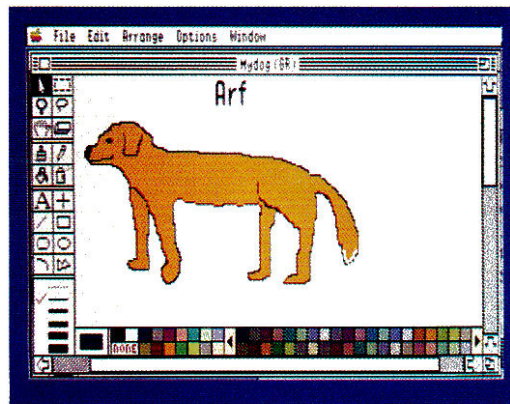
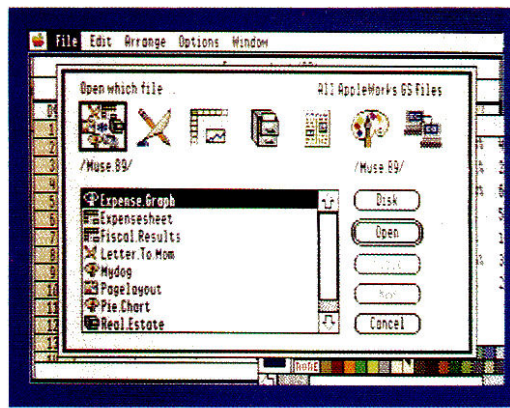
AppleWorks GS comes on three noncopy-protected 3½-inch disks—Program, Utilities, and System. The last includes GS/OS and Finder 1.2, as seen on the current IIGS System Disk, with AppleWorks GS' own optimized ImageWriter driver, as well as the other GS/OS printer drivers.

You can use AppleWorks GS with one 3½-inch drive, but it'll involve swapping the Program and System disks whenever you use a new application or a new font, with the Utilities disk for the spelling checker or thesaurus. With one drive, it takes one minute 45 seconds, including two swaps, to launch AppleWorks GS from the Finder desktop, then more time to load an application (50 seconds for the word processor or spreadsheet, two minutes for the graphics module). A Configure command lets you get the waiting over with, speeding later operations, by pre-loading your favorite applications at startup (for example, five and a half minutes to launch the program with word processor, graphics, and page layout).

A second 3½-inch drive or hard drive is clearly a good idea, but the first requirement for many GS owners will be added memory: The program needs a minimum 1.25 megabytes of RAM (random-access memory), not counting any RAM disk or ROM (read-only memory) disk. If you're starting from scratch, the list price of a IIGS system suitable for AppleWorks GS, with two 3½-inch drives, is \$3083. If you add a 5¼-inch disk drive and an ImageWriter printer, the retail price is about \$4000. While you'll pay much less at your local dealership, that's still a heavy investment.

### THE NEXT GENERATION

Except for reading AppleWorks files (along with ASCII, MultiScribe GS, and most GS paint programs' files), AppleWorks GS is almost completely different from its ancestor. While there are open-apple key commands, many perform different functions from the same keystrokes in AppleWorks; most work is done with the mouse and pull-down menus. While there's a desktop, it holds up to 14



**Top: AppleWorks GS' colorful icons represent the program's six modules—word processor, spreadsheet, database manager, page layout, graphics, and telecommunications. Directly above: The graphics module is an impressive cross between painting and object-oriented drawing software. As this illustration by an *inCider* editor demonstrates, however, software does not an artist make.**

movable, resizable windows instead of 12 full-screen text displays. While there's a fat two-volume manual, there are no on-line help screens or sample files on disk.

The last point is a minor one, because the new interface makes AppleWorks GS' greatest strength its ease of use. Rulers, buttons, and dialog boxes are far friendlier than, say, the jumble of options that greet you in 8-bit AppleWorks when you type Open apple-O for word-processor formatting.

Data transfer is available through disk-file imports and GS/OS' cut-and-paste clipboard, but it's more fun to arrange application windows on screen, then drag information from one into the other (moving the mouse while holding the control key, which changes the pointer to a nifty lightning-bolt symbol).

The level of innovation, and the benefits of the graphics interface, vary from application to application. AppleWorks GS' communications module, for example, is definitely the junior partner of the six. It supports the transfer protocols a good telcom program should (Xmodem, Ymodem, and Binary II) as well as sending and capturing ASCII text, and its pull-down menus simplify the chore of setting parameters.

But, though it lets you enter and dial numbers from an alphabetized phone list, the module can't record log-on sequences or macros as a good telcom program should. It's adequate for occasional calls to on-line services, but serious modem owners will want a more full-featured program, while AppleLink subscribers will use that service's own, even easier software.

The word processor, by contrast, is a complete, convenient program, tracing its heritage to the programmers' pre-Claris days as the makers of MultiScribe GS. Lacking the fanciest features of WordPerfect, the word processor nevertheless provides a good mix of type styles and sizes with easy mouse-controlled text selection and editing. The paragraph-based formatting gives lots of flexibility. (After my first few files, I learned to change the default ruler's margins, tabs, spacing, and justification before I began typing, so my settings wouldn't disappear when I started the second paragraph.)

The spelling checker lacks a "replace all" function for multiple occurrences of the same error, but is otherwise solid, letting you type a correction, add a word to an editable personal dictionary, or choose from a list of accurate suggestions. The Sexist Software Award goes to the thesaurus, which is usually helpful with definitions and





synonyms but lists only one meaning for *woman*: "the female partner in a marriage." Like the spelling checker, it's also slow when using floppy disks.

An even slower performer is AppleWorks GS' "Better Text" print option: A two-page letter that printed on an ImageWriter II in 30 seconds in draft mode took more than eight minutes in Courier. (Think you'll speed printing by specifying draft mode, but setting the ImageWriter to high quality? Sorry, AppleWorks GS resets the printer.) The print speed is a disappointment, since the word processor is the only AppleWorks GS module I found to be reasonably fast—able to keep up with rapid typing, quicker than 8-bit AppleWorks in a search-and-replace test.

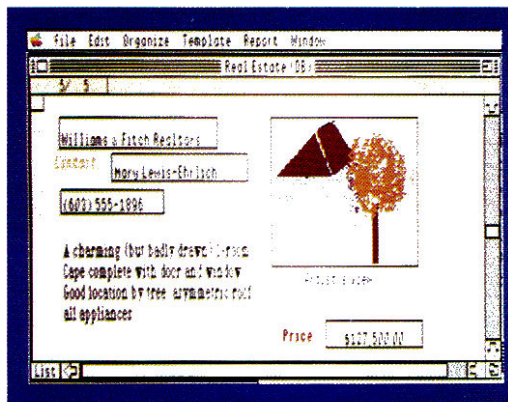
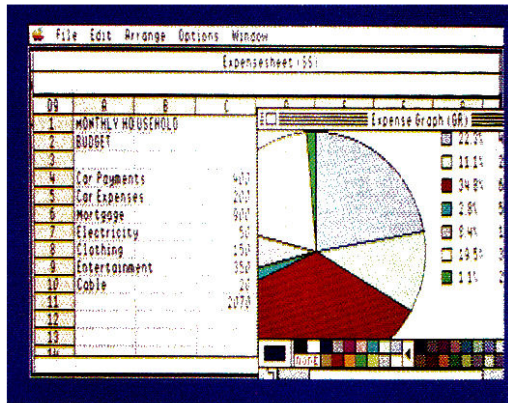
### STRONGER BUT SLOWER

Patience is a virtue when using AppleWorks GS' spreadsheet, where the advantage of intelligent recalculation is destroyed by the disadvantage of redrawing graphics-based screens. My 1000-cell recalculation test, which AppleWorks 2.0 finished in 14.5 seconds, took the new program 41 seconds, almost three times as long. A simple Go To command, moving the cursor from cell T50 back to A1, took 20 seconds. Highlighting a range of cells that extends past the bottom of the screen, as you hold the mouse button and watch the display march upward line by line, is agonizing.

I was appeased, however, by the spreadsheet's 73 functions, including beefed-up features such as date math and logical functions supporting text strings: IF(D4>5000, "Credit OK", "Reject") returns a different phrase depending on the value of cell D4. Having to preface even simple formulas such as 2+2 with an equal sign is a nuisance, but picking hard-to-remember features from a scrolling List Functions box is a convenience.

So is the ability to copy a worksheet range to the graphics module, creating a colorful pie, bar, 3-D bar, line, or scatter chart. It's handy for simple charting, though graphs limited to one data range (one row or column), with no niceties such as exploded pie slices or labels (other than those you add in the graphics module), will hardly set the business world on fire.

More potent improvements, and perhaps the most major adjustments for AppleWorks owners, await in the database. It's sophisticated, but complex: Before you can see records in the traditional-form screen or spreadsheet-style list screen, you have to master the desktop-publishing-



**Top: The spreadsheet is hardly a speed demon, but it does offer an impressive lineup of features, including business graphing. Directly above: You can design a database that includes text, numeric, and graphical information. If you just want a plain old address book, though, AppleWorks GS may be more than you bargained for.**

style definition screen.

Here, you draw your database with the mouse, making a box to hold each field, then specifying whether it holds text, numeric, date, time, or one of two other kinds of information—static text, treated as an uneditable graphic to show fancy fonts or hold a lengthy comment, or a picture, imported from the graphics module and scaled or cropped to fit the field. You can add nearly every enhancement or embellishment you can imagine—using spreadsheet functions for calculated fields, specifying numeric formats or centered text, or adding other fields for labels such as "Name:" or report headers and footers.

This is great for creative, advanced database design, but users wanting a simple address book or record collection, as opposed to a fancy template with fields arrayed artfully beneath your company's name and insignia, may find it a bit much. Quick-and-dirty data hunters, used to AppleWorks' casual Open apple-R and "contains" operator to select records, will feel balked; while there's a Find command for occurrences of text strings, AppleWorks GS' Match Records command involves double-click-

ing on math operators and typing exact-match text in quotes.

The new database's menu-driven mail merge isn't that much prettier than old AppleWorks', either, though its reports, generated as word-processing files ready for further editing or formatting, are a plus.

### GETTING INTO GRAPHICS

While the word processor is my favorite part of the package, AppleWorks GS' brightest star is probably its graphics module. Although it omits the most exotic features of DeluxePaint II or Paintworks Gold (perspective, color cycling, turning objects into paintbrushes), it's an excellent combination of freehand painting and object-oriented drawing tools.

On the paint side, there are all the brush sizes, color palettes, and fill patterns you'd expect, with traditional tools such as a spray can and zoom (pixel-level) editing; the drawing side offers boxes, circles, and so on. The two combine after you finish painting a bit-mapped image: It becomes an object just like those created with the drawing tools, suitable for dragging, copying, rotating, or shuffling toward the top or bottom of a stack.

The kicker in the above sentence is "after you finish painting." Because I often switched to nonpaint tools such as the eraser or

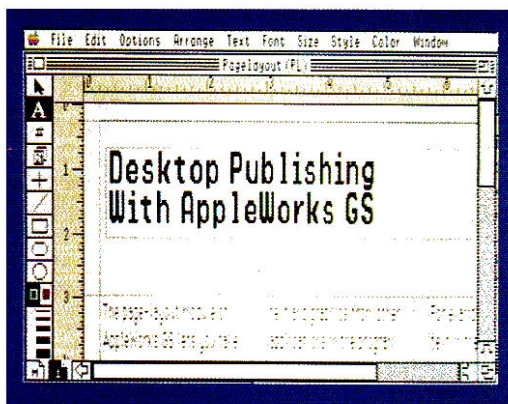
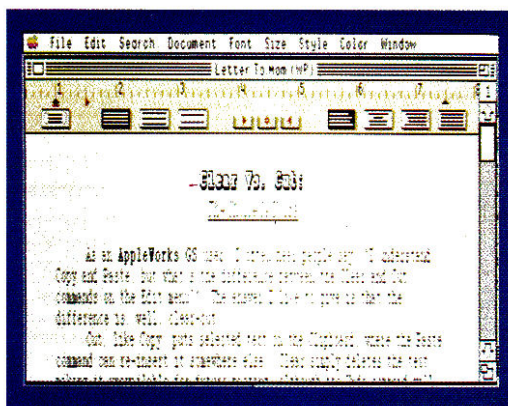


zoom editor while creating an image, I kept finding that the resulting object was five or six separate objects; when I drew a kitten and tried to drag or place it beside a tree, I yanked off its head. Luckily, a "collapse" command lets you combine selected objects into one. I also like the graphics module's keyboard equivalents to mouse commands; it's hard to move the mouse as precisely as the Nudge commands, which push an object one pixel up, down, left, or right.

AppleWorks GS' most fashionable application, the page-layout program, is a little disappointing compared to the first-class graphics module. Basically, AppleWorks GS lets you arrange graphics and text on pages with one, two, or three columns. You can see a full-page or actual-size view for overall layout or detail work, and use rulers to help draw lines or place objects. Items shared by all pages, such as column guides or headers with page numbers, can appear on left or right master pages.

Graphics objects are graphics files or selected parts thereof, imported (actual size) via disk, clipboard, or the Control-drag technique. Text objects are movable, resizable frames created to hold text, whether imported or typed in the page-layout module. You can't flow text around graphics, but a story that's too big to fit into one text object flows easily into another in a "text stream."

The text-handling features are almost as good as the word processor's, and the program works well enough for simple newsletters or memos. But it takes practice to avoid minor slips, such as imported text flooding a column instead of staying in its frame, or dragging a column guide when you wanted to resize a text box. (I wish you could hide the nonprinting frames around text objects, as you can



**Top: The word processor bears a proud heritage—it's a new and improved version of Styleware's popular MultiScribe GS. Directly above: AppleWorks' six applications come together in the page-layout module. Be prepared to wait for your GS to catch up with your inspiration, though.**

hide column guides; drawing boxes around headlines is tricky.)

The most frustrating part of page layout, or the graphics module once you get three or four objects on screen, is that AppleWorks GS' sluggish response cripples the whole idea of point-and-click computing. The concept encourages you to brainstorm, to work fast—drag a text object, center the headline within it, position a picture, see how it looks. But all too often, as you move the mouse pointer to click on Step 3, you'll see it change to the wristwatch icon indicating the pause for Step 1. When your ideas race, the IIGS crawls.

### SHIFTING THE BLAME

Ultimately, it's the IIGS that drags AppleWorks GS down. Individual users may have individual gripes, things that got left out while flashy features were put in. (Personally, I'd trade database picture files for 8-bit AppleWorks' ability to format data disks within the program.) But the software has some splendid features, and its overall design and integration are extraordinary.

There are two companies Apple II owners have lately loved to hate, to accuse of shortchanging the II and favoring the Macintosh. AppleWorks GS redeems Claris, and lets users focus their anger squarely on Apple—for selling a computer with the price and potential of a Porsche, but the power of a Pinto.

AppleWorks GS may be a harbinger of future hardware, the way original AppleWorks appeared before many II owners had acquired 128K, let alone expanded memory. Applied Engineering, a company born to do Apple's work for it, may save the day with its TransWarp GS accelerator. I tested a preproduction model briefly, and improvements such as scrolling a layout in 2.5 seconds versus 6 seconds made the program seem truly usable. (See this month's Editors' Choice, p. 112.) But the TransWarp will push your hardware investment to about \$3500—a point at which, to say something I never thought I'd say, the Apple IIc Plus starts looking good.

For now, AppleWorks GS' fatal problem isn't Claris' fault: It's the thousands of people happily using AppleWorks, some TimeOut add-ons, and Publish It!. They don't need AppleWorks GS, and they won't wait for it. ■

*Contributing Editor Eric Greustad is a free-lance journalist and political columnist. Write to him c/o inCider, 80 Elm Street, Peterborough, NH 03458.*

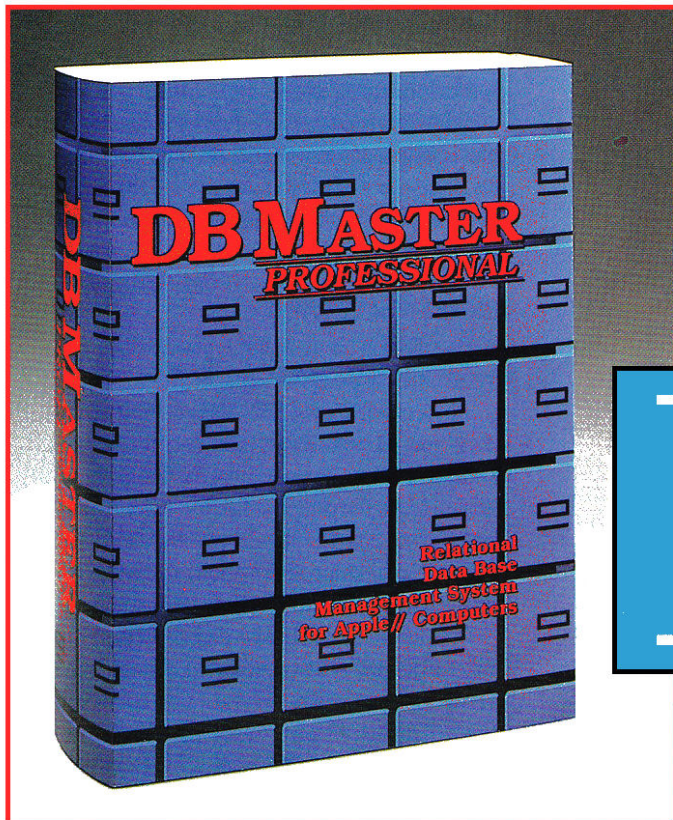
## PRODUCT INFORMATION

### AppleWorks GS

Claris Corporation  
440 Clyde Avenue  
Mountain View, CA 94043  
(415) 962-8946  
\$299  
\$169 upgrade from  
MultiScribe

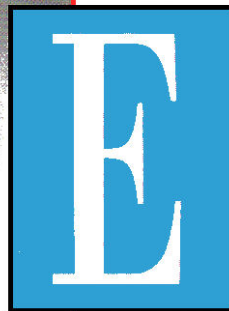
\$149 upgrade from  
MultiScribe GS  
\$99 upgrade from  
AppleWorks 2.0  
Reader Service No. 338

# In a Class by Itself



It's big, it's powerful, it's adaptable—yet its modular design makes DB Master Professional not only the most sophisticated database manager you'll find for your II, but one of the easiest to use, as well.

by Gregory R. Glau



Ever see that TV ad for an airline that shows a man talking on the phone, saying, "Pittsburgh on Monday? I can do that. Boston on Tuesday? I can do that. Phoenix on Wednesday? I can do that." He hangs up, then grabs for the phone again and asks, "How can I do that?" The answer, of course, is the air-

line—that it'll help this businessman get where he needs to be, when he's supposed to be there.

In the world of information management, DB Master Professional operates just that way: It helps you do exactly what you want with your data, when you want to do it. The

DB Master database manager has been around in one form or another for quite a while (see Editors' Choice, July 1988, p. 96); for the past seven years we've used it in our small heating-equipment business to track warranty records. This latest version of the program (prerelease 5.5 discussed here) shows how good software can evolve—grow more and more capable without forcing you to buy new hardware. Whether you have two 5¼-inch floppies, two 3½-inch disks, or a hard disk, whether you have a IIc, an enhanced IIe, or a new IIgs, you can take full advantage of the power of this program.

DB Master Professional is something of a study in contrasts. The documentation's an imposing 712 pages, yet you'll be up and using the program within just a few minutes. You get the dynamism of a relational database, in which one file can access and import information from other files—yet you can design screen layouts and file parameters quickly and easily. You get a sophisticated reporting capability that will summarize your data just about any way your business requires, yet it's broken down into modules that let you pick and choose among pieces of information and decide exactly how simple or complex your report will be. This software grows with your needs; you can redesign the structure of your database ►

as your business expands. The program even includes a global editor, if you want to change something in all records at the same time.

DB Master Professional claims to be the only Apple II program that lets your files extend over more than one disk—up to 50 if you need them—yet the program always knows what's where. If you have a floppy system, it usually doesn't matter which disk (program

have been broken into two or more smaller units, DB Master Professional can convert and combine them into one complete file.

The system sports a lot of nice touches—carefully designed details that make database management easier and simply more professional. For example, the software can convert dates to spell out the month—you'll never wonder whether 10/11/89 means October 11

or November 10, because DB Master Professional can show it as 10-Nov-89. If you'd like your forms to display the last date on which you edited data, DB Master Professional can do that automatically. You can scroll through your records in either direction, display them on screen, or get a hardcopy from your printer.

You can design *browse forms*, as well, which let you call up your records in any format you find useful. You can also ask DB Master Professional to pull just the statistical summaries from your files, for those times when you want to see the forest, but don't want to walk through all the trees to get there.

### ON-THE-JOB TRAINING

How do you harness all this power? Start with the manual. It looks fearsome, but it's filled with good, clear examples. DB Master Professional starts you off with an introduction to records, fields, and so on. By page 10 of the 163-page tutorial section, the program has you entering and saving data in a sample file. A few pages later, you're searching for information. You learn DB Master Professional by *using* it.

One hundred thirty-five pages of reference material follow. That's not the end, though; nine pages of "things you can do" key operations you might want to perform to specific headings in the glossary, which is 373 pages long. I didn't much care for the glossary idea when I first saw it—I expected it to be just a list of definitions. This one's different, though: DB Master's glossary provides detailed information about every facet of the package—each feature and function, along with how you access it and use it.

DB Master Professional also provides what it calls *dynamic prompting*, lines at the bottom of the display listing your available options. You don't have to remember commands when you want to add a record or search for something—choices are always listed on screen.

### FILE DESIGN

Its visual approach to designing on-screen forms sets DB Master Professional apart from ordinary database managers. Type a field name; then, using the arrow keys, position it exactly where you want. What could be simpler?

The program allows 2000 total bytes per record. (One byte is roughly one character.) Each record can contain up to 200 fields,

```

DB Master Version 5           Main Menu           File - (None)
Data Entry and Search       Maintenance Functions
-----
 1 Add Records
 2 Display, Edit and Delete Records
 3 Browse Through Records
 4 Default Mode: Standard defaults
 5 Change Standard Defaults
 6 Receipts: Off
 7 Screen Form: Main form
 8 Global Editor

21 ProDOS Functions
22 File Statistics
23 Backup, Copy or Merge Files
24 Restructure File
25 Convert File to DB Master
26 Field Options
27 File Options
28 Utility Programs

Reports & Data Exchange    Change Files or Exit
-----
11 Create or Edit Report Formats
12 Print a Report
13 Data Exchange (Print to Disk)

31 Use a Different File
32 Create a New File
33 Exit to ProDOS

Enter Your Choice (1 to 33): _          5.3

FIND RECORDS      File: CHECKING      # of records - 17      page 1 of 2
Transaction type! _ (C-Check, D-Deposit, F-Fee, M-Misc)

Pay to (or source) ..
Amt of payment ..$ .. Amt of deposit ..$ .. Print check? (Y/N) ..
Memo for check ..

For: ..
Acct # .. Address line 1 ..
Returned? (Y/N) .. Address line 2 ..
Address line 3 ..
Address line 4 ..

CTRL: Tutor Find records Load/Save Add mode Go to p.# Next/Prev.page Quit
< > < > < > Or range - begin with (includes #doesn't include ?any char
Insert/overtyp Delete character Beginning/End of field Zap field contents

DISPLAY RECORD      File: CHECKING      # of records - 17      page 1 of 2
Transaction type! C (C-Check, D-Deposit, F-Fee, M-Misc)

Pay to (or source) Office Centers, Inc.
Amt of payment $ 1200.00 Amt of deposit $ 0.00 Print check? (Y/N)Y
Memo for check Rent for 456 Office Center Drive

For: Rent
Acct # .. Address line 1 Office Centers, Inc.
Returned? (Y/N)Y Address line 2 100 Office Center Drive
Address line 3 Anytown, PL 12345
Address line 4 ..

CTRL: Tutor Go to p.# Next/Previous page U find next record H get prev.rec.
Edit/Delete this record Find other records Add mode Quit (return to Menu)

```

Top, choices are grouped for convenience on DB Master Pro's main menu. Middle, design your own screen: Place any field in any position. Bottom, completed record shows a variety of data formats.

or data) you put into which drive. On a hard disk (DB Master is non-copy-protected), you can access files as large as 10 megabytes.

If you've been using an older version of the program, it's good news that DB Master Professional has the same command structure: <Control-A> adds a record, <Control-F> finds a record, and so on. You can also update your existing DB Master Version 3, 4, 4 Plus, or 5 files to fit the new software. The program converted 369 of my DOS 3.3 warranty records to the new format in just a few minutes, and the process was completely menu-driven.

DB Master Professional will also convert your AppleWorks files, and can exchange data with programs that can save their information as DIF (data-interchange format) or ASCII files. If your files

spread over as many as 30 pages (screens). The sequential-page concept is particularly useful when you need to separate data—job costs on one page and all retail information on another, for example. That makes it easy to print only those data you want your customer to see.

A "sales-receipt" option prints a copy of the record, which you can also include in any other report format, immediately after you enter it into the system. DB Master Professional also provides several levels of password protection, so you can restrict who's allowed to read your files and write to them.

If 2000 characters per record isn't enough, you can use DB Master Professional's relational capabilities to send data from one record to another. That lets you store things that don't change—names and addresses, for instance—in one place, and transfer that information somewhere else when you need to.

DB Master Professional allows computed, or calculated, fields, up to 99 per file: Just enter the formulas and the program recalculates automatically. To put 6 percent sales tax into field 7, based on a number in field 4, for instance, enter  $F7 = F4 * .06$ . The figure in field 4 can itself be a computed field.

The software also allows user-defined fields, which let you prescribe in exact detail what will be allowed (or not allowed) in a particular field—only numbers or letters, for instance, or only uppercase.

Other options include date fields (your choice of 11 formats), fields that accept only a yes or no answer, fields that display in dollar-and-cents format, even fields that allow entries only within a user-specified range of data (either numeric or alphabetical). DB Master Professional even gives you complete control over the way the cursor skips from field to field as you enter data: sequentially from first to last field as each appears on screen, or any other order that's more efficient.

DB Master Professional also lets you work with lookup tables—asking the program to display an item's description, wholesale price, and retail price, for example, all when you enter just the inventory number. For payroll, you could ask the system to look up a worker's name, wage, and other data when you enter that person's employee number.

The program provides two types of defaults—one in which a standard item is put into every field you specify, and one in which your last entry is duplicated in the current record. If you want to design a file in which the city, state, and zip code will usually be the same, DB Master Professional will enter those data for you. The program can copy all or just selected data from one file to another, as well as make a blank copy of the record format (without any data), which you can then use for a different purpose.

Perhaps DB Master Professional's most powerful feature is its relational capability, which lets you import or export data from one file or several to another, or to a report. A file can have up to 50 relational rules, involving up to nine other files. The process is surprisingly easy—it's all menu-driven. The only thing you really have to remember is that field lengths and types must

| Chk #                                     | Date      | Item # | Payee or Source of Deposit | Amount of Check    | Amt of Deposit | Book Balance    | Statement Balance | t |
|---|-----------|--------|----------------------------|--------------------|----------------|-----------------|-------------------|---|
| -   | 30-MAY-87 | 1      | Initial Deposit            | -                  | 10000.00       | \$10000.00      | \$10000.00        | Y |
| 101                                       | 01-JUN-87 |        | Office Centers, Inc        | 1,200.00           |                | 8,800.00        | 8,800.00          | Y |
| 102                                       | 01-JUN-87 |        | General Office Supp        | 37.50              |                | 8,762.50        | 8,762.50          | Y |
| 103                                       | 05-JUN-87 |        | Anytown Power Co.          | 310.76             |                | 8,451.74        | 8,451.74          | Y |
| 107                                       | 01-JUL-87 |        | Office Centers, Inc        | 1,200.00           |                | 7,251.74        | 7,251.74          | Y |
| 108                                       | 03-JUL-87 |        | General Office Supp        | 15.00              |                | 7,236.74        | 7,251.74          | Y |
| 109                                       | 15-JUL-87 |        | David Smith                | 717.87             |                | 6,518.87        | 6,533.87          | Y |
| 110                                       | 15-JUL-87 |        | Meg Stevens                | 698.76             |                | 5,820.11        | 6,533.87          | Y |
| 111                                       | 15-JUL-87 |        | John Doe                   | 1,200.15           |                | 4,619.96        | 5,333.72          | Y |
| 112                                       | 15-JUL-87 |        | Elizabeth Kent             | 1,176.75           |                | 3,443.21        | 4,156.97          | Y |
| 114                                       | 15-JUL-87 |        | Anytown Power Co.          | 351.00             |                | 3,092.21        | 3,805.97          | Y |
| -   | 17-JUL-87 | 1      | Misc. Sales                | -                  | 3,315.97       | 6,408.18        | 7,121.94          | Y |
| 113                                       | 01-AUG-87 |        | Office Centers, Inc        | 1,200.00           |                | 5,208.18        | 5,921.94          | Y |
| 115                                       | 15-AUG-87 |        | David Smith                | 717.87             |                | 4,490.31        | 5,211.94          | Y |
| 116                                       | 15-AUG-87 |        | Meg Stevens                | 698.76             |                | 3,791.55        | 5,921.94          | Y |
| Press <Return> to continue, <Esc> to quit |           |        |                            |                    |                |                 |                   |   |
| 117                                       | 15-AUG-87 |        | John Doe                   | 1,200.15           |                | 2,591.40        | 5,921.94          | Y |
| 118                                       | 15-AUG-87 |        | Elizabeth Kent             | 1,176.75           |                | 1,414.65        | 4,745.19          | Y |
| Ending date: 15-AUG-87                    |           |        |                            | Ending Balance:    | 1,414.65       | Total Deposits: | 13315.97          |   |
|   |           |        |                            | Statement Balance: | 4,745.19       | Total Payments: | 11901.32          |   |

| Line: | in body                         | Page 1                           |
|-------|---------------------------------|----------------------------------|
| 1     |                                 | No.                              |
| 2     |                                 | Date                             |
| 3     |                                 |                                  |
| 4     |                                 |                                  |
| 5     |                                 |                                  |
| 6     |                                 |                                  |
| 7     |                                 |                                  |
| 8     | Payto(orsource)                 | ***Amtof                         |
| 9     |                                 |                                  |
| S     | 10***F204-INT andFF/100 Dollars | 30.....40.....50.....60.....70.. |
| 1     | Transaction type                | 9 Memo for check                 |
| 2     | Check #                         | 10 For:                          |
| 3     | Date                            | 11 Acct #                        |
| 4     | Item #                          | 12 Address line 1                |
| 5     | Pay to (or source)              | 13 Address line 2                |
| 6     | Amt of payment                  | 14 Address line 3                |
| 7     | Amt of deposit                  | 15 Address line 4                |
| 8     | Print check?                    | 16 Returned?                     |
|       |                                 | 45 Date of entry                 |
|       |                                 | 46 Time of entry                 |
|       |                                 | 47 Comments                      |
|       |                                 | 48 Balance                       |
|       |                                 | 201 F201-10*(F6-INT(F6))         |
|       |                                 | 202 F202-INT(F201)               |
|       |                                 | 203 F203-10*(F201-INT(F2         |
|       |                                 | 204 F204-INT(F6)                 |

| File Name       | Type | Blocks | Modified        | Created         |
|-----------------|------|--------|-----------------|-----------------|
| PRODOS          | SYS  | 32     | 30-JUN-88 14:30 | 30-JUN-88 14:30 |
| AECLEK          | SYS  | 4      | 30-JUN-88 14:31 | 30-JUN-88 14:30 |
| BASIC           | SYS  | 21     | 30-JUN-88 14:31 | 30-JUN-88 14:31 |
| PRODRIVE        | BIN  | 4      | 30-JUN-88 14:31 | 30-JUN-88 14:31 |
| DBMASTER.SYSTEM | SYS  | 14     | 12-AUG-88 09:13 | 12-AUG-88 09:12 |
| STARTUP         | BAS  | 1      | 30-JUN-88 14:35 | 30-JUN-88 14:35 |
| V5.OBS          | DIR  | 4      | 12-AUG-88 10:32 | 01-JUL-88 14:59 |
| PRINTER.DRIVERS | DIR  | 3      | 12-AUG-88 09:22 | 01-JUL-88 14:59 |
| V5.UTIL         | DIR  | 1      | 01-JUL-88 15:18 | 30-JUN-88 12:17 |
| UCOPY           | BIN  | 11     | 25-JAN-88 09:35 | 08-APR-88 16:15 |
| FILER           | SYS  | 51     | 08-APR-88 00:00 | 08-APR-88 16:15 |
| CHECKING.01     | DBM  | 65     | 16-DEC-88 15:16 | 08-APR-88 16:15 |
| INVOICES.01     | DBM  | 48     | 15-DEC-88 09:17 | 08-APR-88 16:15 |
| MAILING.LIST.01 | DBM  | 50     | 05-MAY-88 09:25 | 08-APR-88 16:15 |
| PROGRAMS.01     | DBM  | 49     | 15-DEC-88 15:27 | 08-APR-88 16:15 |
| CLIENT.LIST.01  | DBM  | 48     | 15-DEC-88 15:18 | 08-APR-88 16:15 |
| INVOICE.ONE.01  | DBM  | 48     | 05-MAY-88 09:31 | 08-APR-88 16:15 |
| INVOICE.TWO.01  | DBM  | 48     | 05-MAY-88 11:52 | 08-APR-88 16:15 |

Top, spreadsheet-style report format with calculated fields. Middle, print checks, point-of-sale receipts, and other financial documents. Bottom, with its impressive array of ProDOS utilities, anything the Filer can do DB Master Pro can do better.

match in both files. It's cumbersome with floppy disks; the manual recommends a hard disk if you're to use relationals effectively.

DB Master Professional includes form-letter mail merge that lets you send personalized letters to just those people in your files you designate. It's as easy as typing in your text. The system includes "conditional" printing, as well, which lets you send all or parts of personalized letters to different people in your files, depending on the information in their records. It's also quick and easy to design and print mailing labels (one or more across).

### THE NEXT GENERATION

The reports you receive, based on the information in your

# ADVANCED LOGIC SYSTEMS

## ONE OF THE FIRST...ALWAYS THE BEST

### HARDWARE

**ADD-RAM 64.** Adds 80 columns to your monitor and 64K bytes of additional RAM to your Apple //e, expanding the total memory available to 128K.

APPLE //e **\$99.00**

**PRINTERMATE.** A dependable Centronics-compatible parallel printer interface. Features include software control of operating parameters, 8 bit data transmission for graphics users, self test verification mode and automatic line feed generation.

APPLE II, II+, //e, GS **\$99.00**

**ADD-RAM GS.** Zero K Memory expansion for the APPLE II GS. You add Standard 256K RAM to configure 256K, 512K, 1 Meg.

APPLE II GS **\$79.00**

**ADD-RAM 16.** Adds 16K bytes of RAM to your Apple II or II+, expanding the total memory available to 64K, essential for using most software products available today. In addition, the Add-Ram's buffered RAM circuitry simplifies installation with almost all peripheral systems.

APPLE II, II+ **\$99.00**

**SMARTERM II.** Adds 80 columns to your monitor and special punctuation to your II or II+. Displays both inverse/normal and highlight/lowlight and uses a synchronous linear memory map for increased speed. Understands Applesoft, BASIC and Pascal commands.

APPLE II, II+ **\$179.00**

### SOFTWARE

**THE HANDLERS.** A combination of the Word Handler word processor, List Handler file manager and Spell Handler spelling checker. Powerful and flexible, yet easy to learn and use, this best seller is well suited for home, school and professional use.

APPLE II, II+, //e, GS **\$99.95**

*Please send me the product(s) I've checked:*

Add-Ram 64     Printermate     Add-Ram 16  
 Smarterm II     The Handlers     Add-Ram GS

Include shipping and handling of \$3.00 for each product.  
 California residents add 7% sales tax.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Phone #-Day \_\_\_\_\_ Eve \_\_\_\_\_

Circle one: VISA M/C # & Exp. \_\_\_\_\_

TOTAL ENCLOSED:\$ \_\_\_\_\_

Signature \_\_\_\_\_ IC982

**SEND TO:** Advanced Logic Systems Inc., 1211 Alderwood Ave.  
 Sunnyvale, CA 94089 or call (408) 747-1988 to order by phone.  
 Orders outside the US add \$15.00.

database, can be only as useful as your information and your forms are organized. In some database programs, the report process is awkward, especially if you have to design a complete format, including sorting and selection conditions, for each report. DB Master Professional, however, splits the process into four modules, an approach that lets you pick and choose exactly

|    |                          |
|----|--------------------------|
| <  | less than                |
| >  | more than                |
| =  | equal to                 |
| >= | greater than or equal to |
| <= | less than or equal to    |
| #  | does not include         |
| {  | includes                 |
| *  | begins with              |
| ?  | any character            |
| ^  | range (user-specified)   |
| CD | current day              |
| CM | current month            |
| CY | current year             |
| PD | previous day             |
| PM | previous month           |
| PY | previous year            |

*Table. DB Master Professional sort criteria.*

what you want to display or print, without designing a huge number of individual report formats.

First, the reporting part of the package is similar to form design: You see a window on screen, with a list of field names below it, and you select what you want the report to print and where on the page you'd like to see it. You can add comments, headers, footers, and the current date to any report. You can also request that specific information be printed in italics or boldface, or that numbers print in a dollars-and-cents format. You can specify the number of trailing zeroes, or what to print if a field is empty. The report-layout function also allows conditional printing, using if/then/else logic. In an accounting system, this lets you print one message on a customer's statement if the account is current, or else print another if it's past due.

The second part of any report is the sorting format—the way you want your information ordered. You can sort on any field (up to nine at a time) and even specify case sensitivity.

In DB Master Professional's third report module you tell the software the data you want to select. Do you want to examine or print all records, or just specific ones? And if you want to look

at and pull out only certain records, what are they and how do you want to select them? See the accompanying **Table** for a partial list of selection conditions.

Finally, select a print format. Tell the software the slot in which you've installed your printer and choose a printer driver—type of printer and print mode.

## PRODUCT INFORMATION

### DB Master Professional

Stone Edge Technologies  
P.O. Box 200  
Maple Glen, PA 19002  
(215) 641-1825  
\$295  
\$10 demo disk  
Reader Service No. 340

Once you've defined any number of each of these four modular formats and named each one, you're ready for a master report format. From a list of the "module names" the program displays, mix and match print-layout, sort, selection, and printer formats. You can save up to 255 master report formats for each file.

What this flexibility means is that you can create any number of any type of format, and mix and match them any way you need to. If you want all reports printed one way, create just one print-layout design and use it with any number of, say, selection formats, or any number of sort formats. You don't have to re-create a whole report each time you want to change one thing. In the end, this results in better data management: You won't hesitate to examine your information in different ways,

because you can get your data from the system whatever way it's most useful to you.

### THE BOTTOM LINE

You'll be hard-pressed to find any real weaknesses in DB Master Professional. It could use more-detailed on-line help screens, perhaps; what you get now when you ask for assistance is a small box showing the page number in the manual where information is located. I did get lost now and again when I asked to change files and pulled the wrong floppy out before the prompt. To the program's credit, it never lost any data—I just had to get back to the main-menu screen and open the file again.

Every application has its own quirks and capabilities. Rarely, though, will you encounter a program as powerful yet easy to use as DB Master Professional. The bottom line? For data management on your Apple II, it's in a class by itself. ■

*Gregory Glau is co-owner of Glau Heating and Air Conditioning and is a free-lance writer specializing in technology and computer-related topics. Write to him at 461 Canyon Springs, Prescott, AZ 86303.*

## Before you spend anything on peripherals for your Apple



## Spend absolutely nothing on this.

Before you add another peripheral to your Apple, bring home the new Applied Engineering catalog. You'll find the most complete collection of Apple, Laser and Franklin peripherals anywhere.

We've combined a great deal of information in the new catalog. Complete and thorough descriptions of more than a hundred Apple compatible products clearly written in plain English even beginners can understand. Plus loads of technical information and specifications even the most advanced users will appreciate.

If you don't have the new AE catalog, you're missing out on some exciting new products. Get your free copy today from your dealer or by calling Applied Engineering at (214) 241-6060.



**APPLIED ENGINEERING®**

*The Apple enhancement experts.*

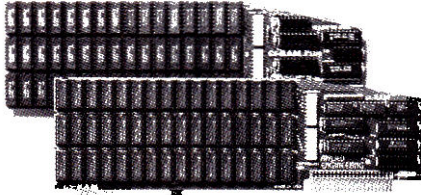
A Division of AE Research Corporation.

P.O. Box 5100, Carrollton, TX 75011 (214) 241-6060

# Preferred Computing

## AE APPLIED ENGINEERING™

**GS-RAM & GS-RAM Plus** These cards offer higher performance and greater expansion capabilities than Apple's card. Includes AE Cache, AppleWorks expansion, printer buffer, time display, graphic self diagnostics, DMA compatibility, and much more!



GS-RAM & GS-RAM Plus expand main memory on your IIgs

|                          |       |
|--------------------------|-------|
| GS-RAM 256K.....         | \$169 |
| GS-RAM 512K.....         | \$285 |
| GS-RAM 1 MEG.....        | \$519 |
| GS-RAM 1.5 MEG.....      | \$749 |
| GS-RAM Plus 1 MEG.....   | \$544 |
| GS-RAM Plus 2 MEG.....   | \$974 |
| GS-RAM Plus 3-6 MEG..... | CALL  |

**RamKeeper** Boot the IIgs System in 12 seconds. Boot AppleWorksGS in 15. Store programs and data reliably. Battery back-up protection. Allows the use of two RAM expansion cards in the GS' expansion slot..... \$149

**Serial Pro™** Multi-function card for IIgs, IIe & II+. Serial port and a ProDOS clock.... \$105

**Parallel Pro™** Centronics compatible parallel printer interface. IIgs, IIe, and II+..... \$79

**Buffer Pro™** Printer buffer option for the Parallel Pro. Allows you to regain control of the keyboard while your printer is working.

**Buffer Pro with 32K buffer.....** \$84

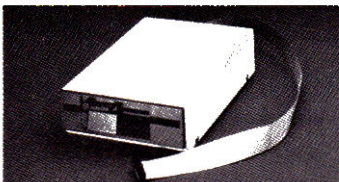
**Buffer Pro with 128K buffer.....** \$129

**Buffer Pro with 256K buffer.....** \$185

**Phasor™** Simply the best text to speech synthesizer for the IIgs, IIe, and II+..... \$129

**Heavy Duty Power Supply** Replacement for IIe or II+ with over twice the output of the stock supply. Easy to install..... \$59

**5 1/4" Half height disk drive.** 100% compatible with all Apple software. Works with the IIgs, IIe, IIc, & II+. Compatible with drive ports or a Disk Drive Controller Card..... \$119



AE's 100% Apple compatible 5 1/4" Disk Drive

**5 1/4" Disk Drive Controller** Supports Disk II and compatible drives. Has connections for two drives. For the IIgs, IIe, and II+..... \$52

**RamFactor™** Slot 1-7 memory expansion card. Expands AppleWorks on a IIgs, IIe & II+. RamCharger battery back-up option allows permanent storage & instant access to data.

**RamFactor 256K.....** \$229

**RamFactor 512K.....** \$349

**RamFactor 1 MEG.....** \$584

**RamCharger Battery back-up.....** \$139

**DataLink™** 2400/1200/300 baud internal

## Computer Accessories

## When Only the Best Will Do!

modem. Includes all hardware and software you need. Installs inside your IIgs, IIe, or II+. Powerful DataTerm™ software features VT-52 emulation, macros, time display, text file & X-Modem file transfers. Free subscriptions, free online time, and much more!..... \$189

**DataLink 1200/300 baud modem.....** \$139

**Viewmaster 80™** Super resolution II+ 80 column card. Compatible with all 80 column software. Includes software patch enabling AppleWorks to run on a 64K II+..... \$124

**Pocket Rocket™ 16K RAM Card** Upgrade your II+ to 64K and run ProDOS..... \$85

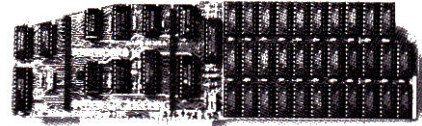
**RamWorks III** If you have a IIe this card is perfect, and if you use AppleWorks it's an absolute must! Expands main memory up to 3 MEG. Don't settle for a partial compatible, get the real RamWorks III at the right price.

**RamWorks III 256K.....** \$194

**RamWorks III 512K.....** \$309

**RamWorks III 1 MEG.....** \$544

**RamWorks III 1.5 MEG.....** \$839



RamWorks III™ increases your IIe memory. Install the RGB option for super sharp hi-res color graphics on the IIe

### RamWorks RGB Options

**ColorLink™** For analog RGB and digital RGB style monitors..... \$99

**Digital Prism™** For Apple Color 100 and digital style RGB monitors..... \$99

**512K RamWorks Expander™** Expands all RamWorks cards. Adds 512K..... \$309

**2 MEG Plus RamWorks Expander™** Expands the RamWorks III, II, and basic.

**2 Meg expander with 1 Meg.....** \$565

**2 Meg expander with 2 Meg.....** \$995

**256K RAMS** Set of 8 (150ns)..... \$124

**1 MEG RAMS** Set of 8..... \$429

**1 MEG MacRAMS** SIMMs for expanding the Mac Plus, SE, and II..... \$469

**256K MacRAMS** SIMMs for expanding the Mac Plus, SE, and II..... \$139

**RamWorks™ Original** With 512K. Comes complete with manuals and software..... \$285

**Extended 80 Column card with 64K**

Upgrade a IIe to 128K plus 80 column..... \$92

**Timemaster II H.O.™** Has the most features and is easiest to use. Automatically recognized by ProDOS, AppleWorks time display, adds 15 commands to BASIC..... \$85

**280 Plus** Runs all Apple CP/M software. Turbo Pascal, Wordstar, dBase. Includes operating system and manuals. IIgs, IIe, II+.... \$119

**PC Transporter™ & Accessories** Your Apple IIgs, IIe, or II+ is now the most versatile personal computer you can own. This card enables you to run Apple and IBM (MS-DOS) software on the same computer. Compatible with Apple RGB monitors, printers, hard disks, 3.5 drives, modems, mouse. **IN STOCK**

**768K (640K IBM).....** \$529

**IIgs Install Kit.....** \$40



AE PC Transporter, Kensington System Saver & Turbo Mouse, BSR Command, Sony KV1311CR, Joystick

**IIe Install Kit.....** \$34

**SingleTransDrive.....** \$209

**PCTransporter OK** Due to a special purchase, we have in stock a limited quantity. Accepts industry standard 20 pin ZIP, 64Kx4 DRAMS, 120 ns. Commonly used in many IBM clones and various IBM video cards. Product is factory direct and includes full warranty. Complete in all respects except RAM chips. Due to special low price all sales final.... \$149

**RamExpress™** Memory expansion card for the IIc Plus and original IIc with the expansion connector. Installs inside your computer.

**Ram Express 256K.....** \$194

**Ram Express 512K.....** \$309

**Ram Express 1 MEG.....** \$544

**Ram Express Clock Option.....** \$49

**Z-Ram Ultra** Compatible with the original IIc.

**Ultra 1 256K.....** \$194

**Memory only 512K.....** \$309

**Ultra 2 256K.....** \$245

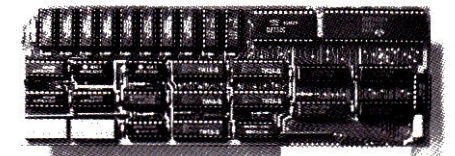
**Memory, Clock 512K.....** \$365

**1 MEG.....** \$599

**Ultra 3 256K.....** \$309

**Memory, Clock 512K.....** \$429

**Z-80 1 MEG.....** \$659



TransWarp makes your IIe or II+ 3.6 times faster

**TransWarp™** Have a large database, spread sheet, or a slow program? This card will run all calculations, searches, alphabetizing, etc...3.6 times faster. IIe and II+ ... \$169

**Sonic Blaster** AE's full featured stereo digitizer for the IIgs. Records from your home stereo, CD Player, VCR, etc... Amplifies, and plays back in stereo. Get the most out of games and Music software..... \$109

**Audio Animator** Passport compatible MIDI device, stereo digitizer for the IIgs. Play and record melodies on a MIDI instrument, edit them and play them back through any MIDI device. External mixer allows easy access to volume, record level, and microphone control. Digitizer has built in amplifier for unamplified speaker connection. Call for details..... \$189

**Order by mail:** Send check or money order to Preferred Computing, P.O. Box 815828, Dallas, TX 75381

**Order by phone:** 1-800-327-7234 Visa, MasterCard or COD Texas, Hawaii and Alaska 1-214-484-5464

**Orders only call** 1-800-327-7234

**Questions and Customer Service** call 1-214-484-5464

Texas residents add 7% sales tax

Prices subject to change without notice



Confused about what to order? Tired of trying to get advice from someone that knows less about Apple computers than a convenience store clerk? If so try calling our friendly Apple support staff at 214-484-5464. You'll get honest advice on what product is best in your application. After all with our 15 day money back guarantee it's just as important to us that you get the right product the first time.

ORDER TOLL FREE

1-800-327-7234



COD's UPS ONLY

## Computer Accessories When Only the Best Will Do!

### More Quality Products.

#### Sony Ultra Hi-Res RGB Monitor/TV

Without a doubt, this monitor/TV is the best available for the IIGs, IIE, or PC Transporter, bar none! The 13" KV1311CR has the latest patented Sony Trinitron picture tube for superb text, graphics and TV. Just push a button and you have a super sharp, 180 channel, cable ready, remote control color TV. With our money back guarantee and \$200 off the list price, it can't be beat..... \$529

**Sony digital cable (\$29 sep.).....\$19**

**Sony analog cable (\$29 sep.).....\$19**

**CH Products Flightstick™** Flight simulator control stick with trigger..... \$55

**CH Products Mirage** Adapter card allows the use of Mach II, III, or IV Plus as a joystick and a mouse on Apple II series or Macintosh. Please specify your computer type..... \$42

**CH Products MACH IV™ Plus** Joystick and mouse interface for IIGs, IIE, & II+..... \$69

**CH Products MACH III™ Joystick** Features spring centering and free floating movement, IIGs, IIE, IIC, II+ (please specify)..... \$39

**Kensington System Saver®** Mounts on the side of a II+ or IIE. 2 surge protected outlets, fan, front mounted power switch..... \$69

**Kensington System Saver® IIGs** Cooling fan and 4 surge protected outlets. Front mounted power switches. Protect your expensive peripherals with a System Saver..... \$74

**Turbo Mouse ADB** Latest model. Track ball style replacement for Apple mouse. Plugs into ADB port on IIGs, Mac II, and SE..... \$119

**Turbo Mouse** Track ball style replacement for Apple's mouse. Requires Apple mouse card in the IIE and II+. Direct to Mac..... \$119

**ThunderScan®** The best selling scanner for the Mac now works with the Apple II systems. All you need is a IIGs, IIE, or IIC and a ImageWriter or ImageWriter II ..... \$175

**APPLEWORKS GS By Claris**  
IN STOCK NOW!..... \$229

**Pinpoint™ Accessories.** 8 desktop accessories for AppleWorks, AppleWriter, or Wordperfect. Requires 128K enhanced IIE, IIC, IIGs, or Laser 128..... \$39

**Pinpoint Spell Checker** Why risk ruining your hard work or worse your reputation? This spelling checker features a 61,000 word dictionary and an unlimited capacity personal dictionary. Requires PinPoint accessories.. \$39

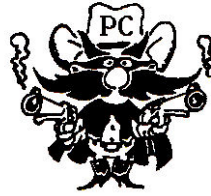
**PinPoint Point-to-Point** Supports most Hayes "AT" compatible modems. 300, 1200, 2400, 4800, or direct connect 9600 baud rates. Auto answer, auto dial, text editing, print formatting, online file handling, pulse or tone dialing, XMODEM transfers, and on line time display. IIGs, 128K IIE, or IIC..... \$78

**Super MacroWorks** AppleWorks 2.0 macro power! Turn any series of keystrokes into one. Requires a IIGs, IIC, or IIE..... \$29

**TimeOut™ Series** 2.0 or 2.1 AppleWorks enhancements. IIGs, 128K IIE, or IIC required.

**T.O. UltraMacros™** Memorizes any se-

### We shoot down high prices !!!



quence of keystrokes and plays them back at the touch of a key. Adds mouse control plus a paint and graphics importing program..... \$40

**T.O. MacroTools** Macro Debugger, Task launcher, Menu maker, Token chart, File stats, and many more macros..... \$19

**MacroTools II** Includes Publisher, File lister, Macro lock and tons of new macros... \$19

**T.O. QuickSpell™** Check your spelling while inside AppleWorks. If you don't know the correct spelling QuickSpell will suggest it for you. Comes with Random House 80,000 word dictionary that can be copied to a RAM disk or hard disk for increased speed. Unlimited words in your custom dictionary..... \$49

**T.O. Thesaurus** Quickly and easily find the best words for just the right meaning in your AppleWorks documents. Has 50,000 synonyms for 5,000 root words that can be transferred to RAM quickest operation..... \$35

**T.O. Graph** Make professional quality graphs from your spreadsheet files..... \$69

**T.O. SuperFonts™** Now you can get Macintosh™ quality printout from the AppleWorks wordprocessor. You can print in a wide variety of fonts and sizes. From 6 point to 127 point. Also allows you to easily import graphics into your documents. IIGs, 128K IIE, or IIC..... \$49

**T.O. SideSpread™** Print your wide spreadsheets from inside AppleWorks..... \$35

**T.O. SpreadTools** Designed especially for spreadsheets. Includes Analyzer which scans for errors, Block copy, Cell link, Data converter, Formula to value converter, Quick columns, and Row to column converter.... \$40

**T.O. FileMaster™** Allows you to perform file and disk operations fast. Lets you copy, compare, rename, delete, lock and unlock files. Copy, rename, erase and format disks. Copies 5.25 and 3.5 disks in one pass..... \$39

**T.O. DeskTools™** Includes a Calendar, Calculator, Case converter, Clipboard converter, Clock, Phone dialer, Envelope addresser, file encrypter, Notepad, Page previewer, Puzzle, and Wordcounter..... \$35

**T.O. DeskTools II™** Instantly finds area codes for over 500 U.S. and Canadian cities, multi-function engineering and financial calculator, Clipboard Viewer, Directree, Disk tester, File Search, Printer manager, Screen Out, Screen printer, and a StopWatch..... \$35

**T.O. Powerpack** Triple desktop allows you to have up to 36 files on desktop instead of just 12 at a time. Put files in any order you like, search and sort on file attributes, AWK to TXT file converter, Help Screens allows you to custom design help screens, search databases

by category, much more..... \$35

**VIP Professional™ IIGs** Modeled after Lotus 1-2-3. Combines a spreadsheet for number crunching, and hi-res graphics for professional quality graphs. It can even run Lotus files. Mac style interface with pull down menus. 512K IIGs required..... \$139

**VIP Professional™** Same features as GS version. 256K IIE, IIC, 2 drives..... \$109

**WordPerfect® IIGs** Wordperfect comes to the GS with dozens of features that have made its PC version best seller worldwide. 115,000 word spell checker, 10,000 word thesaurus, pull down menus, 512K required..... \$104

**WordPerfect® IIE & IIC** Powerful yet easy to use. Built in 50,000 word spell checker with word count. 128K IIE, IIC, or Laser 128. \$104

**SideWays™** Print all columns of your spreadsheet. Create presentation quality printouts without staples, or tape. IIE, IIC, II+..... \$46

**Deluxe Paint II™** Awarded "Best graphics Software" and "Best Creativity Software" 768KGS, 3.5 drive, Mouse, RGB Monitor.. \$74

**Managing Your Money 3.0™** Complete checkbook and budget program, tax planning, tracks net worth, evaluates life insurance, analyze investments, tallies gains and losses, suggest tax strategies, prints schedule D, calculates rates of return and much more 128K IIE, IIC, IIGs, two 5.25 drives or one 3.5.... \$98

**Chuck Yeager's Advanced Flight Trainer™** 14 aircraft simulations. Dynamic instrumentation with working gauges..... \$34

**F-15 Strike Eagle™** Get ready for challenging, modern jet fighter combat over Asia, Europe, and the middle east. Requires joystick, II+, IIE, IIC, IIGs..... \$27

**(10) 5 1/4 DS/DD disk with sleeve..... \$8**

**(10) 3 1/2 DS/DD disk..... \$15**

### Why Buy From Us?

1. Toll free 800 number for orders.
2. We almost always ship from OUR stock. Call us before 3 P.M. and it ships today.
3. Memory cards have all factory installed and tested RAM chips.
4. We're nice guys that want to help. We want our business to grow because of repeat customers and word of mouth.
5. We handle only the industry's best. We've tested and used all of the products we sell.
6. 15 day money back satisfaction guarantee on all hardware. If you don't like something, we'll give you your money back. No hassles.
7. We'll support, service and warranty everything we sell.
8. No surcharge is added for charge cards and we won't charge your card until we ship.
9. No sales tax is collected on orders outside Texas.
10. All shipments insured buy us.
11. Satisfied Customers. "I am truly impressed with your company! I'm astounded at the speed with which I received my order. I know where to go next time I mail order computer equipment!" Timothy A. Griffin  
"I would like to compliment you on your good technical support. With service like this, when I add more features to my computer in the future, Preferred Computing will be high on my list" Daniel Riley

### Preferred Computing

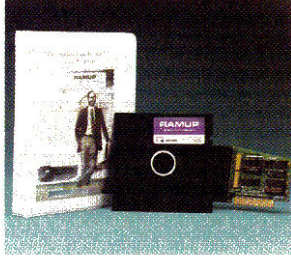
P.O. Box 815828  
Dallas, Texas 75381

School and Government  
Purchase Orders Accepted

ORDER  
TOLL FREE  
1-800-327-7234

# We have it all!

## RAMUP 4.0



### RAMUP 4.0

Utility software that automatically combines all your ProDOS programs onto an Apple-compatible Ramcard to make them work as one. You just flip from program to program at will — like turning a page.

Special features include:

- Autoload
- Back Up and Restore
- Unidisk and Hard-Disk compatibility
- Statistical displays

\$39.95

## ULTIMATE ENHANCEMENT SOFTWARE

### EasyDrive

The first and only complete interface for the hard-disk. Nothing is faster or easier. For smooth, trouble-free operation, EasyDrive is a must.

- Automatic installation
- Back Up and Restore
- Caching
- Mouse Control
- Automatic loading
- Statistical Displays
- Optimizing
- ProDOS Book

\$69.95

## EasyDrive 1.5



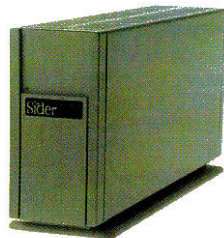
Match wits with speed and storage. Find out about the RAMUP/EasyDrive Combo — \$94.95.



### CMS HARD-DISKS

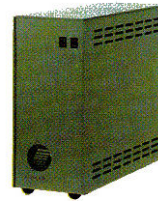
Reliable, Mac-compatible drives have multi-user capability. Includes: auto parking, SCSI and internal fan. 20, 40 and 60 meg.

## ULTIMATE HARDWARE



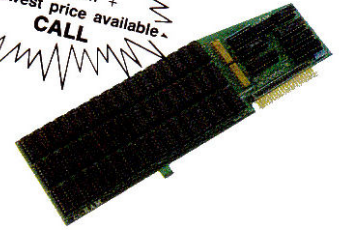
### SIDER HARD-DISKS

Four years as top selling brand. Includes: multiple operating system (D2). 20, 40 and 90 meg. 60 meg. tape back up available separately or included in some units.



### CHINOOK HARD-DISKS

Compact, reliable drives, Includes: auto parking, SCSI, and are Mac-compatible. Comes in 20 and 30 meg. plus a 20 meg. model for the IIc and IIe. Free EasyDrive with every unit.



### APPLIED ENGINEERING RAMCARDS.

The industry standard. Quality Computers is one of the largest distributors of Applied Engineering products in the country. All AE products come with a five year warranty.

## ULTIMATE PRICES

### AE APPLIED ENGINEERING

|                    |     |                     |      |
|--------------------|-----|---------------------|------|
| Transwarp .....    | 169 | ViewMaster .....    | 119  |
| RamKeeper .....    | 148 | PC Transporter ..   | Call |
| RamCharger .....   | 133 | RamWorks III .....  | Call |
| Serial Pro .....   | 114 | RamFactor .....     | Call |
| Data Link .....    | 189 | GS Ram .....        | Call |
| Phasor .....       | 139 | GS Ram + .....      | Call |
| Parallel Pro ..... | 89  | Z Ram I, II, III .. | Call |
| Time Master .....  | 76  |                     |      |

Transwarp GS (Advanced Orders) ... Call

### CMS

|                |     |
|----------------|-----|
| 20 Meg. SD ... | 649 |
| 40 Meg. SD ... | 849 |
| 60 Meg. SD ... | 979 |

### Sider

|                |      |
|----------------|------|
| 20 Meg .....   | 579  |
| 40 Meg .....   | 779  |
| 90 Meg-F ..... | 1475 |
| C96 .....      | Call |
| T6 .....       | 785  |



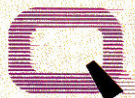
### CHINOOK

|                     |     |
|---------------------|-----|
| CT20 .....          | 679 |
| CT30 .....          | 779 |
| CT20-C (for IIc) .. | 739 |

### MISCELLANEOUS

|                       |      |
|-----------------------|------|
| Sys. Saver (IIe) ...  | 62   |
| Sys. Saver (IIgs) ... | 72   |
| 3.5 Dr. w/cont. ...   | 279  |
| Time Out .....        | Call |
| Rocket Chip .....     | Call |

PRICES SUBJECT TO CHANGE



Quality Computers

POWER FOR PERFORMANCE

15102 Charlevoix  
Grosse Pointe, MI 48230

313/331-0700

## ULTIMATE SERVICES

To complete this "ultimate picture", we have filled our staff with real professionals. Our sales people, technical consultants, and shipping department work together to satisfy all your needs. Your orders are processed and shipped quickly. Your questions are answered completely, and in terms you can understand.

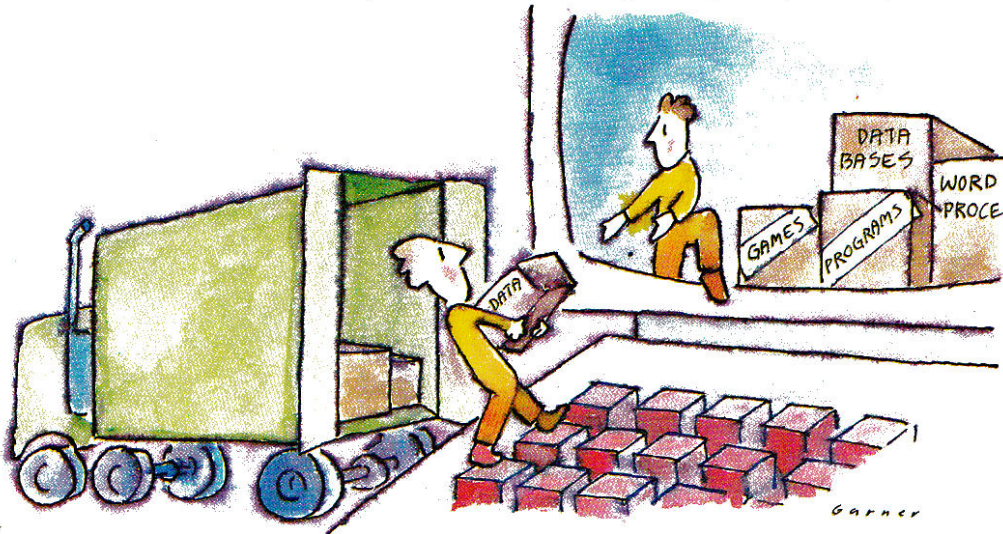
Call Quality Computers and you'll discover: extended warranties, 30 day money back guarantees on everything we sell, immediate replacement of defective items, and a free subscription to *Enhance*, our technical newsletter.

**ATTENTION HARD-DISK BUYERS:** Ask about hard-disk set ups. We'll format and configure your hard-disk for a price you just can't beat. Also, prevent extended down time with our hard-disk insurance plan. You'll never be without the power and convenience of your hard-disk. Call for details.

To Order Call: 1-800-443-6697 (U.S. & Canada)

# Do You Need a HARD-DISK DRIVE?

*Serious Apple II users need the speed, storage, and organization a hard-disk drive offers. In part 1 of a three-part article we'll show you what to look for before you buy.*



By JEFF CABLE

Remember the first time you saw a 5¼-inch floppy disk? How could that little piece of plastic store more than 70 pages of information? You probably thought you'd never need another disk drive. Then you discovered 3½-inch disks, to the tune of 800K apiece—about 400 pages of text. If you're racking up thousands of pages, though, it might be time to take the next step—a hard-disk drive.

No one disputes the *convenience* of a hard-disk drive, but when does it become a *necessity*, not just a luxury? If your collection of program and data disks has swamped your computer table and you're constantly searching for a misplaced floppy, or your AppleWorks database has just grown to 450K, you're a candidate for a hard-disk drive. If you're saying to yourself, "I don't have anywhere near 20 megabytes of programs and data," remember that a hard-disk drive is like a garage: No matter how big you *think* it is, it always seems to fill up fast.

## AT YOUR FINGERTIPS

Whether you own an Apple IIe, IIc, IIc Plus, or Apple IIgs, a hard disk makes your computing life easier in six ways. First is the convenience of putting the various parts of a multidisk program all in one place (if it's noncopy-protected). As Apple II software grows more and more

sophisticated, the complex code that gives you all those extra functions is taking up more and more space. It's particularly noticeable with GS programs, but even the latest 8-bit programs, such as Timeworks' Publish It!, may come on as many as four double-sided floppies. And if you're an avid AppleWorks user, you'll find you can add only so many accessories before you start to fill up even a 3½-inch disk.

Perhaps the most obvious example of a program crying out for a hard-disk drive is AppleWorks GS. Thousands of people have recently purchased or upgraded to Claris' six-in-one integrated package. When booting AppleWorks GS with only one disk drive, you have to swap between the system and program disks constantly. It's even worse if you're using the spelling checker or thesaurus—you have to insert a *third* disk, the one containing the dictionary. Using a hard drive, though, you just open the package, install it on the disk, and start working without swapping anything.

Second, if you use several programs often, you can load them onto your hard drive and then forget about having to find the floppy disks you need. If you own an Apple IIe and IIc, for example, you might have ProDOS as well as software such as AppleWorks, BusinessWorks, Beagle Bros' TimeOut Series, Pinpoint Desk Accessories, and Copy II Plus among the programs installed on your hard disk. If you have an Apple IIgs, you might install GS/OS, AppleWorks GS, Paintworks Plus, AppleWorks 2.1, some games, MultiScribe GS, GraphicWriter, and Medley, as well as a selection of fonts and desk accessories. ▶

## HARD-DISK DRIVES

When you install several software packages on a hard disk, it's a good idea to create a new folder (or *subdirectory*, a file containing the names and locations of other, related files on disk) for each. This organizes your hard disk and creates a logical structure within which you'll distribute your data files. Without folders or subdirectories, you'd end up with hundreds of data files on the hard disk's main directory and you wouldn't know which ones belonged to which program.

A related advantage is the instant availability of fonts and desk accessories. You'd have to install them on each startup floppy, but a hard disk uses only one system folder, and therefore carries the proper additions into each program you enter from the drive. (If you've installed more than one system folder your hard drive won't know which to access and will respond with system-error messages.) For example, if you install 30 fonts or desk accessories on a hard disk for your Apple IIGS, you then have them available in all standard GS programs (those with the Apple menu bar at the top of the screen), from paint packages to word processors.

### THE ELECTRONIC FILE CABINET

Fourth, your hard disk is ideal for storing large data files—customer or mailing-list databases, for instance, that would each exceed the size of a floppy. What's the difference? The capacity of floppy disks is measured in *kilobytes* (1K is approximately 1000 bytes). A 5¼-inch disk holds 143K; a 3½-inch disk holds 800K of information. Hard disks, on the other hand, are measured in *megabytes* (1000K of memory). Three years ago the most common hard disks were 5 and 10 megabytes. Common sizes today are 20 and 40 megabytes; many companies also sell 30-, 60-, 80-, and 150-megabyte hard disks, as well.

Until recently, ProDOS recognized only 32 megabytes of disk space. (GS/OS, a 16-bit ProDOS-type operating system for the IIGS, lets the machine handle larger-capacity hard disks with no problem.) To overcome this limitation you can "partition" a hard disk into multiple *volumes* of less than 32 megabytes each. A 60-megabyte hard disk, for instance, becomes two 30-megabyte volumes or three 20-megabyte volumes—one for games and entertainment software, another for utilities, and a third for productivity software and its related data files, say.

Fifth, your hard disk's multimegabyte capacity means you can stash large *numbers* of data files there, as well. If you're using your II to run a business, for instance, you can't do without a hard disk—storing information for hundreds of clients would leave you swimming in a sea of floppies. Again, it's important to set up organizational folders or subdirectories, perhaps one for each client or family member. Using a hard-disk drive without subdirectories is like trying to find an unfamiliar city without a map.

The sixth major advantage is the time you'll save in disk access. Unlike floppy-disk drives, hard disks remain fixed in their cases; you never see or remove them (although this is changing with the introduction of removable hard disks). Inside the casing is a large, rigid disk that spins continuously at high speed while read/write heads hover over the surface. (See the accompanying **Figure**.) The process is similar to floppy-disk access, except that the cylindrical hard disk and the read/write heads operate at a much faster rate. A hard-disk spindle rotates at upwards of 3600 revolutions per minute (rpm), while a floppy disk, after taking a second to get started, spins at only 360 rpm.

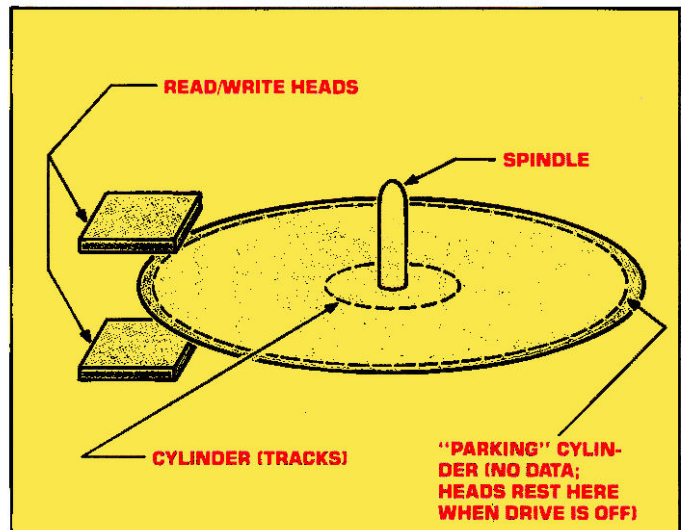
What does 3600 rpm mean for the user? Information access on most 20-megabyte hard disks takes approximately 65 milliseconds (thousandths of a second), while 40-megabyte drives average 25–40 milli-

seconds. That's three or four times the speed of Apple's 3½-inch drive. In general, the higher the disk capacity, the faster the drive.

### WHICH ONE?

The particular Apple model you use narrows your range of choices among hard disks; the IIc and the IIc Plus can't use the same disks as the expandable IIe and GS. Because the IIc is a closed system, you can't add the interface cards that are necessary for many of the drives on the market. If you own a IIc, you need to find a drive that attaches to one of the computer's built-in ports.

In addition, you'll find two types of interfaces: proprietary and SCSI (pronounced *scuzzy*, small-computer-systems interface). A proprietary



**Figure. Anatomy of a hard-disk drive.**

interface (in the form of a plug-in card) usually works only with that manufacturer's hard-disk drive and only in your Apple II or II compatible. If you buy a Macintosh or an MS-DOS computer, for example, you can't just plug in the hard disk unless the manufacturer also makes an interface card for that particular system.

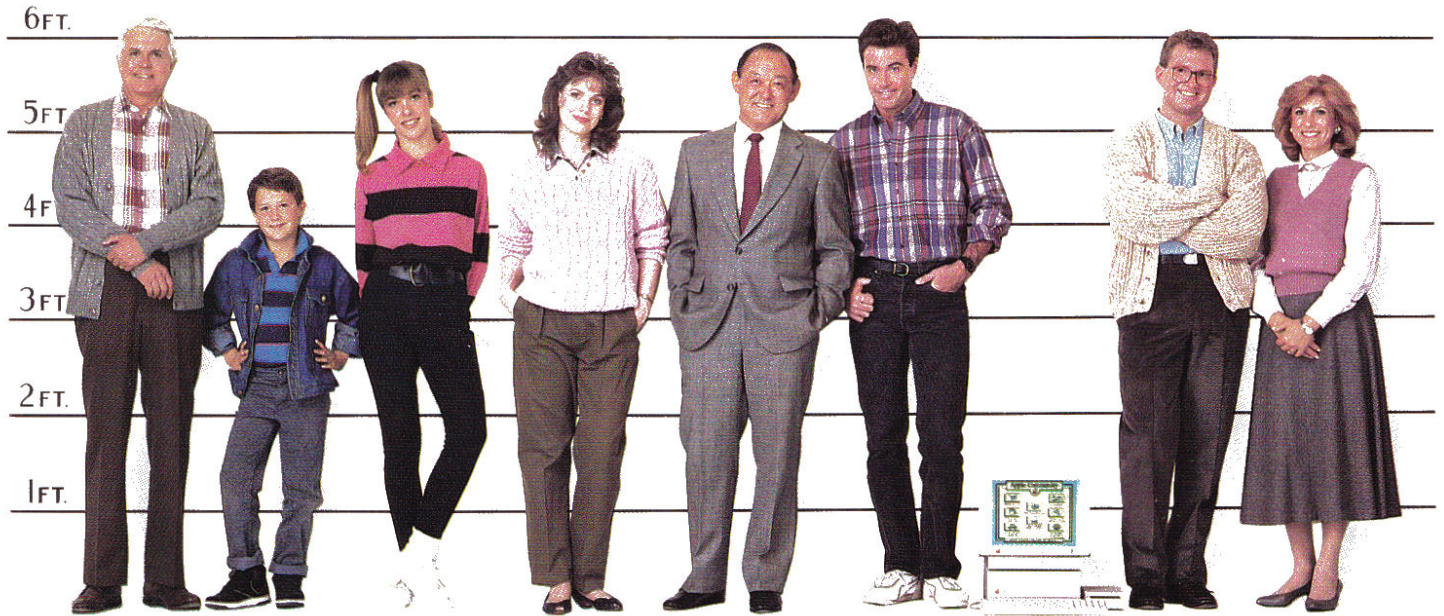
SCSI is a standard that comes in different flavors. If you think that sounds contradictory, you're right. In theory, any computer equipped with a SCSI interface will work with any SCSI hard-disk drive. Some companies, however, have developed proprietary versions of SCSI. You may have to buy a company's SCSI card with the drive.

One example of a SCSI standard is Apple SCSI. If you buy a hard-disk drive that follows the protocol for Apple SCSI, the drive will work with both the Mac, which has a built-in SCSI port, and your II if it's equipped with an Apple SCSI card. If your friend says he'll give you the SCSI drive he's using with his IBM PC, though, don't expect it to work with your Apple system.

In the next issue of *inCider* we'll explore the differences among drive models and compare SCSI and proprietary hard disks from ten manufacturers. If you're ready to opt for the convenience and speed of mass storage, take a look at part 2 and we'll help you make some decisions. ■

*Jeff Cable, inCider's West Coast editor, is an application specialist and free-lance computer consultant. Write to him at Wolf Computer, 105 North Santa Cruz Avenue, Los Gatos, CA 95030. Enclose a stamped, self-addressed envelope if you'd like a personal reply.*

# Break into Apple Headquarters. You'll get 30 days.



## AppleLink®—Personal Edition—your online connection to Apple Headquarters.

These Apple® II users have just broken into Apple Headquarters (And they're getting away with it. Risk-free. For 30 days!) With AppleLink—the direct line into everything that makes Apple so unique—the products, the people, the sense of community.

And right now, you can experience for yourself AppleLink's exciting lineup of services for home or business—and get 30 days with this special trial offer.

## Connect your Apple II to everything Apple.

Let's get more specific.

First, there's the Apple Community where you can get the latest update of what's going on in—and what's coming out of—Apple (lots). You can chat with Apple staff or catch special presentations by Apple notables (like Woz, himself).

You'll get online help and product support directly from the biggest names in Apple II software publishing. Then, visit the software library where you can download an impressive selection of programs.

## And that's just for starters.

In General Services there are endless possibilities. Look up facts in the up-to-date online encyclopedia. Make travel reservations. Get current on the latest-breaking news. Comparison shop for bargains in a 250,000-item online department store... to name just a few.

\*To use AppleLink software you need an Apple IIe, IIc, IIc Plus or IIx® computer with Hayes-compatible modem. Apple IIe systems require enhanced ROM, 128K memory, an 80-column text card and a Super Serial Card. You must have a VISA, MasterCard or checking account for AppleLink registration. Allow six to eight weeks for delivery.

\*\*Evening or weekend rate of 10 cents per minute applies. \*\*\*\$35 suggested retail price.

© 1989 Apple Computer, Inc. Apple, the Apple logo and AppleLink are registered trademarks of Apple Computer, Inc. AppleLink Update is a trademark of Apple Computer, Inc.

## Explore everything Apple for 30 days risk-free.


You'll have 30 days to use AppleLink\* and pay nothing for your software package or annual membership. You will be charged only for the time you spend online—and we'll even give you your first hour\*\* free. If, after 30 days, you decide to become an AppleLink member, you will be billed the \$35 annual membership fee. Cancel at any time with no obligation.

Your AppleLink Trial Kit includes:

- The software you need to get online
- One free hour of weekend or evening usage.
- A free issue of *AppleLink Update*™ magazine.



To order the AppleLink Trial Kit immediately, call toll-free:

 **1-800-545-5047** ext. 5106

Or contact your nearest authorized Apple dealer and purchase the complete AppleLink software kit.\*\*\*

**Yes!** Rush me the AppleLink Trial Kit! I understand that my 30-day risk-free trial period will include free AppleLink software, 1 hour of free weekend or evening usage and a free issue of *AppleLink Update* magazine.

Full Name \_\_\_\_\_

Street Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_

Zip \_\_\_\_\_

Daytime Phone Number \_\_\_\_\_

Evening Phone Number \_\_\_\_\_

Disk Size  3½"  5¼"

Brand of modem \_\_\_\_\_

Mail to: AppleLink—Personal Edition  
8619 Westwood Center Drive, Suite 200  
Vienna, VA 22180

**AppleLink®**  
Personal Edition

5106

A sense of Community™

# TAX TIME

As the IRS swoops down for the kill, smart Apple II users take shelter—in tax-preparation programs that'll help you organize your records and fill out those forms.

By CYNTHIA E. FIELD



IT'S BEEN CENTURIES SINCE SHAKESPEARE'S Macbeth uttered the timeless sentiment "If it were done when 'tis done, then 'twere well it were done quickly." But in 1989 those words still ring true, whether you're contemplating some vengeful act—or your annual income-tax return.

Most of the dozen time-saving tax-preparation programs reviewed here are geared toward the do-it-yourself taxpayer, but some of these products also offer quick data entry or batch-processing options that make them suitable for professional preparers. (We used "year-old" versions; 1989 updates should be available now.)

Like other types of productivity software, tax programs vary in performance, hardware requirements, and price. See the accompanying **Table** for a detailed program comparison and a checklist of the IRS forms and schedules each supports.

About half the products we looked at are spreadsheet templates requiring a separate program (**AppleWorks** or **Multiplan**) to run. Templates use the same commands as the "host" software; because they're files and not programs in their own right, templates are usually inexpensive, too.

With an AppleWorks template, for example, type in tax data where appropriate, press Open apple-K a few times, and watch calculated values fill in automatically. Formula-containing cells are tamper-proof, so you needn't fear deleting critical mathematics. Printing a tax form is as easy as using the Block command to highlight the area, then pressing Open apple-P to print it.

While tax-preparation software in general performs automatic, speedy calculations according to the regulations spelled out in the Tax Reform Act of 1986, few programs provide tax advice, though at least two software publishers package respected tax handbooks with their programs.

Some products offer planning features, as well—built in or available at extra cost—for performing tax projections during the year. The home-accounting program **Managing Your Money** offers a tax-planning module, but doesn't complete or print actual returns. In addition, some tax packages import information from AppleWorks spreadsheets or home-finance programs *if*

# IT'S CLOSING IN



they're configured properly to smooth the transfer of data.

Tax programs print your individual federal income-tax return (few programs offer state modules) and usually provide several options for completing this task. Ordinarily, the IRS requires you to submit an original Form 1040, not a computer-generated facsimile. Most programs

can fill in the blanks on an original Form 1040 or print data on blank paper. Overlay this printout with a Form 1040 transparency and make a photocopy. An alternative for professional preparers is the tractor-fed Form 1040 business stationers sell. Most tax-preparation programs print nonsignature forms and schedules in IRS-acceptable style on green-bar or lined paper of minimum 18-pound weight.

If you don't own a printer, consider using a tax program to perform calculations even though you'll have to transfer data manually from the computer screen to the appropriate IRS form.

Here's a brief look at the dozen "something for everyone" tax-preparation programs available this season.

## 1040WORKS

If you already know your way around AppleWorks spreadsheets, save time and money with templates such as **1040Works** or **1040Works X**. (For a preview of an AppleWorks spreadsheet template that assists in completion of Canadian personal income-tax returns, see the accompanying sidebar, "Tax Analysis Canadian-Style.")

Developed by Phineas R. Fiske, a certified financial planner, **1040Works** (128K required) and **1040Works X** (256K required) help you prepare nearly 20 of the most commonly required federal tax forms

and schedules and generate printouts of nonsignature forms in IRS-acceptable format.

According to Fiske, about half his customers opt for **1040Works X** with its main, integrated, 78K spreadsheet module containing Forms 1040, 2441, and 6251, as well as Schedules A, B, D, E, and SE. The ►

|                           | EZ Tax-<br>Prep 1040 | KFS/Tax                          | Swiftax                 | Tax<br>Command<br>Professional | Taxmaster      | Tax-<br>master.Pro | Tax<br>Preparer |
|---------------------------|----------------------|----------------------------------|-------------------------|--------------------------------|----------------|--------------------|-----------------|
| Price                     | \$95                 | \$24.95 5 1/4"<br>\$27.95 3 1/2" | \$89.95                 | \$49.95                        | \$50           | \$75               | \$250           |
| Discount annual<br>update | 40%                  | \$10                             | 50%                     | 50%                            | 50%            | 50%                | \$75            |
| Copy protection?          | N                    | N                                | N                       | N                              | N              | N                  | N               |
| Media in package          | 5 1/4"               | 5 1/4" or 3 1/2"                 | 5 1/4"<br>(3 1/2" swap) | 5 1/4"                         | 5 1/4"         | 5 1/4"             | 5 1/4" & 3 1/2" |
| Minimum hardware          | 128K                 | 128K                             | 128K                    | 64K                            | 128K           | 128K               | 64K             |
| Operating system          | DOS 3.3              | ProDOS                           | ProDOS                  | ProDOS                         | ProDOS         | ProDOS             | ProDOS          |
| Software required         | Multiplan            | AppleWorks                       | —                       | —                              | AppleWorks     | AppleWorks         | —               |
| Prints client letter?     | Y                    | N                                | N                       | N                              | N              | N                  | Y               |
| Batch printing?           | Y                    | N                                | N                       | N                              | N              | N                  | Y               |
| Tax guide included?       | N                    | N                                | Y                       | N                              | N              | N                  | N               |
| Multiyear planning?       | N (extra cost)       | Y (2 years)                      | N                       | N                              | N (extra cost) | N (extra cost)     | Y (beyond 1990) |
| Total # forms             | 27                   | 19                               | 17                      | 15                             | 19             | 19                 | 24              |
| Form 1040?                | Y                    | Y                                | Y                       | Y                              | Y              | Y                  | Y               |
| Form 1040A?               | N                    | N                                | Y                       | N                              | N              | N                  | N               |
| Form 1040EZ?              | N                    | N                                | Y                       | N                              | N              | N                  | N               |
| Form 1040ES?              | Y                    | N                                | N                       | Y                              | N              | N                  | Y               |
| Schedule A?               | Y                    | Y                                | Y                       | Y                              | Y              | Y                  | Y               |
| Schedule B?               | Y                    | Y                                | Y                       | Y                              | Y              | Y                  | Y               |
| Schedule C?               | Y                    | Y                                | Y                       | Y                              | Y              | Y                  | Y               |
| Schedule D?               | Y                    | Y                                | Y                       | Y                              | Y              | Y                  | Y               |
| Schedule E?               | Y                    | Y                                | Y                       | Y                              | Y              | Y                  | Y               |
| Schedule F?               | Y                    | N                                | Y                       | Y                              | N              | N                  | Y               |
| Schedule R?               | Y                    | N                                | Y                       | Y                              | Y              | Y                  | Y               |
| Schedule SE?              | Y                    | Y                                | Y                       | Y                              | Y              | Y                  | Y               |
| Form W-4?                 | N                    | N                                | N                       | N                              | Y              | Y                  | N               |
| Form 2106?                | Y                    | Y                                | Y                       | Y                              | Y              | Y                  | Y               |
| Form 2119?                | Y                    | Y                                | N                       | Y                              | Y              | Y                  | Y               |
| Form 2210?                | Y                    | N                                | N                       | N                              | N              | N                  | Y               |
| Form 2441?                | Y                    | Y                                | Y                       | Y                              | Y              | Y                  | Y               |
| Form 3468?                | N                    | N                                | N                       | N                              | N              | N                  | Y               |
| Form 3800?                | Y                    | N                                | N                       | N                              | N              | N                  | Y               |
| Form 3903?                | Y                    | Y                                | Y                       | Y                              | Y              | Y                  | Y               |
| Form 4562?                | Y                    | Y                                | Y                       | N                              | Y              | Y                  | Y               |
| Form 4684?                | Y                    | N                                | N                       | N                              | N              | N                  | N               |
| Form 4797?                | Y                    | N                                | N                       | N                              | N              | N                  | Y               |
| Form 4868?                | N                    | N                                | N                       | N                              | N              | N                  | N               |
| Form 4952?                | Y                    | N                                | N                       | N                              | N              | N                  | N               |
| Form 4972?                | Y                    | Y                                | N                       | N                              | N              | N                  | N               |
| Form 5329?                | N                    | Y                                | N                       | N                              | N              | N                  | N               |
| Form 6251?                | Y                    | Y                                | Y                       | N                              | Y              | Y                  | Y               |
| Form 6252?                | Y                    | N                                | N                       | N                              | N              | N                  | Y               |
| Form 8582?                | Y                    | Y                                | N                       | N                              | Y              | Y                  | Y               |
| Form 8598?                | Y                    | Y                                | N                       | N                              | Y              | Y                  | Y               |
| Form 8606?                | N                    | Y                                | N                       | N                              | Y              | Y                  | N               |
| Form 8615?                | Y                    | Y                                | Y                       | Y                              | Y              | Y                  | Y               |
| Form 8801?                | Y                    | N                                | N                       | N                              | N              | N                  | N               |
| Form 8283?                | N                    | N                                | N                       | N                              | N              | N                  | N               |





# KEY

- Form 1040** = individual income-tax return
- Form 1040A** = simplified individual income-tax return
- Form 1040EZ** = shortest individual return, no deductions
- Form 1040ES** = estimated tax
- Schedule A** = itemized deductions
- Schedule B** = interest and dividend income
- Schedule C** = profit/loss from business or profession
- Schedule D** = capital gains/losses
- Schedule E** = supplemental income
- Schedule F** = farm income and expenses
- Schedule R** = credit for elderly and disabled
- Schedule SE** = Social Security self-employment tax
- Form W-4** = withholding tax
- Form 2106** = employee business expense
- Form 2119** = sale/exchange of principal residence
- Form 2210** = underpayment of estimated tax
- Form 2441** = credit for child and dependent care
- Form 3468** = investment credit
- Form 3800** = general business credit
- Form 3903** = moving expenses
- Form 4562** = depreciation and amortization
- Form 4684** = casualties and thefts
- Form 4797** = gains/losses from sales/exchanges
- Form 4868** = application for automatic extension of time to file
- Form 4952** = investment interest expense
- Form 4972** = tax on lump-sum distribution
- Form 5329** = Individual Retirement Account and retirement-plan taxes
- Form 6251** = alternate minimum tax
- Form 6252** = installment-sale income
- Form 8582** = passive-activity loss limit
- Form 8598** = deductible home-mortgage interest
- Form 8606** = nondeductible IRA contributions
- Form 8615** = tax for children under 14
- Form 8801** = minimum tax credit
- Form 8283** = noncash contributions

*Table. Feature-comparison chart for 12 Apple II tax-return-preparation programs. Y = yes; N = no; K = kilobytes; MB = megabytes; N/A = information not available.*

| Tax Spreadsheet | TaxView Federal GS                   | 1040Works                    | 1040Works X                         | Tax Advantage                                |
|-----------------|--------------------------------------|------------------------------|-------------------------------------|--|
| \$19.95         | \$119                                | \$24.95                      | \$27.95                             | \$59.95                                      |
| \$10            | N/A                                  | 15%                          | 15%                                 | "substantial"                                |
| N               | N                                    | N                            | N                                   | N  |
| 5 1/4"          | 3 1/2"                               | 5 1/4" or 3 1/2" (\$3 extra) | 5 1/4" or 3 1/2" (\$3 extra) ProDOS | 5 1/4" DOS 3.3, 5 1/4" ProDOS, 3 1/2" ProDOS |
| 48K             | 768K & two 3 1/2" drives, or 1.25 MB | 128K                         | 256K                                | 48K  |
| DOS 3.3         | ProDOS 16                            | ProDOS                       | ProDOS                              | DOS 3.3 or ProDOS                            |
| —               | —                                    | AppleWorks                   | AppleWorks                          | —  |
| N               | N                                    | N                            | N                                   | N  |
| N               | N                                    | N                            | N                                   | N  |
| N               | Y (2)                                | N                            | N                                   | N  |
| N               | Y (5 years, extra cost)              | N                            | N                                   | N  |
| 11              | 29                                   | 18                           | 18                                  | 12   |
| Y               | Y                                    | Y                            | Y                                   | Y  |
| Y               | Y                                    | N                            | N                                   | N  |
| N               | Y                                    | N                            | N                                   | N  |
| N               | Y                                    | N                            | N                                   | N  |
| Y               | Y                                    | Y                            | Y                                   | Y  |
| Y               | Y                                    | Y                            | Y                                   | Y  |
| Y               | Y                                    | Y                            | Y                                   | Y  |
| Y               | Y                                    | Y                            | Y                                   | Y  |
| Y               | Y                                    | Y                            | Y                                   | Y  |
| Y               | Y                                    | Y                            | Y                                   | Y  |
| N               | Y                                    | Y                            | Y                                   | N  |
| Y               | Y                                    | Y                            | Y                                   | Y  |
| N               | N                                    | N                            | N                                   | N  |
| Y               | Y                                    | Y                            | Y                                   | Y  |
| N               | Y                                    | N                            | N                                   | N  |
| Y               | Y                                    | Y                            | Y                                   | Y  |
| N               | N                                    | N                            | N                                   | N  |
| N               | Y                                    | N                            | N                                   | N  |
| Y               | Y                                    | Y                            | Y                                   | Y  |
| N               | N                                    | N                            | N                                   | N  |
| N               | N                                    | N                            | N                                   | N  |
| N               | Y                                    | N                            | N                                   | N  |
| N               | Y                                    | Y                            | Y                                   | Y  |
| N               | Y                                    | N                            | N                                   | N  |
| N               | Y                                    | N                            | N                                   | N  |
| N               | Y                                    | N                            | N                                   | N  |
| N               | N                                    | N                            | N                                   | N  |
| N               | N                                    | N                            | N                                   | N  |
| N               | N                                    | N                            | N                                   | N  |
| N               | Y                                    | Y                            | Y                                   | Y  |
| N               | Y                                    | N                            | N                                   | N  |
| N               | Y                                    | Y                            | Y                                   | N  |
| N               | Y                                    | Y                            | Y                                   | N  |
| N               | Y                                    | Y                            | Y                                   | N  |
| N               | Y                                    | Y                            | Y                                   | N  |
| N               | N                                    | N                            | N                                   | N  |
| N               | Y                                    | N                            | N                                   | N  |



*Some tax products are templates — files that use the same commands as their 'host' software.*

the schedules and forms most taxpayers require and fits easily on an unexpanded AppleWorks desktop running on any 128K Apple II.

Separate templates, Business.Tax and Suppl.Income, handle business-related forms (Schedules C and SE and Form 4562) and rental real-estate-related forms (Schedule E and Forms 8582 and 4562), respectively. Less frequently used forms are included as individual templates.

KFS/Tax comes with two Planner spreadsheets for forecasting taxes for the current year and one year hence. You also receive enough green-bar paper to prepare your return and a utility for generating lined paper. One significant feature that's hard to beat is Kronk's "satisfaction guaranteed" refund policy.

#### TAXMASTER

Oriented vertically instead of horizontally, **Taxmaster** and **Taxmaster.Pro** templates work more or less like those previously described, but they don't yet match the standard of quality set by 1040Works, 1040Works X, or KFS/Tax.

Taxmaster's computer-generated forms and schedules print in elite type size and don't resemble IRS-approved forms closely enough. At press time, product developer Douglas M. Smith of Island Computer Services indicated that the company was correcting this deficiency and improving the program's loosely written documentation.

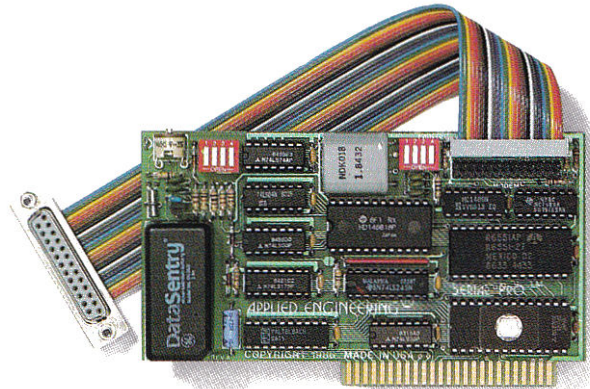
These criticisms aside, Taxmaster and Taxmaster.Pro aren't without merit. Taxmaster.Pro offers one particularly nice feature: separate templates for clients with differing tax needs. One template, for the "average" taxpayer, contains Form 1040 and Schedules A and B; another, for a self-employed individual, groups the 1040 with Schedules A, B, C, and SE. Yet at \$50 and \$75, respectively, Taxmaster and Taxmaster.Pro seem overpriced and underfeatured compared to the competition. ▶

**ers and notes tell you where to enter data.**

**Like the U.S. tax-preparation programs described in the accompanying article, Tax Analysis automatically handles the calculations that determine your tax liability and can be ideal for making tax projections during the year. It prints working facsimiles you use as references when transferring data to the actual government forms you submit.**

**Available in 5¼-inch format, Tax Analysis runs on the Laser 128 as well as the Apple IIc, enhanced IIe, or IIgs. It's priced at \$27.50. According to Granite Software, any version of AppleWorks will do. □ —C.F.**

## Serial Pro® The intelligent multifunction card from Applied Engineering.



**Serial Pro** is a powerful multifunction card for the Apple IIe, II+, IIgs and compatible computers. Serial Pro combines a powerful serial port for interfacing to a printer, modem or other serial device, with a full function clock/calendar. Serial Pro's serial port is compatible with virtually all letter quality and dot matrix printers, including Apple's Imagewriter and Imagewriter II, and can communicate with the fastest external modems at baud rates from 50 to 19,200.

Set up is easy, because unlike other cards, there are no switches to program serial parameters or disks to use. Serial Pro has a built-in setup screen that allows all parameters to be set. And on-screen help that makes it super-easy. An on-board battery stores your selections for over 20 years, but you can change them at any time. Serial Pro is the perfect upgrade for Super Serial card owners looking for more performance or a built-in clock.

**Serial Port Features**

- Fully Super Serial Card compatible but more versatile and easier to use
- Compatible with printers
- Compatible with modems
- Prints graphics to printer (without software) in normal mode, 90° rotation, double size, side by side, and black/white inversion
- Variable word length, number of stop bits and parity selection
- Crystal controlled circuits are used to provide ultra accurate baud rates.

**Clock Calendar Features**

- ProDos, DOS and AppleWorks compatible. Displays time and date on the AppleWorks screen
- Automatically time and date stamps AppleWorks files
- 20 year auto recharging nickel-cadmium battery
- Realtime interrupts
- Built-in on screen time and date settings (no software needed)
- Does not use phantom slots.

Serial Pro is perfect for Apple IIe, II+, IIgs or compatible owners in need of a serial port or clock/calendar or both. But unlike other multifunction cards on the market, Serial Pro does not use phantom slots, so all the slots in your computer are useable.



Serial Pro comes complete with manual and instructions for interfacing to all the leading printers and modems.

Serial Pro ..... **\$139**

**Order Today!** See your dealer or call Applied Engineering, 9 a.m. to 11 p.m. 7 days. Or send check or money order to Applied Engineering. MasterCard, VISA and C.O.D. welcome. Texas residents add 7% sales tax. Add \$10.00 outside U.S.A.

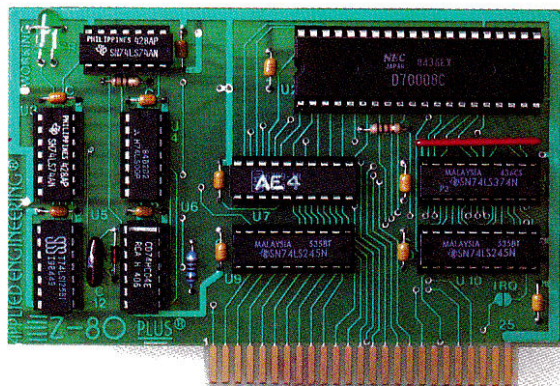
**AE APPLIED ENGINEERING™**  
A Division of AE Research Corporation.

*The Apple enhancement experts*

(214) 241-6060

P.O. Box 5100, Carrollton, TX 75011

# With the Z-80 Plus, run over 5000 new CP/M® programs.



*Now, get two computers  
in one, and all the  
advantages of both.*

Enter the CP/M world with the new Z-80 Plus card from Applied Engineering, and introduce your Apple IIe, IIgs or II+ to thousands of CP/M programs. Only the Z-80 Plus comes standard with the new 5.1 software, the most advanced system ever for running CP/M programs.

The new 5.1 boasts advanced features like built-in disk emulation for popular memory expansion boards, boosting both system speed and storage capacity. And menu-driven utilities that let you get to work faster. The Z-80 Plus also lets you run older CP/M programs—all the way down to Version 1.6 (2.2 is the most popular).

The Z-80 Plus is the only card on the market capable of accessing more than 64K. If you have an extended 80-column card, all 128K is usable. And if you have RamWorks, RamFactor, gsRam, gsRam Plus, or an Apple memory card in your IIe, IIgs or II+, up to 1088K is available.

Each Z-80 Plus comes with our CP/M Ram Drive software, enabling most memory cards to work as a high-speed Ram disk so CP/M software can run up to *twenty times faster*. So packages like WordStar, dBASE II, Turbo Pascal and most others run at blinding speed.

Simply plug the Z-80 Plus into any slot in your Apple. You'll get the benefits of two computers in one—all at an unbelievably low price (only \$149!).

- Fully compatible with ALL CP/M software
- Fully compatible with 5¼" and 3½" disk drives as well as most hard disks including the Sider
- Fully compatible with Microsoft disks (no pre-boot required)
- Specifically designed for high speed operation
- Runs WordStar, dBASE II, Turbo Pascal, and ALL other CP/M software with *no pre-boot*
- Semi-custom I.C. and low parts count allows Z-80 Plus to fly through CP/M programs with extremely low power consumption (we use the Z-80B)
- Does EVERYTHING other Z-80 boards do, *plus* Z-80 interrupts
- Five-year warranty

To get your Z-80 Plus or for more information see your dealer, or call 214-241-6060 9 a.m. to 11 p.m. seven days, or send check or money order to Applied Engineering. MasterCard, VISA and C.O.D. welcome. Texas residents add 7% sales tax. Add \$10.00 outside U.S.A.

**AE APPLIED ENGINEERING™**  
*The Apple enhancement experts.*

P.O. Box 5100, Carrollton, TX 75011 (214) 241-6060

CPM is a registered trademark of Digital Research.



Most programs are geared toward the do-it-yourself taxpayer,

## EZTAX-PREP 1040

The most powerful of the tax template packages, **EZTax-Prep 1040**, is weakened by its dependence on the now-discontinued spreadsheet program Multiplan. If you own Multiplan, however, take a close look at this product, especially if you're a professional tax preparer. (According to EZWare Corporation, about 58 percent of its customers are.)

EZTax-Prep 1040 completes nearly 30 forms and schedules and includes professional tax-service features such as batch processing, a client letter, and a tax-organizer data form. Audit Alert, a function unique to EZTax-Prep, compares itemized deductions on a given return to those taken by an average taxpayer with the same adjusted gross income, as reported by the IRS.

## PRODUCT INFORMATION

**AppleWorks 2.0**, \$249

**AppleWorks GS**, \$299

Clarix Corp.  
440 Clyde Ave.  
Mountain View, CA 94043  
(415) 960-1500

Reader Service No. 321

**AutoWorks**, \$49.95

**MacroWorks**, \$17.50

**Super MacroWorks**,

\$49.95  
Beagle Bros  
6215 Ferris Square  
San Diego, CA 92121  
(619) 452-5500

Reader Service No. 322

**Dollars and Sense**

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

\$119.95

Reader Service No. 323

**EZTax-Prep 1040**, \$95

EZWare Corp.  
29 Bala Avenue  
Bala Cynwyd, PA 19004  
(215) 667-4064

Reader Service No. 324

**The Home Accountant**

Arrays Inc.  
6611 Valjean Ave.  
Van Nuys, CA 91406  
(818) 994-1899

\$99.95

Reader Service No. 325

**KeyPlayer**

Pinpoint Publishing  
5865 Doyle Street  
Emeryville, CA 94608  
(415) 654-3050

\$49.95

Reader Service No. 326

**KFS/Tax**

Kronk Financial Services  
7172 Muirfield Lane  
Eden Prairie, MN 55346  
(612) 937-0389

\$24.95 plus \$2, 5¼"

\$27.95 plus \$2, 3½"

Reader Service No. 327

**Managing Your Money**

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

\$219

Reader Service No. 328

**On Balance**

Broderbund Software  
17 Paul Drive  
San Rafael, CA 94903  
(415) 492-3200

\$59.95

**Quicken**

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

\$49.95

Reader Service No. 329

*but some also offer batch-processing options for professional preparers. Some include tax handbooks."*

#### TAX PREPARER

A powerhouse program, **Tax Preparer** from HowardSoft features an incomparable level of automation. With some two dozen built-in forms, the program performs up to 300 automatic transfers of data, negating the need for duplicating entries manually. The latest restyled version of the program exploits memory beyond the minimum 64K required and processes calculations at the speedy machine-language level.

Accommodating various working styles, Tax Preparer offers a Road Map entry path for beginners. Branch off sequentially to appropriate forms and schedules from the on-screen facsimile of the 1040. An alternative mode lets you select any schedule or form at will.

A special utility translates data from a previous year into a format

#### Swiftax

Timeworks  
444 Lake Cook Road  
Deerfield, IL 60015  
(312) 948-9200  
\$69.95  
Reader Service No. 330

#### The Tax Advantage

\$59.95  
**California Tax Advantage**, \$39.95 plus \$2.60 CA sales tax and \$2.50 shipping  
Double Eagle Software  
2340 Plaza Del Amo  
Torrance, CA 90501  
(213) 212-6611  
Reader Service No. 331

#### Tax Command Professional

Practical Programs  
P.O. Box 93104  
Milwaukee, WI 53203  
(414) 272-7227  
\$49.95  
Reader Service No. 332

#### Taxmaster, \$50

**Taxmaster.Pro**, \$75  
**Taxmaster Planner**, \$50  
Island Computer Services  
3501 East Yacht Drive  
Long Beach, NC 28465  
(919) 278-9483  
Reader Service No. 333

#### Tax Preparer \$250 California Supplement, \$95

HowardSoft  
1224 Prospect St.  
Suite 150  
La Jolla, CA 92037  
(619) 454-0121  
Reader Service No. 334

#### Tax Spreadsheet for the Apple II

Steven Karasek  
855 Diversey Drive  
St. Louis, MO 63126  
(314) 961-2052  
\$19.95 plus \$2 shipping  
Reader Service No. 335

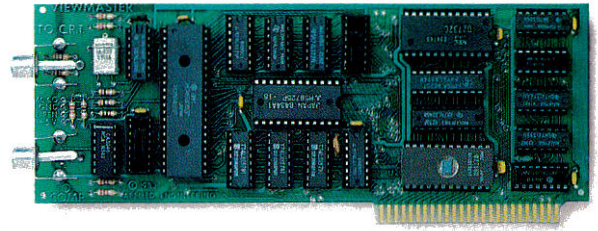
#### TaxView Federal Iics, \$119

**State Supplements** (CA or NY), \$65  
**TaxView Planner**, \$119  
SoftView Inc.  
4820 Adohr Lane  
Suite F  
Camarillo, CA 93010  
(800) 622-8829  
(805) 388-2626  
Reader Service No. 336

**1040Works**, \$24.95, \$27.95 3½-inch disk  
**1040Works X**, \$27.95, \$30.95 3½-inch disk  
Personal Financial Services  
P.O. Box 1401  
Melville, NY 11747  
(516) 261-8652  
Reader Service No. 337

FOR THE II+

## There used to be a dozen 80 column cards . . . only the best survived



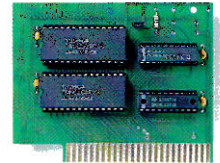
#### Viewmaster 80™

There's a good reason why Viewmaster 80™ has left the competition in the dust . . . total compatibility. From our free AppleWorks enhancement software to our famous warranty and complete technical support, Viewmaster 80 stands head and shoulders above any other 80 column card.

The powerful software we include allows your II+ to run AppleWorks with as little as 64K (or more) of memory. (We recommend the RamFactor memory card, but any compatible Apple memory card will work). AppleWorks runs with expanded records and word processor lines, and added features like multi-disk savings, time and date display with any ProDOS clock and many, many more.

#### 16K Pocket Rocket™

Also for II+ owners, our Pocket Rocket expands your internal memory 16K to 64K and allows your II or II+ to run ProDOS. It's fully compatible with Applesoft, CP/M and Pascal and the low chip count reduces power requirements.



#### Lowercase ROM Chip™

Add lowercase capability to your II or II+ with AE's Lowercase ROM Chip. Fully supported by AppleWriter and other word processing programs, the chip makes communicating easier. Also supported by AE's On Line 64 communications software, included with our DataLink™ modem.

**Viewmaster 80** . . . . . \$159  
**16K Pocket Rocket** . . . . . \$89  
**Lowercase ROM Chip** . . . . . \$24

Applied Engineering also makes a complete line of II and II+ compatible memory cards, accelerator cards and other peripherals.

#### Order today!

To order or for more information, see your dealer or call (214) 241-6060 today, 9 am to 11 pm, 7 days. Or send check or money order to Applied Engineering. MasterCard, VISA and C.O.D. welcome. Texas residents add 7% sales tax. Add \$10 outside U.S.A.

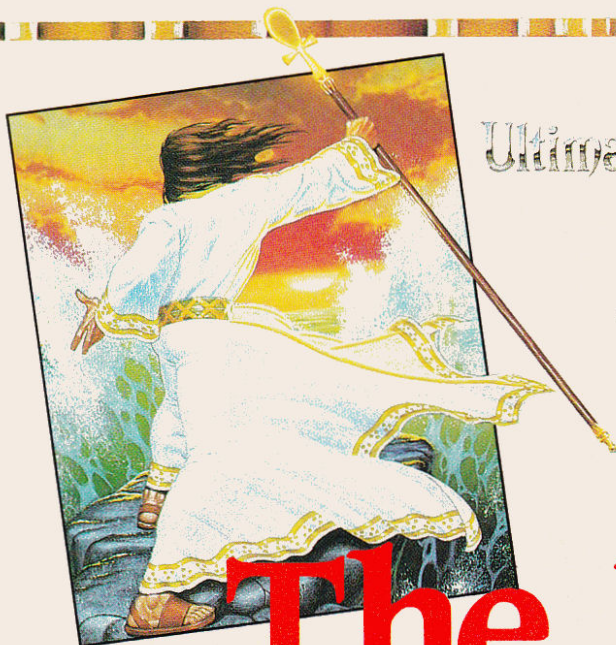
**AE APPLIED ENGINEERING™**  
*The Apple enhancement experts*

A Division of AE Research Corporation.

**(214) 241-6060**

P.O. Box 5100, Carrollton, TX 75011

*Prices subject to change without notice.*



Ultima IV



1. Experience innovative combat and exotic magic!
2. Enter into the extraordinary world of Britannia . . .
3. Unprecedented realism crafted in exquisite detail!



# The Epic Unfolds

In *Ultima IV* and *Ultima V*, Lord British weaves the spellbinding tale of the Avatar – a quest for spiritual enlightenment and a test of virtue gone awry. It's one incredible story in two captivating games! And while each stands alone, together they deliver unparalleled intensity and incomparable depth.

The Avatar's epic tale expands the world of Britannia. While it still contains demons and devils, puzzles and pitfalls, and magic and myths, the heroes now face difficult moral decisions . . . and true character is revealed.

**Ultima IV** – Become an Avatar and inspire the people to reject the evil burning in their hearts.

**Ultima V** – The Avatar returns to a land of corrupted virtue – where the penalties are worse than the crimes!

*" . . . once you play one, you'll want to play them all."* (COMPUTE!)



**ORIGIN™**  
136-B Harvey Road, Londonderry, NH 03053

Ultima V

Available for: IBM-PC/Tandy/compatibles, Apple II series, Commodore 64/128, Amiga, Atari ST.  
Not available at your local retailer? Call 1-800-999-4939 (8am to 5pm EST) for VISA/MC orders; or mail check/money order (U.S. \$) to Origin. All versions \$59.95. Allow 1-2 weeks for delivery.



*nce you've found a tax-preparation program that suits your style, you won't greet each New Year as the beginning of some sort of communal death row."*

consistent with the current year's version. Consequences of the Tax Reform Act of 1986 are built in past 1990, letting individuals or professionals create instant "what if" scenarios with their own or their clients' tax situations.

Two high-volume methods of data entry are also available. A professional or a clerical employee can enter information for as many as 15 clients at a sitting and print the tax returns in a single batch, complete with client letter and billing statement—all unattended. Clearly not designed for the average individual, Tax Preparer works best for investors with complex tax lives and for professional preparers with high-volume businesses.

#### TAX SPREADSHEET

**Tax Spreadsheet for the Apple II**, the least expensive program reviewed here, is also the least capable. Type in an unanticipated entry and you're likely to get the unexplained message "\*\*\*File Error 6." Taxpayer information entered at the outset can't be edited later without losing data. Here's an example of the manual's somewhat less-than-comprehensible style: "If you have a multiple-sheet printer which will do a form feed when ascii [sic] code 12 is sent to it, answer Y."

The program overly "condenses" IRS instructions. You'll need to cross-reference screen lines with actual government forms to answer even simple questions such as "Filing Status (1-5)?"

With Tax Spreadsheet's unsatisfactory error handling, "techie" documentation, and operational quirks, you may be better off doing your taxes the old-fashioned way—with a pencil, calculator, and a bottle of Excedrin.

#### TAX COMMAND PROFESSIONAL

Better still, take a look at **Tax Command Professional**, a menu-driven program that requires only 64K and performs calculations for more than a dozen forms and schedules, including two Schedule Cs and SEs for self-employed spouses or single taxpayers who run two businesses. For all taxpayers, the program determines automatically whether taking the standard deduction or itemizing on Schedule A is more favorable. Other automated features include reduction of medical expenses by 7.5 percent of adjusted gross income on Schedule A and disallowing more than \$3000 for a capital loss on Schedule D.

Tax Command Professional has a handy, four-function "calculator" built in. The program prints data directly on official IRS forms, but ▶



## Everyday People on CompuServe

### Do Your Homework.

CompuServe can put a whole world of information right at your fingertips. Through your computer you can reference libraries of science, medicine, law, literature and dozens of other areas through the touch of a computer key.

Access timely information from your home or office without a trip to the library. Search professional journals, consumer

magazines, specialized newsletters, newspapers and published research papers that you just can't find anywhere else. And you can search or "clip" exactly the information you need.

Make CompuServe your personal research center. To join CompuServe call 800 848-8199 or see your computer dealer. You'll find it's a real education.

*"I'm in a drug information program in school, and have gotten a lot of information on CompuServe. I start with the online encyclopedia for specific information, and branch out from there."*

— *Jaime Lewis, High School Student*  
— *Steve Lewis, Computer Consultant*



"Order Line"  
1-800-356-9566  
1-513-299-2325

Mon-Fri 9 a.m.-7 p.m. E.S.T. • Sat 9 a.m.-3 p.m. E.S.T.

We've made  
your "Software  
Shopping" Easy!

| HOMEWARE                             |            | SCHOOLWARE                           |            | GAMEWARE                            |            |
|--------------------------------------|------------|--------------------------------------|------------|-------------------------------------|------------|
| Title                                | Your Price | Title                                | Your Price | Title                               | Your Price |
| 1. Lotto Program (Softbite)          | \$19       | 1. Math Blaster Plus (Davidson)      | \$30       | 1. Kings Quest 3 (Sierra)           | \$32       |
| 2. Copy 2 Plus (Central Point)       | 24         | 2. Where in the World (Broderbund)   | 25         | 2. Superstar Ice Hockey (Mindscap)  | 24         |
| 3. Print Shop GS (Broderbund)        | 39         | 3. Reader Rabbit GS (Learning Co.)   | 39         | 3. Ultima V (Origin)                | 39         |
| 4. Quicken (Intuit)                  | 34         | 4. Mavis Beacon GS (EA)              | 31         | 4. Test Drive (Accolade)            | 24         |
| 5. Music Construction Set. GS (EA)   | 33         | 5. Typing Tutor V (Simon & Schuster) | 32         | 5. F-15 (Microprose)                | 26         |
| 6. Managing Your Money (Meca)        | 95         | 6. Think Quick (Learning Co.)        | 32         | 6. Chuck Yeager Flight Trainer (EA) | 27         |
| 7. Bank St. Writer + (Broderbund)    | 47         | 7. Alge Blaster (Davidson)           | 32         | 7. Pirates (The Learning Co.)       | 25         |
| 8. Writer Rabbit GS (Learning Co.)   | 32         | 8. Where in the USA (Broderbund)     | 28         | 8. Wheel of Fortune                 | 11         |
| 9. P.S. Companion (Broderbund)       | 24         | 9. Word Attack + (Davidson)          | 30         | 9. Jeopardy                         | 10         |
| 10. Music Studio 2.0 GS (Mediagenic) | 65         | 10. Designasaurus (Designware)       | 25         | 10. Gauntlet                        | 26         |

**PLUS: This Hit Parade of Software Values**

| ACCESS                 | ALTURAS               | BOX OFFICE (All 128K) | DATA EAST              | Music Const. Set GS   | 34   | INFOCOM            | De Ja Vu GS        | 32 | SIMON & SCHUSTER    | TIMEWORKS               |      |
|------------------------|-----------------------|-----------------------|------------------------|-----------------------|------|--------------------|--------------------|----|---------------------|-------------------------|------|
| Echelon                | Maxx Control Yoke     | \$100,000 Pyramid     | Commando 128K          | One-on-One            | 11   | Beyond Zork 128K   | Quantel 128K       | 26 | Chem Lab            | Publish It! Version 2   | \$79 |
| Famous Course          | Disk #1 for WCLB      | All's First Adventure | Island Warriors 128K   | Paganus               | 23   | Borderzone 128K    | Gauntlet GS        | 28 | Typing Tutor 4      | Publish It! Clip Art    | 25   |
| Famous Course          | Disk #2 for WCLB      | California Rain       | Kid Nite               | Pinball Game          | 24   | Hitchhiker's Guide | Indoor Sports 128K | 19 | SM TECH             | Design Ideas            | 25   |
| World Class            | Grammar               | Psycho                | Karate Champ           | Scrabble              | 26   | Infocomics         | Into the Eagle's   | 23 | Deep Space          | Font Pack 1             | 25   |
| Leader Board           | Grades 3 & 4          | Animals               | Kung Fu Master         | Scraples              | 26   | Gamma Force        | Nest 128K          | 9  | Wizardry Series     | People Places           | 25   |
| ACCOLADE               | Grades 5 & 6          | Bank St. Writer       | Platoon                | Skate or Die GS       | 26   | Lane Mastodon      | Paperboy GS        | 25 | Perfect Score SAT   | & Things                | 25   |
| Alphabet Ghost GS      | Grades 7 & 8          | Plus 128K             | Tag Team Wrestling     | Sinks or Dies         | 23   | Zork Quest         | Paradise           | 25 | Knights of Diamonds | Symbols & Stigmas       | 25   |
| Graphic Studio GS      | US Geography          | Carmen San Diego      | DAVIDSON               | Wastland              | 23   | Leather Goddesses  | Shadowgryps        | 32 | Legacy of Lyngamir  | 4 in 1 Pack             | 82   |
| Flight Night           | US History            | Europa 128K           | AlgebraMaster          | World War Golf GS     | 26   | Sherlock 128K      | Supa Star          | 24 | Proving Ground      | UNICORN                 | 25   |
| Horridon GS            | US Government         | USA                   | Math & Me 128K         | Word Attack Plus 128K | 29   | Shogun             | Super Star         | 24 | SPECTRUM HOLOBYTE   | Aesop's Fables GS       | \$29 |
| Killed Until Dead      | Vocabulary            | USA 2                 | Read 'n Roll 128K      | Word Attack Plus 128K | 29   | Zork 1             | Supa Star          | 24 | Dendra              | All About America GS    | \$9  |
| Mean 18 Golf GS        | World Geography       | USA 3                 | Reading & Me 128K      | DESIGNWARE            | 24   | Zork Trilogy       | Supa Star          | 24 | Intrigue            | Magical Myths GS        | \$9  |
| Famous Course          | World History         | USA 4                 | Dazzle Draw 128K       | Designasaurus 128K    | \$24 | Zork Zero          | Supa Star          | 24 | Seko Ban            | Math Wizard GS          | \$2  |
| #2 for Mean 18 GS      | ARTWORK               | USA 5                 | Fantastion GS          | Designasaurus GS      | 25   | Call               | Supa Star          | 24 | Moobies             | Red & Rhythm GS         | \$2  |
| Famous Course          | Bridge 5.0            | USA 6                 | Karabala               | Jigsaw GS             | 25   | Call               | Supa Star          | 24 | Uke 1 or 3          | Tales Arabian Nights GS | \$29 |
| #3&4 for Mean 18 GS    | Data Disk #1 (Female) | USA 7                 | On Balance 128K        | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | UNION WORLD             | 25   |
| Mini Puff GS           | Data Disk #2 (Male)   | USA 8                 | Print Shop (Enhanced)  | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| Pinball Wizard GS      | Data Disk #3 (Female) | USA 9                 | Print Shop Companion   | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| Test Drive 128K        | Strip Poker           | USA 10                | Print Shop GS          | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| ACTION SOFT            | Strip Poker 2 GS      | USA 11                | Strip Poker            | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| Thunder Chopper        | AVANTAGE              | USA 12                | Thunder Chopper        | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| ACTIVISION             | Project Space Station | USA 13                | ACTIVISION             | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| Aliens 128K            | Project Space Station | USA 14                | Black Jack Academy GS  | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| Black Jack Academy GS  | Project Space Station | USA 15                | Crossbow 128K          | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| Crossbow 128K          | Project Space Station | USA 16                | Draw Plus GS           | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| Draw Plus GS           | Project Space Station | USA 17                | Ghostbusters           | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| Ghostbusters           | Project Space Station | USA 18                | Great American Cross   | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| Great American Cross   | Project Space Station | USA 19                | Country Road Race      | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| Country Road Race      | Project Space Station | USA 20                | Hacker 1 or 2          | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| Hacker 1 or 2          | Project Space Station | USA 21                | Last Ninja GS          | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| Last Ninja GS          | Project Space Station | USA 22                | Little Computer People | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| Little Computer People | Project Space Station | USA 23                | List Manager Plus GS   | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| List Manager Plus GS   | Project Space Station | USA 24                | Mission Manager 128K   | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| Mission Manager 128K   | Project Space Station | USA 25                | Night and Magic        | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| Night and Magic        | Project Space Station | USA 26                | Music Studio 2.0 GS    | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| Music Studio 2.0 GS    | Project Space Station | USA 27                | Paint, Write, Draw GS  | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| Paint, Write, Draw GS  | Project Space Station | USA 28                | Paintworks Gold GS     | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| Paintworks Gold GS     | Project Space Station | USA 29                | Paintworks Clip Art    | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| Paintworks Clip Art    | Project Space Station | USA 30                | Patrol GS              | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| Patrol GS              | Project Space Station | USA 31                | Rampage 128K           | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| Rampage 128K           | Project Space Station | USA 32                | Shanghai               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| Shanghai               | Project Space Station | USA 33                | Shanghai GS            | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| Shanghai GS            | Project Space Station | USA 34                | Writer's Choice Elite  | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| Writer's Choice Elite  | Project Space Station | USA 35                | BAIRDVILLE             | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| BAIRDVILLE             | Project Space Station | USA 36                | 816 Paint GS           | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| 816 Paint GS           | Project Space Station | USA 37                | Award Maker Plus       | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| Award Maker Plus       | Project Space Station | USA 38                | Blazing Paddles        | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| Blazing Paddles        | Project Space Station | USA 39                | Dream Zone GS          | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| Dream Zone GS          | Project Space Station | USA 40                | Rainy Day Games        | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| Rainy Day Games        | Project Space Station | USA 41                | Shi Craze              | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| Shi Craze              | Project Space Station | USA 42                | Video Vegas            | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| Video Vegas            | Project Space Station | USA 43                | BERKELEY SOFTWARE      | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| BERKELEY SOFTWARE      | Project Space Station | USA 44                | Geopublish             | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| Geopublish             | Project Space Station | USA 45                | DEFENDER OF THE        | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| DEFENDER OF THE        | Project Space Station | USA 46                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 47                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 48                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 49                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 50                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 51                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 52                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 53                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 54                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 55                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 56                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 57                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 58                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 59                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 60                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 61                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 62                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 63                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 64                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 65                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 66                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 67                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 68                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 69                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 70                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 71                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 72                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 73                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 74                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 75                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 76                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 77                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 78                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 79                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 80                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2.3. ss.  | \$11 |
| CLARENCE               | Project Space Station | USA 81                | CLARENCE               | Party Edition GS      | 23   | Call               | Supa Star          | 24 | Ultima 4 or 5       | Art Gallery 1.2         |      |





ou may even be able to coax Uncle Sam into underwriting the cost of this addition to your software library. Maybe revenge can be sweet."

you'll have to enter noncomputed information manually. Despite this minor inconvenience, Tax Command Professional's \$49.95 price tag makes it one of the least expensive stand-alone programs for Apple IIs with less than 128K.

#### THE TAX ADVANTAGE

Another easy-to-use menu-driven program, **The Tax Advantage**, comes with a self-running demonstration on disk to give you a feel for the program's operations.

Select from crystal-clear menu options and, when working on individual forms and schedules, use the command keys listed at the bottom of the screen: E to enter a value, I to itemize any line, H to access the program's on-line help. About the only awkward feature is the program's lack of support for the arrow keys; use the D (down) or U (up) keys instead.

The Tax Advantage prints directly on an original Form 1040 and underlines every other line on nonsignature forms to comply with IRS regulations. The program doesn't prepare completed forms, however. It prints a "greater than" sign in the margin of each form or schedule to remind you about information you need to fill in manually.

Designed for do-it-yourselfers, The Tax Advantage is nevertheless

suitable for small-scale tax professionals, even someone with a 48K, DOS 3.3-driven Apple II or II Plus. Not that The Tax Advantage hasn't kept up with the times: ProDOS versions in both 5¼-inch and 3½-inch format are also available. The Tax Advantage offers an added bonus for home users—it imports data from **The Home Accountant**.

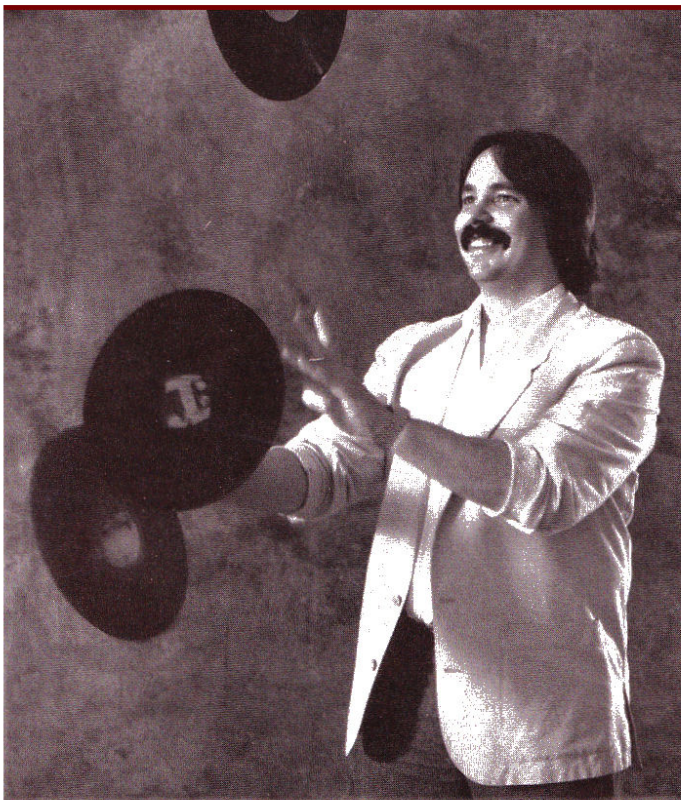
#### SWIFTAX

Those who eschew both spreadsheets *and* menu-driven interfaces might prefer **Swiftax** with its nonstandard pull-down menus: Press the right- or left-arrow key and the menu automatically pulls down; use the up- and down-arrow keys and Return to make selections. Swiftax doesn't support the mouse, though. Speedup keys, including Open apple-Up arrow and Control-S combinations (for moving to the top of a form and saving data, respectively) make Swiftax swifter.

Unfortunately, the two double-sided floppies packaged in the retail version demand a fair amount of disk swapping on one-drive systems. Users with higher-capacity drives can swap the 5¼-inch disk for a 3½-

At press time Swiftax '89 was slated for a number of improvements, including screen facsimiles that mirror actual IRS forms more closely. The *Price-Waterhouse Personal Tax Advisor*, an easy-reader tax guidebook, is included free. ▶

## Everyday People on CompuServe



### Have Fun.

If you're a kid at heart, join others just like yourself playing games on CompuServe. You'll find fun and challenging competition online all hours of the day or night, in everything from space games to trivia contests.

Exercise your memory in the colorful trivia match, "You Guessed it!" Sharpen your empire-building skills in the popular MegaWars space

*"The idea of playing a space war game against real people immediately appealed to my competitive instincts. In MegaWars, when you go one-on-one combat with a player . . . there is only one ship left when the dust settles."*

— Douglas Banker, Rock and Roll  
Business Manager

series. Use your intellect in role-playing games and explore the ever-changing Islands of Kesmai. Or participate in electronic Play-by-Mail adventures. You may even wish to gather up treasures playing British Legends. Call 800 848-8199 or see your computer dealer to join. You'll find CompuServe is really the only game in town.

Available  
AND Shipping!



Suggested Retail Price, \$189.00

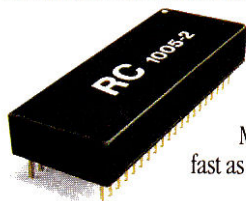
# Kick your Apple II into hyperdrive.

*RocketChip launches your computer's capabilities into the outer reaches of the Apple II universe.*

A revolutionary new accelerator-on-a-chip, RocketChip allows your Apple® II, II+, IIe or IIc to run at speeds only imagined before — up to 5 MHz!

Simply by replacing the 6502 or 65C02 microprocessor, Apple II users achieve nearly five times faster system operation for less cost than any speed-up board.

Boost your system to speeds competitive with state-of-the-art technology; competitive with IBM® XT/AT™ faster than Trans-Warp™ 1.5 times the speed of a Mac+™ and twice as fast as the IIGS™



## Compatibility

Got AppleWorks™? Spreadsheet calculations FLY. Got GEOS™? Mac-like graphics appear in a FLASH. Got Personal Newsletter™? Launch into desktop publishing FAST. Speed up all types of Apple software without costly hardware upgrades. RocketChip supports most peripheral hardware, works with any standard hard disk, and supports standard Apple operating systems.

## Got an Apple IIc?

Feeling left out of the race? Bring your Apple IIc into the space age, with the ONLY accelerator technology that requires no slot.

## RocketChip Features

- ▶ Accelerates ALL memory
- ▶ Low power CMOS technology
- ▶ Keystroke engage/disengage
- ▶ No distortion of program sound effects
- ▶ Variable speeds from 50 kHz up to 5 MHz
- ▶ Easy installation
- ▶ User programmability

Your computer is an intelligent tool. Why settle for slow intelligence when RocketChip can speed you into the forefront of computer performance?

## **BITS & PIECES** TECHNOLOGY, INC.

31332 Via Colinas, Suite 110, Westlake Village, CA 91362

### **GANTRY ENTERPRISES, Distributors**

P.O. Box 2622, San Rafael, CA 94912 (415) 472-0922

Circle 46 on Reader Service Card.

RocketChip is a trademark of Bits & Pieces Technology. Other brand and product names are registered trademarks of their respective holders.

"



*f there's such a thing as love at first sight in the world of tax software, TaxView Federal IIGS will steal a GS owner's heart."*

#### TAXVIEW FEDERAL IIGS

If there's such a thing as love at first sight in the world of tax software, **TaxView Federal IIGS** will steal a GS owner's heart.

With its pull-down menus, windows, dialog boxes, and mouse support, TaxView Federal is also startlingly WYSIWYG (what you see is what you get): Forms and schedules that appear on screen are identical to their IRS counterparts. And TaxView is the only program we know of that prints IRS-acceptable signature forms, including the 1040, 1040A, and 1040EZ. The program is powerful with a capital *P*, handling some 29 forms and schedules. To fill in a form, just click on a data area and type.

Unfortunately, all this elegance comes at a heart-breaking price—TaxView Federal IIGS takes more than six minutes to load, and that's lightning fast compared to its printing speed.

To generate a completed Form 1040EZ (the one that probably takes no more than a few minutes to fill out with a hand-held calculator and ballpoint pen) in IRS-acceptable, graphics mode monopolizes an ImageWriter II for more than 11 minutes. (Printing just the data on an original IRS form takes less than three minutes.) According to program documentation, it "may take several hours to print a complete, moderately complex tax return." TaxView could be the excuse you've

been waiting for to invest in a print spooler.

Despite its lethargy, TaxView is attractive and deserves consideration by GS users who are willing to sacrifice speed for the pleasure of working in the graphics environment.

#### READ MY DISKS

Once you've found a tax-preparation program that suits your style, you won't greet each New Year as the beginning of some sort of communal Death Row sponsored by the IRS. Depending on your final tally of miscellaneous Schedule A deductions and your adjusted gross income, you may even be able to coax Uncle Sam into underwriting the cost of this newest addition to your Apple II software library. Maybe revenge *can* be sweet. ■

*Cynthia E. Field, Ph.D., is a free-lance journalist specializing in computer-related topics. She is a contributing editor and the author of Press Room, in Cider's bimonthly column on desktop publishing, and Field Trip, our column on educational software. Write to her at 60 Border Drive, Wakefield, RI 02879. Enclose a stamped, self-addressed envelope if you'd like a personal reply.*



## Everyday People on CompuServe

### Join a Group.

If you like to make friends and meet people, the quickest way to do it is through one of CompuServe's Special Interest Forums. Dedicated to a variety of professions, hobbies and particular interests.

Check the message boards to catch up on the latest news. Talk with other members in forum conferences. And scan forum libraries for inter-

esting information. CompuServe has members across the country and around the world. Thousands of people just like you, all interested in swapping ideas, solving problems, sharing information and making new friends. To join, call 800 848-8199 or see your computer dealer. But do it soon, because there's an awful lot of people waiting to meet you.

*"To me, Forums are the life-blood of CompuServe. Because CompuServe is people, interacting with other people. It's not just the taking side, it's being able to give that is one of the great things about CompuServe."*

— Guruka Singh Kalsa, Physics Engineer

# Come to AppleFest.®



Come to experiment.  
Come to listen. Come to  
marvel. Try out a new  
program. Take home a  
bargain. Learn from a  
child. There are so many  
reasons to attend Apple-

Fest '89 in Boston's World Trade Center that  
you shouldn't come for just one of them.

Come for the whole bunch.

**A gigantic exhibit area.** Bigger and more  
exciting than ever, the expo at AppleFest '89  
will feature thousands of products from more  
than 200 companies in the Apple II® and  
Macintosh® markets.

**The best conference for Apple II and  
Macintosh owners.** More than 75 sessions in

all. The AppleFest conference program deliv-  
ers information you can use: tips from desk-  
top publishers, secrets of top AppleWorks®  
users, how to connect school and home com-  
puting, how to make the most of HyperCard®,  
desktop graphics, on-line services, and much,  
much more.

**Three great reasons to register now.**

Save money. Avoid the lines. And guarantee  
your place in the limited-seating AppleFest  
Half-Day Seminars.

**APPLEFEST '89.** May 5-7 at the World  
Trade Center in Boston. Send us the coupon  
or call 1-800-262-FEST today. (In Mass., call  
617-860-7100.)

Apple, the Apple logo, Apple II, Macintosh, HyperCard and AppleFest are trademarks of Apple  
Computer, Inc. AppleFest is an independent trade show, not affiliated with Apple Computer, Inc.

## Save on Advance Discount Prices

Mail Now or Call 1-800-262-FEST

(617-860-7100 in MA)

|                             | REG             | DISC | QTY |
|-----------------------------|-----------------|------|-----|
| 3-Day Conference & Exhibits | <del>\$75</del> | \$50 | ___ |
| 3-Day Exhibits Only         | <del>\$15</del> | \$10 | ___ |

|  |                 |      |     |
|--|-----------------|------|-----|
| <b>Family Package</b> (up to four individuals) |                 |      |     |
| 3-Day Exhibits Only                            | <del>\$60</del> | \$30 | ___ |
| Please indicate number of people _____         |                 |      |     |

### AppleFest Half-Day Intensive Seminars

(Includes 3-day conference and exhibits. AM=8:00-12:00; PM=1:00-5:00)

|   |       |      |     |
|---|-------|------|-----|
| I. AppleWorks for Beginners (AM)  | \$135 | \$99 | ___ |
| II. AppleWorks—Beyond the Basics (PM)                                   | \$135 | \$99 | ___ |
| III. Desktop Publishing on the Apple II:<br>Tools and Applications (AM) | \$135 | \$99 | ___ |
| IV. Graphics on the Apple IIGS (PM)                                     | \$135 | \$99 | ___ |
| V. Programming on the Apple IIGS (AM)                                   | \$135 | \$99 | ___ |
| VI. Telecommunications on the Apple II (PM)                             | \$135 | \$99 | ___ |
| VII. AppleWorks GS: Using All the Power (AM)                            | \$135 | \$99 | ___ |
| VIII. AppleWorks: Great Classroom Applications (PM)                     | \$135 | \$99 | ___ |
| IX. An Introduction to HyperCard (AM)                                   | \$135 | \$99 | ___ |
| X. Desktop Publishing with Macintosh (PM)                               | \$135 | \$99 | ___ |

Please circle desired date of seminar:

Thur., May 4      Fri., May 5      Sat., May 6

Please circle level of experience:

Beginner      Intermediate      Advanced

Additional seminars are \$75 each.     Seminar No.: \_\_\_\_\_ Date: \_\_\_\_\_

Name \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Day Phone \_\_\_\_\_

### Hotel Reservations

|                                | Single | Double | # of Rooms |
|--------------------------------|--------|--------|------------|
| Sheraton (617-236-6000)        | \$132  | \$148  | ___        |
| Back Bay Hilton (617-236-1100) | \$110  | \$130  | ___        |

Arrival Date: \_\_\_\_\_ Departure Date: \_\_\_\_\_

Hotel reservations must be guaranteed by one night's deposit.

Please use the credit card I have indicated below.

I have enclosed a check payable to the hotel.

### Payment (payment must accompany all orders)

Total Amount Due: \_\_\_\_\_

Check     Credit Card (circle one)    MC    Visa    Amex

(Checks should be made payable to Cambridge Marketing, Inc. Check for hotel reservation should be made payable to the hotel of your choice)

Credit Card # \_\_\_\_\_ Exp. Date: \_\_\_\_\_

Cardholder's Name \_\_\_\_\_

Authorized Signature \_\_\_\_\_

Amex Billing Address \_\_\_\_\_

Mail this form to Cambridge Marketing, Inc., One Forbes Road, Lexington, MA 02173.  
Orders received after April 21 will be held at Will Call.

MAY 5-7, 1989

# AppleFest'89 Boston

PB

**21% SAVINGS**  
off cover price

**21% SAVINGS**

# inCider

**A one year subscription (12 monthly issues) at the low rate of \$27.97! Save over 21% off the newsstand rate.**

Apple is a registered trademark of Apple Computer, Inc.

**YES! I want a one year subscription (12 issues) for only \$27.97.**

- Send me 12 issues of **inCider** for \$27.97. I save 21% off the cover price.
- 24 issues for \$43.00. Save over 39% off the cover price.

Payment enclosed  Bill me  
Please make checks payable to inCider.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

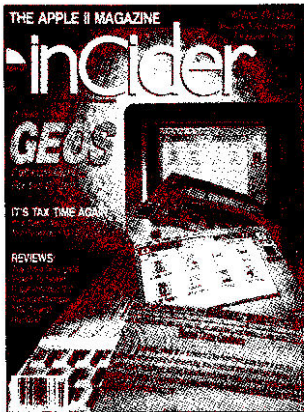
Canada \$34.97, Mexico \$32.97, Foreign Surface \$47.97, Foreign Airmail \$82.97 (U.S. Funds drawn on U.S. Bank). All rates are 1 year only. Please allow 6-8 weeks for delivery.

4ICA2

**inCider — The Apple II Magazine — the best in software and hardware reviews, entertainment, education and answers to your most pressing questions.**

**21% SAVINGS**

# inCider



**YES! I want a one year subscription (12 issues) for only \$27.97.**

- Send me 12 issues of **inCider** for \$27.97. I save 21% off the cover price.
- 24 issues for \$43.00. Save over 39% off the cover price.

Payment enclosed  Bill me  
Please make checks payable to inCider.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Canada \$34.97, Mexico \$32.97, Foreign Surface \$47.97, Foreign Airmail \$82.97 (U.S. Funds drawn on U.S. Bank). All rates are 1 year only. Please allow 6-8 weeks for delivery.

4ICA2

## UNCONDITIONAL GUARANTEE

If **inCider** doesn't prove to be everything we say it is, just tell us. We'll refund your money for all undelivered issues — no questions.

**21% SAVINGS**

# inCider

**Add to your computing skills with monthly features like:**

- Off-the-shelf solutions to your computing needs.
- Reader interaction for more user-friendly information.
- An ongoing course on Applesoft Basic language.
- Special articles to increase your personal productivity.
- Ready to run program listings.

**YES! I want a one year subscription (12 issues) for only \$27.97.**

- Send me 12 issues of **inCider** for \$27.97. I save 21% off the cover price.
- 24 issues for \$43.00. Save over 39% off the cover price.

Payment enclosed  Bill me  
Please make checks payable to inCider.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Canada \$34.97, Mexico \$32.97, Foreign Surface \$47.97, Foreign Airmail \$82.97 (U.S. Funds drawn on U.S. Bank). All rates are 1 year only. Please allow 6-8 weeks for delivery.

4ICA2

|||||

---

**BUSINESS REPLY MAIL**

---

First Class Permit No. 1247, Boulder, CO

POSTAGE WILL BE PAID BY ADDRESSEE

IDG Communications/Peterborough  
inCider  
P.O. Box 50358  
Boulder, CO 80321-0358

NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES

=====



|||||

---

**BUSINESS REPLY MAIL**

---

First Class Permit No. 1247, Boulder, CO

POSTAGE WILL BE PAID BY ADDRESSEE

IDG Communications/Peterborough  
inCider  
P.O. Box 50358  
Boulder, CO 80321-0358

NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES

=====



|||||

---

**BUSINESS REPLY MAIL**

---

First Class Permit No. 1247, Boulder, CO

POSTAGE WILL BE PAID BY ADDRESSEE

IDG Communications/Peterborough  
inCider  
P.O. Box 50358  
Boulder, CO 80321-0358

NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES

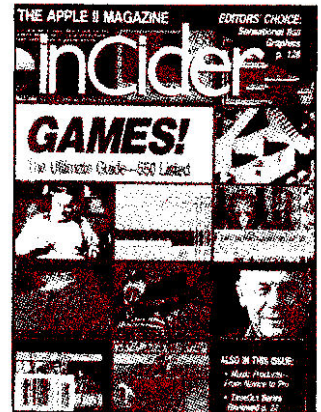
=====



**21%  
SAVINGS**  
off cover price

**A one year subscrip-  
tion (12 monthly is-  
sues) at the low rate  
of \$27.97! Save over  
21% off the news-  
stand rate.**

**inCider — The Apple II Magazine —**  
the best in software and hardware  
reviews, entertainment, education  
and answers to your most pressing  
questions.



**UNCONDITIONAL  
GUARANTEE**

If **inCider** doesn't prove to be  
everything we say it is, just tell us.  
We'll refund your money for all unde-  
livered issues — no questions.

**Add to your computing skills  
with monthly features like:**

- Off-the-shelf solutions to your computing needs.
- Reader interaction for more user-friendly information.
- An ongoing course on Applesoft Basic language.
- Special articles to increase your personal productivity.
- Ready to run program listings.

# Go Bananas.



# Spreadsheet Billing System

Turn to *AppleWorks'* spreadsheet for tailor-made customer statements.

by Ruth K. Witkin

**C**harges and payments determine the success of any business. If you run a small business and don't need a full-blown accounts-receivable program, look closely at this month's spreadsheet, which lets you send timely statements to customers and maintain internal records of accounts.

A small landscaping business called Nature's Garden uses the customer statement shown in **Figure 1**. Because the company does lawn and garden maintenance only, this spreadsheet's designed to handle services performed. With only slight modification, you can make it work equally well for products sold (as you can see in **Figure 2**).

Nature's Garden operates in three counties with three different sales-tax rates. The easy approach is to assign a number to each county, create a lookup table (shown in rows 45 through 47) containing the numbers and corresponding sales-tax rates, then use a lookup formula to select the proper rate. You'll learn more about this operation below, in the explanation of the spreadsheet's formulas.

## A SPREADSHEET FROM SCRATCH

Use the AppleWorks Startup and Program disks to make a new file for the spreadsheet. Name this file **STATEMENT**. You should now see the spreadsheet Review/Add/Change screen with the cursor in A1. Now use the following summary to start the spreadsheet.

**Long lines.** Enter a double line across row 16 in columns A through F: Place the cursor on A16 and type quotation marks; hold down the equal-sign key until the sign reaches the right edge of F16, and hit Return. Leave the cursor on A16, and copy the row to the clipboard: Press OA-C to start the Copy command; type T to select *To clipboard*, and press Return.

Next, copy the row containing the line from the clipboard into rows 18 and 30: Place the cursor on A18; press OA-C and type F to select *From clipboard*; now place the cursor on A30; again, press OA-C and type F.

**Column width.** Each column is now nine characters wide. Use the Layout command (OA-L), *Columns* option, and *Col-*

*umn width* option to adjust column widths as follows: Reduce columns A and B to five characters each; increase column C to 13 characters and column D to 21 characters; increase columns E and F to 11 characters each.

In the statement, column B provides a narrow column for the area numbers in the lookup table (rows 45 through 47). ▶

```

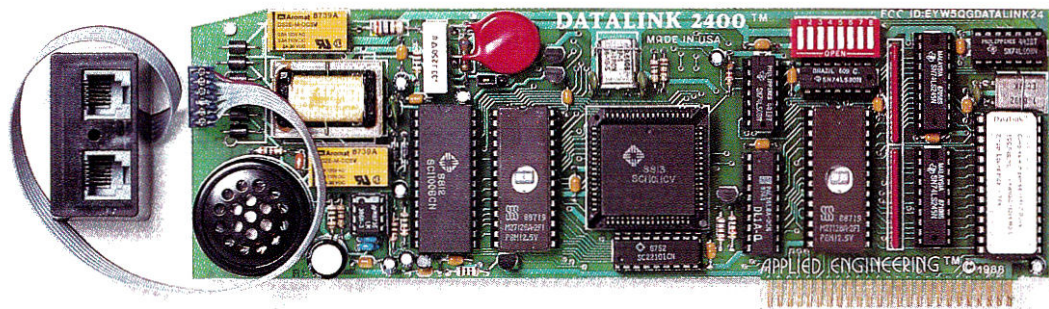
=====A=====B=====C=====D=====E=====F=====G=====
1|                                     NATURE'S GARDEN
2|                                     178 ELMWOOD STREET
3|                                     ABNER, NEW YORK 17787
4|                                     (515) 555-0321
5|
6|
7| JUNE 6, 1989                                     STATEMENT #       776
8|
9|
10| STATEMENT TO:                                     **** JUNE SPECIAL ****
11|
12| ROBERT WETHERILL                                     THREE PLANTINGS OF
13| 110 COUNTRY LANE                                     IMPATIENS, ANY COLOR,
14| ABNER, NEW YORK 11723                               ONLY $32. CALL TODAY!
15|
16|=====
17| REF #   DATE   SERVICE   PAYMENTS   CHARGES
18|=====
19| 1       1       BALANCE FORWARD-----> $42.48
20| A0170   APR 5, 89   CLEAN UP                                     $110.00
21| A0212   MAY 6       LAWN MAINTENANCE                             $21.50
22| A0251   MAY 13      LAWN MAINTENANCE                             $21.50
23| A0304   MAY 13      TREE SPRAYING                                $14.00
24|        MAY 19      PAYMENT                                     $32.48
25| A0337   MAY 21      LAWN MAINTENANCE                             $21.50
26| A0359   MAY 25      GRUB CONTROL                                 $19.00
27|
28|
29|
30|=====
31|                                     SUBTOTAL                                     $217.50 1
32|                                     SALES TAX 2 8.25%                             $17.12 3
33|
34|                                     AMOUNT DUE                                     $234.62 4
35|
36|
37|
38| THANK YOU.
39|
40| ** DO NOT PRINT **
41|
42| SALES TAX TABLE
43| AREA     RATE
44|-----
45| 1         8.25%
46| 2         7.50%
47| 3         6.75%
48|

```

Figure 1. AppleWorks spreadsheet designed as statement of services to customers.



# The new DataLink™ 2400 modem from Applied Engineering, it's a lot more than just twice as fast.

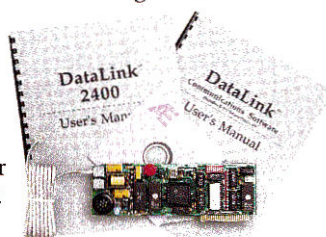


Applied Engineering's new DataLink™ 2400. Simply put, the finest modem on the market for your Apple IIs, IIfx or II+.

Bring home a world of information . . . from up to the minute flight information to whole libraries of resource materials. Even download free software and games.

## Twice the speed.

At transmission speeds up to 2400 bps (bits-per-second), Applied Engineering's new DataLink 2400 is capable of putting text on the screen faster than the human eye can follow. That means you can capture a great deal more material in less time than with 1200 bps modems. And *unlike other modems*, the DataLink 2400 comes complete with powerful, easy-to-use communications software.



## Complete communications software included.

Both our new DataLink 2400 and our DataLink 1200 modems feature AE's exclusive communications software—on disk and in ROM—everything needed to get you immediately up and running. Our powerful DataTerm software for the IIs and IIfx supports VT-52 screen emulation, macros, file transfers, on-line time display, recording buffer and more. It even stores hundreds of phone numbers for auto-dialing and log on. And for II+ and 64K IIfx owners, our OnLine 64 software has many of the same powerful features.

## Worldwide compatibility.

The DataLink 2400 is fully compatible with Bell 103 and 212 protocols, as well as European protocol CCITT V.22 BIS, V.22 and V.21. It operates at varying transmission speeds from 0-300, 1200 and 2400 bps.

The new 2400, like our best-selling DataLink™ 1200, carries a full five year warranty and comes complete with two modular phone jacks for data and voice calls, a thoughtful feature that means fewer wires to connect. We also include an extra long telephone cable, in case your computer is across the room from your telephone jack. You can track the progress of calls either electronically or via on-board speaker. And built-in diagnostics reliably check transmission accuracy.

Prices subject to change without notice. Brands and product names are registered trademarks of their respective holders.

## Packed with important features:

- Non-volatile memory for modem configuration
- Full Hayes AT compatibility
- Point-to-Point, ASCII Express, Access II compatibility, in addition to AE's included DataTerm and OnLine 64 software.
- Super Serial Card "Front End" for highest software compatibility (unlike others)
- Adaptive equalization and descrambling
- Hardware configuration for DSR and DCD
- PC Transporter (MS-DOS) compatibility
- FCC certified design

## \$204.90 in freebies.

We also throw in a nice collection of goodies—a free subscription to the GENie network worth \$29.95, \$60 of free on-line time from NewsNet, a free \$50 subscription to the Official Airline Guide and a fee-waived membership to The Source worth \$49.95 plus \$15 of free on-line time.

That's \$204.90 worth of free memberships, discounts and

on-line time when you purchase the powerful DataLink 2400 at **\$239.**

## DataLink 1200 reduced.

Loaded with all the features of the new 2400, (except CCITT, DSR/DCD and non-volatile ROM configurations) our 1200 bps DataLink modem, complete with software and freebies, is an affordable alternative at only **\$179.**



**DataLink 1200..... \$179**

**DataLink 2400..... \$239**

## Order today!

To order or for more information, see your dealer or call (214) 241-6060 today, 9 am to 11 pm, 7 days. Or send check or money order to Applied Engineering. MasterCard, VISA and C.O.D. welcome. Texas residents add 7% sales tax. Add \$10 outside U.S.A.

**AE APPLIED ENGINEERING™**  
The Apple enhancement experts.

(214) 241-6060

P.O. Box 5100, Carrollton, TX 75011

# THE GREATEST FEELING IN THE WORLD...



**You. Your child. Lapware™**

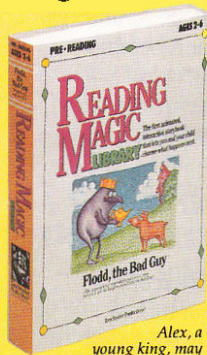
Reading aloud with young children is an essential step in their early education, and

now the Lapware™ programs in Reading Magic Library™ bring a new dimension to this valued family tradition.

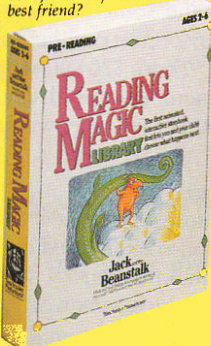
These delightfully told and beautifully animated stories allow you and your child to step into the hero's shoes, deciding what will happen next. Learning to read has never been so exciting!

**The greatest way to introduce your child to computers...**

**Together.**



What will Jack find on his voyage to the top of the cloud? Will Jack ever find his best friend?



Alex, a young king, may have found a magic lamp, but can it save his kingdom from Flodd the Bad Guy?

## READING MAGIC LIBRARY

Pre-Reading Software for ages 2-6  
Available for the IBM/Tandy and Apple

**Tom Snyder Productions™**

90 Sherman St., Cambridge, MA 02140  
Call 1-800-342-0236. In MA 617-876-4433.

Circle 50 on Reader Service Card.

In the invoice (Figure 2), it serves as a buffer between the right-justified numbers in column A and the left-justified labels in column C.

**Short lines.** Enter the short line in row 34: Place the cursor on F34 and type quotation marks; press the spacebar twice, type eight minus signs, and move the cursor to B44; type quotes, then 18 minus signs (to bring the sign to the right edge of C44), and hit Return.

**Labels and other information.** Referring to Figure 1, enter labels, letterhead information, statement date, customer information, promotional blurb, reference numbers, dates, services, payments, charges, and lookup table—in other

words, everything but the numbers in E33, F32, F33, and F35, which the formulas generate. Cell A19 holds the area number: 1 means our hypothetical Mr. Wetherill lives in an area where the sales tax is 8.25 percent.

Before you start, read these few notes about cell locations and other matters to guide you along the way:

- 1) In D2 and A13, type quotation marks first to tell AppleWorks the street address is a label, even though it starts with a number.
- 2) In D4 type quotation marks first to tell AppleWorks the phone number is a label, even though it starts with a parenthesis.
- 3) In E10 type quotation marks before

| A   | B                     | C       | D                     | E                       | F        | G |
|-----|-----------------------|---------|-----------------------|-------------------------|----------|---|
| 11  |                       |         | GARDEN SUPPLY COMPANY |                         |          |   |
| 21  |                       |         | 178 ELMWOOD STREET    |                         |          |   |
| 31  |                       |         | ABNER, NEW YORK 17787 |                         |          |   |
| 41  |                       |         | (515) 555-0321        |                         |          |   |
| 51  |                       |         |                       |                         |          |   |
| 61  |                       |         |                       |                         |          |   |
| 71  | JUNE 6, 1989          |         |                       | INVOICE #               | 776      |   |
| 81  |                       |         |                       | YOUR P.O. #             | 1234     |   |
| 91  |                       |         |                       |                         |          |   |
| 101 | BILLING ADDRESS:      |         |                       | SHIPPING ADDRESS:       |          |   |
| 111 |                       |         |                       |                         |          |   |
| 121 | WETHERILL HARDWARE    |         |                       | WETHERILL HARDWARE      |          |   |
| 131 | 110 COUNTRY LANE      |         |                       | 258 IMPATIENS DRIVE     |          |   |
| 141 | ABNER, NEW YORK 11723 |         |                       | REDFORD, NEW YORK 11806 |          |   |
| 151 |                       |         |                       |                         |          |   |
| 161 |                       |         |                       |                         |          |   |
| 171 | QTY                   | STOCK # | DESCRIPTION           | UNIT PRICE              | TOTAL    |   |
| 181 |                       |         |                       |                         |          |   |
| 191 | 1                     |         | BALANCE FORWARD       |                         | \$42.48  |   |
| 201 | 12                    | A0170   | OML-ON-GUARD          | \$4.20                  | \$50.40  |   |
| 211 | 3                     | A0212   | SEED/BLUE GRASS       | \$27.50                 | \$82.50  |   |
| 221 | 24                    | A0251   | LEAF PLASTIC BAGS     | \$2.75                  | \$66.00  |   |
| 231 | 6                     | A0304   | BIRD BATH/FEEDER      | \$32.75                 | \$196.50 |   |
| 241 | 1                     | B1409   | FLEXA-LADDER          | \$89.80                 | \$89.80  |   |
| 251 | 12                    | A0337   | POOL LINER/PRINT      | \$17.50                 | \$210.00 |   |
| 261 | 6                     | A0359   | SPRINKLER/OSCILLATING | \$12.75                 | \$76.50  |   |
| 271 |                       |         |                       |                         |          |   |
| 281 |                       |         |                       |                         |          |   |
| 291 |                       |         |                       |                         |          |   |
| 301 |                       |         |                       |                         |          |   |
| 311 |                       |         |                       |                         |          |   |
| 321 |                       |         | SUBTOTAL              |                         | \$814.18 |   |
| 331 |                       |         | SALES TAX             | 8.25%                   | \$63.67  |   |
| 341 |                       |         | FREIGHT               |                         | \$2.66   |   |
| 351 |                       |         |                       |                         |          |   |
| 361 |                       |         | AMOUNT DUE            |                         | \$877.85 |   |
| 371 |                       |         |                       |                         |          |   |
| 381 |                       |         | THANK YOU.            |                         |          |   |
| 391 |                       |         |                       |                         |          |   |
| 401 |                       |         |                       |                         |          |   |
| 411 |                       |         | ** DO NOT PRINT **    |                         |          |   |
| 421 |                       |         |                       |                         |          |   |
| 431 |                       |         | SALES TAX TABLE       |                         |          |   |
| 441 | AREA                  | RATE    |                       |                         |          |   |
| 451 |                       |         |                       |                         |          |   |
| 461 | 1                     | 8.25%   |                       |                         |          |   |
| 471 | 2                     | 7.50%   |                       |                         |          |   |
| 481 | 3                     | 6.75%   |                       |                         |          |   |

Figure 2. Statement converted to invoice for products sold.

\*\*\*\* JUNE SPECIAL \*\*\*\*.

4) In D19 type **BALANCE FORWARD** followed by 16 minus signs and a greater-than sign (>). The arrow is a gentle reminder to enter the balance forward.

5) Type payments and charges without a dollar sign; when you format, AppleWorks will insert the dollar sign for you.

6) Type **SUBTOTAL** in D32, **SALES TAX** in D33, and **AMOUNT DUE** in D35. You'll be right-justifying these labels so that they look like the ones in **Figure 1**.

7) In the sales-tax table area, type **\*\* DO NOT PRINT \*\*** in B40 (type quotes first), **SALES TAX TABLE** in B42 (type quotes first and press spacebar twice), **AREA** in

B43, and **RATE** in C43. (You'll right justify it shortly.) Type the rate numbers as decimals: **.0825** in C45, **.075** in C46, and **.0675** in C47. They'll become percentages after you format their cells.

Don't bother to press Return after typing each entry. Simply move the cursor away from the cell to enter what you typed. After the last entry, hit Return.

**Formats.** Use the Value command (OA-V) to set a standard *Value format of Dollars* with two decimal places. Use the Layout command to reformat the following cells for Appropriate with zero decimals: F7, A19, and B45 through B47. Reformat the following cells for Percent with two decimal

places: E33 and C45 through C47.

Now for the labels formats: Center the letterhead in D1, D2, D3, and D4. Right justify **PAYMENTS** in E17, **CHARGES** in F17, **SUBTOTAL** in D32, **SALES TAX** in D33, **AMOUNT DUE** in D35, **AREA** in B43, and **RATE** in C43. Press OA-S to store all your work on disk.

Next, enter the formulas that perform your calculations. First, read how the formula works, then place the cursor on the cell receiving the formula. Move the cursor to the cell locations shown in the formula description and type everything else.

When the formula is complete, compare each character on your screen with the description here. If everything agrees, press Return. If something's amiss, press Escape and start again.

**FORMULA 1: SUBTOTAL**

Formula 1 adds the charges in column F, rows 19 through 29 (including the balance forward), subtracts the sum of payments in column E, rows 20 through 29, and enters the subtotal in F32. The formula includes the dashed line in row 30, which creates a solid range of cells. This lets you conveniently insert rows before row 30 if you need more room. This way, when you do insert rows AppleWorks will adjust the cell references in Formula 1 to include those rows.

Cell location: F32

Description: @SUM(F30.F19)–

@SUM(E30.E20)

**FORMULA 2: SALES-TAX RATE**

Formula 2 uses the LOOKUP function to enter the sales-tax percentage in E33. The formula first looks at the customer-tax area number in A19, then scans cells B45, B46, and B47 in the lookup table for the matching number. When it finds the proper number, the formula retrieves the tax rate from the corresponding cell in column C and enters it in E33.

Cell location: E33

Description: @LOOKUP(A19,B45.B47)

**FORMULA 3: SALES-TAX DOLLARS**

Formula 3 adds the numbers in column F, rows 20 through 29, then multiplies the result by the sales-tax percentage in

| REF # | DATE | SERVICE         | PAYMENTS | CHARGES |
|-------|------|-----------------|----------|---------|
| 1     |      | BALANCE FORWARD |          |         |
|       |      | SUBTOTAL        |          | \$0.00  |
|       |      | SALES TAX       | 8.25%    | \$0.00  |
|       |      | AMOUNT DUE      |          | \$0.00  |

| AREA | RATE  |
|------|-------|
| 1    | 8.25% |
| 2    | 7.50% |
| 3    | 6.75% |

Figure 3. Blank master statement awaiting new entries.

E33 to produce the dollar amount of the sales tax in F33. The spreadsheet calculated the sales tax on the balance in F19 in the previous month, so it excludes that amount from this calculation. Again, you're including the line in row 30 in case you insert more rows for additional charges or payments.

Cell location: F33

Description: @SUM(F30.F20)\*E33

#### FORMULA 4: AMOUNT DUE

Formula 4 adds the subtotal in F26 and sales tax in F27 to produce the amount due this month in F35.

Cell location: F35

Description: +F32+F33

Your results should now match those in **Figure 1**. Press OA-S to store the formulas on disk.

#### PROTECTING FORMULAS

After all that work, 'twould be a pity if you or someone else working on the spreadsheet changed the formulas accidentally, so protect them: Place your cursor on E32 (an empty cell) and press OA-L to start the layout command; type **B** to select *Block*; move the cursor to F35 and hit Return. Type **PN** (for *Protection Nothing*).

#### PRINTING THE STATEMENT

This statement is 66 characters wide and prints at the standard ten characters to the inch. Increasing the left margin positions it well: Press OA-O to bring up the Printer Options screen; type **LM** to select *Left Margin* and press Return; type **.7** and hit Return again. Now increase the top margin: Type **TM** and press Return; type **1** and hit Return again.

A filename is inappropriate on a statement sent to customers, so change the *Print Header* setting from Yes to No: Type **PH** and press Return. All the other print settings are fine. Press OA-S to save your settings and return the spreadsheet to the screen.

Now turn on your printer. Leave the cursor where it is and press OA-P to bring up the Print screen. Press Return to confirm *All*, and press it again to identify the printer (or type a number, then Return).

Hit Return again to confirm one copy. The printer whirs and here's your customer statement.

#### PRINTING YOUR OWN STATEMENTS

When you print statements for customers, you want to be sure to exclude the lookup table. Simply define the print area ahead of time: Place your cursor on A1; press OA-P; and type **R** to Select *Rows*. Press OA-7 to jump the cursor to row 35; press the down-arrow key three times to extend the cursor's highlight to row 38; and hit Return. Hit Return two more times, and the printer produces a tableless statement.

#### CREATING A MASTER SPREADSHEET

Now imagine you're about to prepare a new statement. You have several approaches to choose from. You can type over the old information, but that's risky because you may miss a few numbers. You can blank out the old information, but doing this repeatedly is a bother.

The best solution is to create a master spreadsheet, copy it when you have new billing or a new customer, make your entries, then print one statement for your customer and another for your records if you don't have a copy machine. When you're done, you can delete the file. For the next customer, copy the master again and follow the same procedure.

Here's how to create the master spreadsheet shown in **Figure 3**. Leave the cursor where it is and give this spreadsheet another filename: Press OA-N, and the filename appears at the bottom of the screen (be sure you're using the blinking insert cursor); type **MASTER** so that the filename becomes *MASTERSTATEMENT* and press Return.

Next, blank out the customer information in A7 through C14: Place your cursor on A7 and press OA-B to start the *Blank* command; type **B** to select *Block*; move the cursor to C14 and hit Return.

Follow the same procedure, using *Entry* for single cells and *Block* for contiguous cells, to erase these entries: statement

number in F7; balance forward in F19; and, in one large block, reference numbers in column A, dates in column C, services in column D, payment in E24, and charges in column F.

The tax code is the only remaining bit of customer information. It's a good idea to leave it—the standard value on this spreadsheet is Dollars, but the format in A19 is *Appropriate*. Blanking a cell with a nonstandard format makes the format revert to the standard value, which means you'll have to reformat each time. It's easier to overtype.

All you need to do is change the promotional message (E10 through E14) from time to time. Press OA-S to store *MASTERSTATEMENT* on disk.

#### FROM STATEMENT TO INVOICE

It's easy to transform the statement of services performed by Nature's Garden into an invoice of products sold by the Garden Supply Company, as shown in **Figure 2**. All you'll do is change some labels and create a new formula in F20 to multiply quantity by unit price. The new formula appears as +A20\*E20, which you then copy into F21 through F26, or as many more cells as you have items. A side-by-side comparison of **Figures 1** and **2** shows where you make changes.

Other ideas for customizing a statement or invoice include using the lookup table to hold sales taxes in other states, and modifying it into a table of freights or discounts. You can even merge a statement or invoice with a promotional message created on the word processor.

Next month you'll create another spreadsheet, this one calculating interest earned on any amount of money invested at any interest rate for as many years as you care to consider. A neat feature lets you see how long the money will last if you withdraw a constant amount annually—great for retirement planning. ■

*Write to Ruth Wilkin at 5 Patricia Street, Plainview, NY 11803. Enclose a stamped, self-addressed envelope if you'd like a reply.*

## Easter Parade

by Cynthia E. Field, Ph.D.

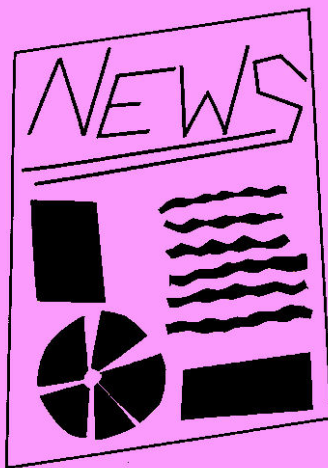
Looking for ways to enhance Easter or Passover celebrations this year? Look no further than your Apple II! Instead of depending on commercial card and party shops to supply you with invitations and decorations, try adding your own creative touch to the holidays. With a little cleverness—and perhaps a bit of cutting and pasting—there's practically no limit to the kinds of publications you can create: dinner menus, holiday placemats, personalized place cards, and decorative banners. Best of all, you can create these items with software you probably already own.

Broderbund's **Print Shop** and **Print Shop GS** let you create, among other items, cards, banners, and posters. Ditto for **Print Magic** from Epyx, a desktop-publishing program that offers strong layout capabilities and attractive graphics illustrations.

Polarware's **Electric Crayon Deluxe: Holidays & Seasons** is another banner maker, but it also generates calendars and posters. Scholastic's **SuperPrint** lets you generate holiday or special-occasion creations such as placemats and giant-sized decorative posters.

You can design stylish holiday-dinner menus with Claris' **AppleWorks** enhanced with fancy typefaces from Beagle Bros' **TimeOut SuperFonts**. Or try **II Write** or **MultiScribe GS**, two MacWrite-like word-processing programs that have attractive fonts built in.

With page-layout programs, including **GraphicWriter**, **Medley**, **AppleWorks GS**, **Personal Newsletter**, **Springboard Publisher**, and **Publish It!**, your options are even wider. Besides publishing a holiday newsletter for your senior-citizens group or religious organization, you can create party announcements, banners, place cards, or dinner invitations.



*Use Publish It! to add a personal touch to holiday affairs.*

### A RAINBOW OF COLORS

Even if your desktop-publishing program *does* support multicolor printing on the ImageWriter II, you might still opt for other, more attractive or creative choices.

Use continuous-form paper in "spring-like" pastel colors, or ask your local copy center to duplicate your creations on one of the many kinds of paper stock he or she offers.

Some copy machines, such as Canon's personal copiers, use single-color toner cartridges, which let you duplicate publications in green, brown, blue, or red.

Likewise, instead of using a black ribbon in your printer, choose another color. Single-color ribbons—brown, purple, blue, and other hues—are available for popular printers from a variety of sources, including Ribbonland and Computer Friends.

Still other options exist: Prepare your

publications in black ink or toner on white paper and splash on color with wax crayons, oil pastels, color pencils, fine-tip markers, or watercolors.

Whatever the approach, using your Apple to design holiday creations and your favorite art medium to personalize them is an enriching way to let the whole family share in holiday-planning activities.

### BE MY GUEST

Well before the banners go up and the table is set, you'll want to send invitations to your holiday dinner guests. Let's create a dinner-invitation card with **Publish It!**

Start up the program and select Size to Fit mode. You can access this program feature, like many others, with easy-to-remember, keyboard-equivalent commands. For example, **Publish It!** offers four page-viewing modes: close-up (Show Full Size), zoom (Show Double Size), half page (Show Half Size), and whole page (Size to Fit). Instead of using the mouse to select these options from the Special menu, become familiar with the equivalent commands: Open apple-1 through Open apple-4.

Once in Size to Fit mode, select the text tool and rubberband (hold down the mouse button and drag) the area taking up the bottom-right quadrant of the page as shown in **Figure 1**. Pull down the Objects menu and select Show Specifications (or press Open apple-M) to check your text object's dimensions. Use the accompanying **Table**, which lists the specifications for the dinner-invitation card, and refer to **Figures 2** and **4** to edit your object's values correspondingly.

My invitation has a front panel and an inside-right panel; you'll create two separate pages to accommodate them. Be sure the text area you just created is activated; it should have "handles" in its

DOING MY TAXES  
CAN BE FUN?

SURE,  
WITH 1040WORKS,  
THE APPLEWORKS  
TAX PROGRAM

And it can save you time, too. For a fraction of the cost of conventional tax software, **1040Works** and **1040Works-X** templates convert **AppleWorks** to a comprehensive, low-cost tax-preparation program that calculates Form 1040, computes and prints Schedules A,B,C,D,E,F,R,SE; computes depreciation, employee expenses, childcare credit, alternative minimum tax, much more. Includes manual, financial organizer, utilities, and optional time-saving custom macros (for those of you with a macro program). Accepts data from financial management software.

#### HOW DOES IT WORK?

**1040Works** and **1040Works-X** modules are data files that set up **AppleWorks'** spreadsheet as tax schedules and forms. Modules load like any other data file; no hardware or software modifications are needed. You just fill out the on-screen tax form. Both programs calculate each form, advance totals to later forms, compute your income and your tax and print out most schedules in IRS-approved format. Uses standard **AppleWorks** commands. Users tell us it's simple to set up and use, saves them hours of time — yes, it's even fun. Friendly support, too. *inCider* magazine compared it to \$250 tax software. *A+* magazine called it a bargain.

#### WHICH VERSION IS FOR ME?

It depends on your equipment. **1040Works** requires an Apple II or compatible with at least 128K RAM and any version of **AppleWorks**. A printer is recommended. If you have a IIGS or other Apple or compatible with at least 256K RAM, you can use **1040Works-X**, which takes advantage of the larger **AppleWorks** Desktop to do the job even quicker and more conveniently. (Runs with Three Easy Pieces on an Apple III computer, too.)

#### HOW DO I ORDER?

To use your VISA or MasterCard, fill out the form below and then call our toll-free order number 7:00 am-5:00 pm (PST) weekdays:

in Washington State elsewhere in U.S.  
800-527-7562 800-245-8999

To order by mail, fill out the form and send it with a personal check (or money order). COD orders cost slightly more.

1040Works (128K) @ \$24.95 \_\_\_\_\_

1040Works-X (256K-up) @ \$27.95 \_\_\_\_\_

On a 3.5 disk, add \$3.00 \_\_\_\_\_

SOFTWARE TOTAL \_\_\_\_\_

In NY add state/local tax \_\_\_\_\_

For COD shipment, add \$3.00 \_\_\_\_\_

TOTAL \$ \_\_\_\_\_

Name: \_\_\_\_\_

Street/Apt#: \_\_\_\_\_

City/State/Zip: \_\_\_\_\_

Mail to: **Personal Financial Services**  
PO Box 1401, Dept. K  
Melville, NY 11747  
Tel: 800-221-8939

## PRESS ROOM

|   | Object                 | Left Start | Top Start | Width | Height | Frame Border | Transparent |
|---|------------------------|------------|-----------|-------|--------|--------------|-------------|
| A | Page 1: Main text area | 4.25       | 5.5       | 4.25  | 5.5    | N            | N           |
| B | Utensils graphics area | 4.758      | 6.036     | 1.311 | 1.165  | Y            |             |
| C | Top-right border       | 6.126      | 5.586     | 1.961 | 1.343  | N            |             |
| D | Rectangle #1 "eraser"  | 5.815      | 5.537     | 1.5   | 1.704  |              |             |
| E | Rectangle #2 "eraser"  | 7.194      | 6.186     | 1.111 | 1.037  |              |             |
| F | Text area              | 4.552      | 7.731     | 3.501 | 2.186  | N            | N           |
| G | Bottom-left border     | 4.106      | 9.329     | 1.959 | 1.341  | N            |             |
| H | Rectangle #3 "eraser"  | 4.043      | 9.106     | 2.069 | 0.994  |              |             |
| I | Rectangle #4 "eraser"  | 4.984      | 9.926     | 1.737 | 0.830  |              |             |
| J | Page 2: Main text area | 4.25       | 5.5       | 4.25  | 5.5    | N            | N           |
| K | Page 2: Graphics area  | 5.006      | 6.927     | 4.25  | 3.365  | N            |             |
| L | Page 2: Text area      | 5.656      | 8.811     | 1.509 | 1.025  | N            | N           |

Table. Specifications for dinner-invitation card (all dimensions in inches).

corners. If it doesn't, select the pointer tool (the upward-pointing arrow at the top of the tool palette) and click on the text area.

Now select Copy from the Objects menu. Click on the right-arrow icon at the bottom left of the screen and add another page to your document.

With page 2 on display, select Paste from the Objects menu. A duplicate text area appears. Using the mouse, drag it into position in the bottom-right quadrant of page 2. For this and any other objects in this project use Show Specifications and the accompanying Table for precise positioning.

Save this file as CARD.A. Use the File menu option Save As or the quicker Open apple-A. This file, consisting of two identical pages with one text area each, is your basic template. You can use it to create fold-in-fourths thank-you cards, notecards, birthday greetings, or any other publication of this size.

### JUST A FONT

Flip back to page 1 by clicking on the left-arrow icon in the lower-left-hand area under the tool palette. Switch to Show Half Size mode (Open apple-3) and

use the scroll bars to display the lower-right quadrant of your page.

Select the graphics tool and rubberband an area in the upper-left corner on top of the original text area. Insert a clip-art disk into the data drive, pull down the File menu, and select Import Picture.

For this Easter-dinner invitation, I selected the "utensils" graphic from **Timeworks' Symbols & Slogans** clip-art disk. Publish It! 2 supports Print Shop graphics, a feature that lets you select from perhaps thousands of illustrations available at low cost or no cost in the public domain.

Use Show Specifications to orient the graphic. Add a frame by clicking on the Frame Border "radio button" in the Show Specifications dialog box.

If you want more freedom in moving a message around and playing with the position of its individual words, create a new text area with the text tool. Select the I-beam tool and position it inside this text area. Pull down the Font menu and choose Select Font.

For large text, I selected Kenilworth 36 (from the **Font Pack 1** disk, available separately) and opted for Bold by checking that style under the Font menu.

# Flight notes

# 5B

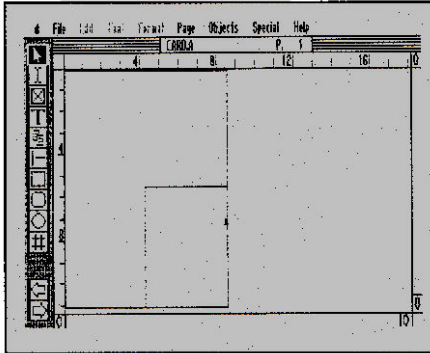


Figure 1. Basic template for invitation card.

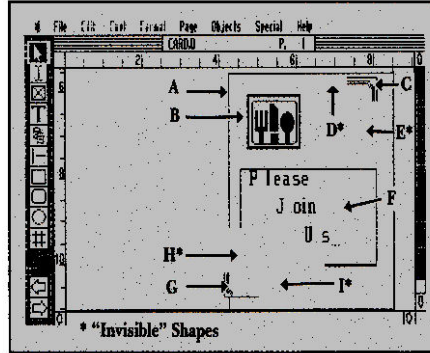


Figure 2. Screen shot page 1.

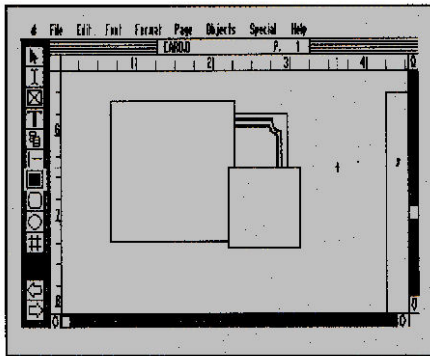


Figure 3. Use rectangles to "erase" parts of graphic.

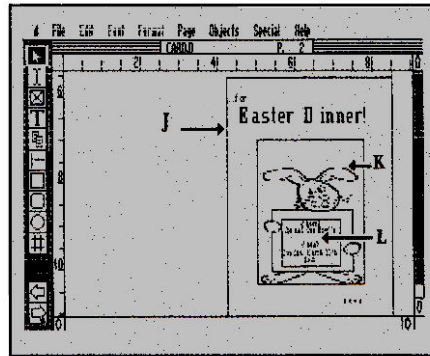


Figure 4. Screen shot page 2.

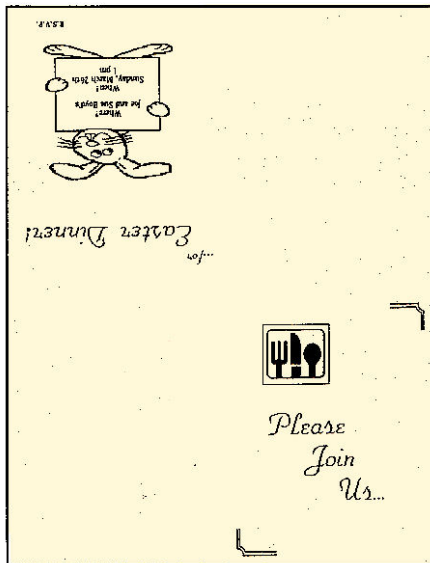


Figure 5. Completed invitation before folding.

Type each word (*Please*, *Join*, and *Us...*) on a separate line. Leave the word *Please* alone, because it's left-justified by

default. Drag the mouse across the word *Join* to highlight it, then select Justification from the Format menu. Click on the Center radio button. (Turn off the Use Page Standard feature.)

Highlight the word *Us...* and right-justify it by using the appropriate radio buttons in the Justification dialog box (Figure 2).

## A FIELD FUDGE FACTOR

I decided I wanted a border on the face of my invitation—not a full one, just "corners" like the stick-on photograph holders you see in scrap books. Unfortunately, none of the ready-made graphics suited me, but I devised my own solution.

Create two graphics areas: one in the lower-left corner of the panel; another in the upper-right. Next, select the border pattern you like best. (I used one from Timeworks' **People, Places & Things**.) Import into both graphics areas. ►



✦ Exploring Japan with Jet (Part 2)- SubLOGIC's Jet program now includes a free Japan Scenery Disk. Last month we took you on a guided F-16 tour of Tokyo.

This month we'll follow the Japanese coastline on a cross-country flight from Tokyo to Osaka. Starting from Tokyo International Airport (coordinates North 18201, East 32787), take off and turn to a heading of 220 degrees until you reach the coast. Turn to a heading of 235 degrees and fly for about twelve minutes at five thousand feet altitude until you can see Hamamatsu Airport below you (see Tokyo area chart). Turn right again to a heading of 305 degrees and fly to Nagoya; another highly detailed city. At Nagoya, turn left to a 240-degree heading that will take you straight to Osaka. When you find yourself flying over Osakajo Castle, begin your descent for a landing at Osaka International. This entire flight takes only twenty five minutes at Mach 1.4.

✦ ThunderChopper Combat Mission # 2 - You've completed flight, rescue and combat training missions in the Hughes 530MG Defender helicopter. You've been battle tested under fire in Armed Escort. Now you're ready for Rescue at Sea.

A major sea battle is just winding down. You've been assigned to locate and rescue the survivors. You must search the wreckage carefully and stay on the alert for enemy ships. When you find a surviving pilot or crewman you will have to hover low over the water, lower your hoist and pull him to safety. You may return fire in defense if fired upon, but it's not a good idea to needlessly trade shots with enemy battleships. You will be evaluated solely on the number of survivors you are able to rescue and return to base for medical treatment.

## Top Selling Scenery Disks This Month:

(\$24.95 each, for use with Flight Simulator II and Jet)

1. "Western European Tour" Scenery Disk
2. Scenery Disk # 7 (U.S. Eastern Seaboard)
3. Scenery Disk # 11 (U.S. North Eastern Border)
4. Scenery Disk # 3 (U.S. Southwest Pacific)
5. San Francisco Scenery Disk

See your dealer to purchase SubLOGIC products, or call us direct to order by charge card at (800) 637-4983. Illinois residents call (217) 359-8482.

SubLOGIC Corporation  
501 Kenyon Road  
Champaign, IL 61820

Please address any feedback/correspondence regarding SubLOGIC products, operations, or this "Flight Notes" column to ATTN: Chairman's Office.

Circle 156 on Reader Service Card.

## PRODUCT INFORMATION

**AppleWorks, \$249**  
**AppleWorks GS, \$299**  
**MultiScribe GS, \$99.95**  
 Claris Corporation  
 440 Clyde Avenue  
 Mountain View, CA 94043  
 (415) 960-1500  
*Reader Service No. 300*

**Computer Friends**  
 14250 N.W. Science Park Drive  
 Portland, OR 97229  
 (800) 547-3303  
 (503) 626-2291  
 ribbons and re-inking machines

**Electric Crayon Deluxe: Holidays & Seasons**  
 Polarware  
 1055 Paramount Parkway  
 Suite A  
 Batavia, IL 60510  
 (800) 323-0884  
 (312) 232-1984  
**\$29.95**  
*Reader Service No. 301*

**GraphicWriter**  
 Seven Hills Software  
 2310 Oxford Road  
 Tallahassee, FL 32304-3930  
 (800) 627-3836  
*Reader Service No. 302*

**Personal Newsletter**  
 Softsync Inc.  
 162 Madison Avenue  
 New York, NY 10016  
 (212) 685-2080  
**\$59.95**, 5 1/4-inch disk  
 return original plus \$9.50  
 for 3 1/2-inch disk  
*Reader Service No. 303*

**Print Magic**  
 Epyx  
 P.O. Box 8020  
 600 Galveston Drive  
 Redwood City, CA 94063  
 (415) 366-0606  
**\$49.95**  
*Reader Service No. 304*

**The Print Shop, \$49.95**  
**The Print Shop GS, \$59.95**  
 Broderbund Software  
 17 Paul Drive  
 San Rafael, CA 94903-2101  
 (800) 527-6263  
 (415) 492-3200

**Publish It! 2, \$129.95**  
**Font Pack 1**  
**People, Places & Things**  
**Symbols & Slogans**  
**\$39.95 each**  
 Timeworks  
 444 Lake Cook Road  
 Deerfield, IL 60015  
 (800) 535-9497  
 (312) 948-9200  
*Reader Service No. 305*

**Ribbonland**  
 P.O. Box 506  
 Exton, PA 19341  
 (800) 221-4892  
 (215) 524-9760  
 ribbons, re-inking machines,  
 paper supplies  
**Springboard Publisher**  
 Springboard Software  
 7808 Creekridge Circle  
 Minneapolis, MN 55435  
 (612) 944-3915  
**\$139.95**  
*Reader Service No. 306*

**SuperPrint**  
 Scholastic Software  
 P.O. Box 7502  
 2931 East McCarty St.  
 Jefferson City, MO 65102  
 (800) 325-6149  
 (800) 392-2179 (MO)  
 (314) 636-5271  
 (800) 541-5513 (software)  
**\$74.95**  
*Reader Service No. 307*

**TimeOut SuperFonts**  
 Beagle Bros  
 6215 Ferris Square  
 Suite 100  
 San Diego, CA 92121  
 (800) 345-1750  
 (800) 992-4022 (CA)  
 (619) 452-5500  
**\$69.95**  
*Reader Service No. 308*

**II Write**  
 Random House Media  
 400 Hahn Road  
 Westminster, MD 21157  
 (800) 638-6460  
 (800) 492-0782 (MD)  
 (301) 848-1900  
**\$59.95** home edition  
**\$69.96** school edition  
*Reader Service No. 309*



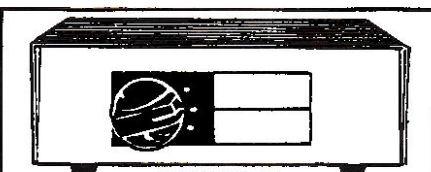
**1-800-544-7638**  
**Inquiries & Oregon buyers**  
**1-503-246-0924**

**SCHOOLS**  
**OUR**  
**SPECIALTY**

**CABLES, All cables have a 5 YEAR WARRANTY**

|                                       |        |        |
|---------------------------------------|--------|--------|
| Mac to ImageWriter II                 | A306II | \$9.95 |
| Mac to ImageWriter LQ                 | A306LQ | \$9.95 |
| Mac to Apple Personal Modem           | A306PM | \$9.95 |
| Mac to Hayes Modem, 300/1200/2400     | A203MM | \$9.95 |
| Mac+, 8 Pin Mini F/DB9 F Adaptor      | A101M+ | \$9.95 |
| Mac+ to Hayes Compatible Modem        | A202M+ | \$9.95 |
| Mac+ to ImageWriter I                 | A303M+ | \$9.95 |
| Mac+ to Laser Writer                  | A304M+ | \$9.95 |
| Mac+ to ImageWriter II                | A305M+ | \$9.95 |
| Mac SE 8 Pin Mini F/DB9 F Adaptor     | A101SE | \$9.95 |
| Mac SE to Hayes Compatible Modem      | A202SE | \$9.95 |
| Mac SE to ImageWriter I               | A303SE | \$9.95 |
| Mac SE to Laser Writer                | A304SE | \$9.95 |
| Mac SE to ImageWriter II              | A305SE | \$9.95 |
| Mac II 8 Pin Mini F/DB9 F Adaptor     | A101M2 | \$9.95 |
| Mac II to Hayes Compatible Modem      | A202M2 | \$9.95 |
| Mac II to ImageWriter I               | A303M2 | \$9.95 |
| Mac II to Laser Writer                | A304M2 | \$9.95 |
| Mac II to ImageWriter II              | A305M2 | \$9.95 |
| Apple II to ImageWriter II            | A307II | \$9.95 |
| Apple II to Hayes Compatible Modem    | A204I  | \$9.95 |
| Apple II+ to ImageWriter II           | A307I+ | \$9.95 |
| Apple II+ to Hayes Compatible Modem   | A204I+ | \$9.95 |
| Apple IIe to ImageWriter II           | A307IE | \$9.95 |
| Apple IIe to Hayes Compatible Modem   | A204IE | \$9.95 |
| Apple IIc to ImageWriter II           | A308II | \$9.95 |
| Apple IIc to Apple Personal Modem     | A308AM | \$9.95 |
| Apple Iigs to 8 Pin Mini F/DB9 F Adap | A101GS | \$9.95 |
| Apple Iigs to Hayes Compat. Modem     | A202GS | \$9.95 |

VSI was founded in 1984 and has since become a leader in the field of cables and switching devices. We are dedicated to provide top value and quality on a budget. School districts large and small are a specialty of our firm. Complete catalog on request.



**DATA SWITCHES**

VSI switches end cable swapping, share equipment. Need extra cables, we stock a broad selection.

- ONE YEAR WARRANTY, Deluxe All Metal Case
  - Compact Design, Rotary Switch
  - Full Shielding, Exceeds FCC Requirements
- |  |         |
|--|---------|
| AB all models                                    | \$29.95 |
| ABCD all models                                  | \$39.95 |
| Switch models available:                         |         |
| 8 Pin Mini Din, 8 Pin Din, DB9, Parallel, Serial |         |
| Aa x Bb (crossover), Parallel or Serial          | \$44.95 |

Commodore cables also available.

|                                      |        |         |
|--------------------------------------|--------|---------|
| Apple Iigs to ImageWriter I          | A303GS | \$9.95  |
| Apple Iigs to Laser Writer           | A304GS | \$9.95  |
| Apple Iigs to ImageWriterII          | A305GS | \$9.95  |
| Laser 128 to ImageWriter II          | A3088I | \$9.95  |
| Laser 128 to ImageWriter LQ          | A3088Q | \$9.95  |
| Laser 128 to Apple Personal Modem    | A308AM | \$9.95  |
| 8 Pin Mini Din, male/male, 6 ft      | A8MM6  | \$9.95  |
| 8 Pin Mini Din Extension, 6 ft       | A8E6   | \$10.95 |
| 8 Pin Mini Din Extension, 10 ft      | A8E10  | \$14.95 |
| DB9, 12ft., Joystick Extension       | JS12   | \$4.95  |
| DB9, 'Y' cable, 1 female/ 2 male     | JSY    | \$6.95  |
| DB9, 'Y' cable, 1 male/2 female      | RJSY   | \$3.95  |
| DB9, 6 ft., male/male                | DB9MM  | \$8.95  |
| DB9, 6 ft., Extension                | DB9MF  | \$8.95  |
| Parallel, 36 Pin, 6 ft., male/male   | C6MM   | \$9.95  |
| Parallel, 36 Pin, 10 ft., male/male  | C10MM  | \$11.95 |
| Parallel, 36 Pin, 6 ft., male/fem    | C6MF   | \$9.95  |
| Parallel, 36 Pin, 10 ft., male/fem   | C10MF  | \$11.95 |
| Serial, DB25, 6 ft., male/male       | R6MM   | \$8.95  |
| Serial, DB25, 6 ft., male/fem        | R6MF   | \$8.95  |
| IBM Printer, 6 ft., male/male        | IBP6   | \$8.95  |
| IBM Printer, 10 ft., male/male       | IBP10  | \$10.95 |
| IBM Printer, 15 ft., male/male       | IBP15  | \$16.95 |
| IBM Printer, 25 ft., male/male       | IBP25  | \$24.95 |
| IBM Keyboard Extension, 5 Pin, 5 ft  | IBKE   | \$5.95  |
| Power Cable, male/right angle female | PR6    | \$6.95  |
| Ile Numerical Key Pad                |        | \$29.95 |
| II, Ile Cooling Fan                  |        | \$29.95 |
| Power Command Center                 |        | \$49.95 |
| Disk Notcher, all metal              |        | \$6.95  |

VSI 3641 S.W. Evelyn, Portland, OR 97219, Shipping \$3.00, VISA, MC, money orders accepted. Price & stock, subject to change.



Using the rectangle shape tool, rubberband rectangles over the parts of the graphic you want to obliterate. You'll need two rectangles to do the job. See **Figure 3** and the **Table** for details.

But wait! You can see the rectangles, right? For now, keep them this way to make page editing easier. Later, before you print the invitation, activate each rectangle, choose Set Pen Pattern from the Objects menu, and click on the white square. That's right—make the rectangles invisible.

Turn to page 2 by clicking on the right-arrow icon. Select and position the I-beam in the upper-left corner of the lower-right quadrant (the text area you originally created for your template). Select a font and type the rest of your message. I used Kenilworth 18 Plain for the word *for* and Kenilworth 36 Bold for the words *Easter Dinner!*.

Rubberband a graphics area approximately in the center of the panel. I selected the "billboard bunny" from the Symbols & Slogans disk. Using Publish It! 2, you can enlarge the graphic to the size shown in the **Table**.

Next, create a text area on top of the bunny's billboard. Place the I-beam in this area, select a font, and type the specifics about your get-together.

For this area, I used Barrington 12 Plain, a font included on the Font Pack 1 disk. I centered (Format menu) all information about the party's location, date, and time. Placing the I-beam tool in the bottom-right area of the panel, I added an *R.S.V.P.* message in Barrington 10 Plain (**Figure 4**).

Try different fonts and graphics and experiment with layout. Always remember, though, to save your progress at each important step along the way.

When you print your invitation, you'll get two pages, each with a completed panel in the lower-right quarter of the page.

If you need only a half-dozen or so invitations, print six copies of your invitation to generate 12 continuous sheets of printed pages. Remove the 12 pages as one continuous stack. Turn the packet 180 degrees and insert the last page you just printed. After you roll the paper into

the printer, you should see the upside-down "rabbit" panel in the upper-left-hand corner (**Figure 5**).

Now print six more invitations. Page 1 (with the "utensils") will print in the lower-right corner of the first piece of paper (creating the first complete invitation). Page 2 (with the "rabbit") will print in the lower-right corner of the second piece of paper (creating the second completed invitation). And so on.

If your press run is larger, save wear and tear on your printer and duplicate the invitation on a copy machine. Make as many copies of page 1 (with the "utensils") as you need. Then turn these pages 180 degrees and reinsert them into the copy-machine feed bin. Copy page 2 (with the "rabbit").

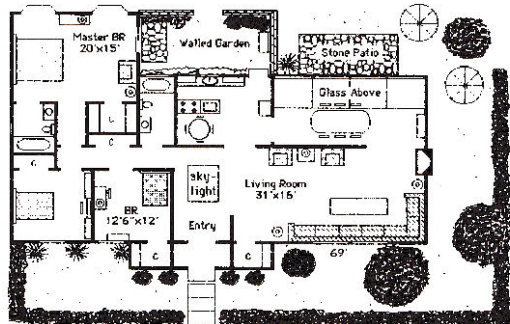
Fold the invitations in quarters so that the utensils appear on the cover and the bunny appears on the inside right-hand

page. That's all there is to it!

With page-layout programs such as Publish It! the sky's the limit. Start with paper, pencil, and ruler to set up the basic shape and size of your publication, then add text and graphics that meet your requirements. Use keyboard-equivalent commands to make your work even more pleasurable and let "invisible" shapes act as erasers for cropping artwork as needed. In no time you'll feel as I do that every day's a Field day when it comes to designing publications with your Apple II! ■

*Cynthia E. Field is a free-lance journalist specializing in computer-related topics. She is a contributing editor and the author of Field Trip, inCider's column on educational software. Write to her at 60 Border Drive, Wakefield, RI 02879. Enclose a self-addressed, stamped envelope if you'd like a personal reply.*

# DESIGN YOUR OWN HOME



**Apple II** — Brand New! Version 2 with easier file access, enhanced side views and more. Call for update information.

**IIGS** — Architecture "... promises to set a bold new standard for IIGS CAD software." (inCider, August 1988)

### Architecture

Draw floor plans or side views with architectural scales, grids, overlays. Stud tool calculates lumber. Dozens of architectural symbols included or create your own.

IIGS version: **\$89.95**

Standard Apple II version: **\$69.95**

### Interiors

Draw room plans, arrange furniture and explore color schemes. Includes hundreds of furniture pieces with different rotations. Create a top view and then use the automatic side view feature (now improved for Apple II version).

IIGS version: **\$89.95** (now available)

Standard Apple II version: **\$69.95**

### Landscape

Create a full-color landscape. Dozens of plants included. Create a top view and then use the automatic side view

feature (Apple II version improved). Includes slopes, plant "aging", plant identification, and shopping lists!

IIGS version: **\$89.95**

Standard Apple II version: **\$69.95**

### Design Your Own Home Libraries

Each includes 4 dozen ready-made plans with plan booklet. 4 Architecture (3 homes, 1 offices), 2 Interiors (1 homes, 1 offices), 1 Landscape (homes). **(\$29.95 each)**

Programs and libraries available for Apple II+, IIe, IIc, IIc+, IIGS, Macintosh, and IBM/compatibles. Call for prices and availability.

Send check or VISA/MasterCard number plus exp. date. Add \$4 shipping for the first program plus \$1 for each additional. Canadian and foreign orders: U.S. currency only; add additional funds for airmail. **Orders only 800-451-4871**



**Abracadata**  
the source of plan-making software

P.O. Box 2440, Dept. D  
Eugene, OR 97402  
(503) 342-3030

# SOFTWARE DISCOUNTERS OF AMERICA



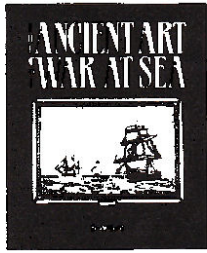
USA/Canada Orders—1-800-225-7638  
 PA Orders—1-800-223-7784  
 Customer Service 412-361-5291

- Free shipping on orders over \$100 in continental USA
- No Surcharge for VISA/MasterCard
- Your Card is not charged until we ship

## Broderbund

With the introduction of gunpowder, the sailing warship began to play a critical role in world history. By the mid-19th Century, no nation could hope to command the seas as well. Now, you can challenge five of history's greatest naval commanders. 128K

**Ancient Art of War at Sea**  
 List \$44.95  
 Our Discount Price \$29



### ACCOLADE

- Bubble Ghost GS ..... \$25
- 4th & Inches Football GS ..... \$29
- Hardball ..... \$9.88
- Hardball GS ..... \$25
- Mean 18 Golf GS ..... \$25
- Famous Course Disks #2 for Mean 18 GS ..... \$14
- Famous Course Disks #3 & #4 for Mean 18 GS ..... \$23
- Mini Putt GS ..... \$25
- Pinball Wizard GS ..... Call
- Serve & Volley GS ..... \$25
- Test Drive 128K ..... \$23

### ACTIVISION

- Aliens 128K ..... \$9.88
- Black Jack Academy GS ..... \$25
- Ghostbusters ..... \$9.88
- Last Ninja 128K ..... \$23
- Last Ninja GS ..... \$25
- List Manager Plus GS ..... \$65
- Maniac Mansion 128K ..... \$23
- Might & Magic 2 ..... \$32
- Music Studio 2.0 GS ..... \$65
- Neuromancer 128K ..... \$29
- Paintworks Gold GS ..... \$65
- Paint/Write/Draw GS ..... \$79
- Postcards GS ..... \$19
- Rampage 128K ..... \$23
- Shanghai ..... \$29

### ALTURAS

- Maxx Control Yoke ..... \$69

### ARTWORX

- Bridge 5.0 ..... \$19

### Linkword Languages:

- French ..... \$19
- German ..... \$19
- Italian ..... \$19
- Russian ..... \$19
- Spanish ..... \$19
- Strip Poker ..... \$19
- Data Disk #1 (Female) ..... \$14
- Data Disk #2 (Male) ..... \$14
- Data Disk #3 (Female) ..... \$14
- Strip Poker 2 GS ..... \$25

### AVANTAGE

- Project Space Station ..... \$9.88
- Spy vs. Spy 1 & 2 ..... \$9.88

### BOX OFFICE

- Alf's First Adv. .... \$9.88

- California Raisins ..... \$16
- \$100,000 Pyramid ..... \$9.88
- Psycho ..... \$16
- \*All Titles Req. 128K!
- BRODERBUND**
- Bank St. Writer Plus 128K ..... \$49
- Carmen San Diego Europe 128K ..... \$29
- USA ..... \$29
- World ..... \$25
- World GS ..... \$29
- Choplifter/David's Midnight Magic ..... \$9.88



- Dazzle Draw 128K ..... \$39
- Fantavision GS ..... \$39
- Geometry GS ..... \$49
- On Balance 128K ..... \$39
- Print Shop (Enhanced) ..... \$29
- Print Shop Companion ..... \$23
- Print Shop GS ..... \$39
- P.S. Graphics Library: #1, 2, 3 \$15 Ea.
- P.S. Graphics Library Party Edition GS ..... \$23
- Sampler Edition GS ..... \$23
- VCR Companion 128K ..... \$32
- VCR Companion Film Library ..... \$19
- Wings of Fury 128K ..... \$23

### CDA

- America Cooks Series: American ..... \$9.88
- Chinese ..... \$9.88
- French ..... \$9.88
- Italian ..... \$9.88
- Mexican ..... \$9.88

### CENTRAL POINT

- Copy 2 ..... \$23

### CINEMAWARE

- Defender of the Crown GS ..... \$32
- King of Chicago GS ..... \$32

### COMPU-TECH

- Once Upon A Time ..... \$25
- See the USA ..... \$32
- Stepping Stones 1 ..... \$25
- Stepping Stones 2 ..... \$25

### DATA EAST

- Ikari Warriors 128K ..... \$23
- Platoon 128K ..... \$23

### DAVIDSON

- Algeblaster ..... \$29
- Grammar Gremlins ..... \$29
- Math Blaster Plus 128K ..... \$29
- Math & Me 128K ..... \$23
- Read 'N Roll 128K ..... \$29
- Reading & Me 128K ..... \$23
- Spell It ..... \$29
- Talking Math & Me GS ..... \$32
- Talking Reading & Me GS ..... \$32
- Word Attack Plus 128K ..... \$29

### DESIGNWARE

- Designasaurus 128K ..... \$25

## ACTIVISION

Go ahead-get it out of your system. Lose your temper. Smash a skyscraper. Trash a city. Have an office building for lunch. Go on a rampage. 128K

**Rampage**  
 List \$34.95

Our Discount Price \$23

- Designasaurus GS ..... \$32
- Jigsaw GS ..... \$25

### ELECTRONIC ARTS

- Arcticfox ..... \$9.88
- Bard's Tale ..... \$29
- Bard's Tale 2 or 3 ..... \$32Ea.
- Bard's Tale 1 or 2 GS ..... \$32 Ea.
- Cartooners GS ..... \$39
- Chessmaster 2100 ..... \$26
- Chessmaster 2100 GS ..... \$32

## TAITO

The legendary arcade classic. Dedicated concentration and lightning reflexes are needed to break through the 33 walls of living energy that stand between you and DOH, the destroyer of the universe. Prepare for a journey you've never experience before.

**Arkanoid**

List \$29.95

Our Discount Price \$19



- Chuck Yeager's AFT ..... \$26
- Death Lord ..... \$26
- Deluxe Paint II GS ..... \$65
- Deluxe Write GS ..... \$69
- Earth Orbit Station ..... \$9.88
- Instant Music GS ..... \$32
- Legacy of the Ancients ..... \$26
- Lords of Conquest ..... \$9.88
- Madden Football ..... Call
- Marble Madness 128K ..... \$9.88
- Marble Madness GS ..... \$26
- Mavis Beacon Teaches Typing GS ..... \$29
- Music Const. Set GS ..... \$32
- Pegasus ..... \$23
- Pinball Const. Set ..... \$9.88
- Reach for the Stars GS ..... \$26
- Risk ..... \$26
- Scrabble ..... \$26
- Scruples ..... \$26
- Skate or Die GS ..... \$26
- Strike Fleet ..... \$23
- Wasteland ..... \$32
- World Tour Golf GS ..... \$26
- Zany Golf GS ..... \$26

- EPYX**
- California Games GS ..... \$24
- California Games 128K ..... \$24
- Destroyer GS ..... \$24
- Destroyer 128K ..... \$24
- Final Assault GS ..... \$14
- Home Video
- Producer 128K ..... \$32
- Impossible Mission 2 ..... \$14
- L.A. Crackdown 128K ..... \$19
- Print Magic 128K ..... \$32
- S.S. Baseball 128K ..... \$14
- S.S. Basketball 128K ..... \$14
- Street Sports Soccer GS ..... \$14
- Sub Battle Sim. GS ..... \$19
- Summer Games 1 or 2 ..... \$14 Ea.

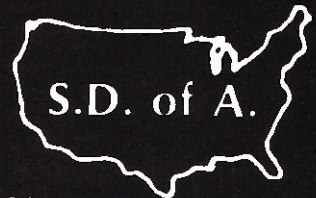
- The Games:**
- Summer Edition 128K ..... \$32
- Winter Edition 128K ..... \$32
- Winter Games ..... \$14
- Winter Games GS ..... \$14
- World Games 128K ..... \$14
- World Games GS ..... \$14

- GAMESTAR**
- Champ. Baseball ..... \$9.88
- Champ. Basketball GS ..... \$29

P.O. BOX 111327—DEPT. AP—BLAWNOX, PA 15238

\*Please Read The Following Ordering Terms & Conditions Carefully Before Placing Your Order: Orders with cashiers check or money order shipped immediately on in stock items! Personal & Company checks, allow 3 weeks clearance. No C.O.D.'s! Shipping: Continental U.S.A.—Orders under \$100 add \$3; free shipping on orders over \$100. AK, HI, FPO, APO-add \$5 on all orders. Canada & Puerto Rico-add \$7.50 on all orders. Sorry, no other International orders accepted! PA residents add 6% sales tax on the total amount of order including shipping charges. CUSTOMER SERVICE HOURS: Mon.-Fri. 9 AM-5:30 PM Eastern Time. REASONS FOR CALLING CUSTOMER SERVICE—412-361-5291 (1)Status of order or back order (2)If any merchandise purchased within 60 days from S.D.of A. is defective, please call for a return authorization number. We will not process a return without a return auth. #! Defective merchandise will be replaced with the same merchandise only. Other returns subject to a 20% restocking charge! After 60 days from your purchase date, please refer to the warranty included with the product purchased & return directly to the manufacturer. Customer service will not accept collect calls or calls on S.D.of A.'s 800# order lines! Prices & availability are subject to change! New titles are arriving daily! Please call for more information. ORDER LINE HOURS: Mon.-Thurs. 9:00 AM-9:00PM Fri. 9:00 AM-5:30 PM Sat. 10:00 AM-4:00 PM Eastern Time.

# SOFTWARE DISCOUNTERS OF AMERICA



USA/Canada Orders—1-800-225-7638  
 PA Orders—1-800-223-7784  
 Customer Service 412-361-5291

- Free shipping on orders over \$100 in continental USA
- No Surcharge for VISA/MasterCard
- Your Card is not charged until we ship

Champ. Basketball .....\$9.88  
 Champ. Football .....\$25  
 Star Rank Boxing 2 .....\$19  
 \*All II e/c titles require 128K!

**HI-TECH EXPRESSIONS**

Bagasaurus .....\$8.88  
 Big Bird's Spc. Delivery .....\$6.88  
 Ernie's Magic Shapes .....\$6.88  
 Picture Place .....\$8.88  
 Print Power .....\$9.88  
 Roll A Word .....\$8.88  
 Sesame Street Print Kit .....\$9.88  
 Win, Lose or Draw .....\$8.88

**INFOCOM**

Beyond Zork 128K .....\$32  
 Borderzone 128K .....\$24  
 Hitchhikers Guide .....\$9.88  
 Journey .....Call  
 Leather Goddesses .....\$9.88  
 Sherlock 128K .....\$24  
 Shogun .....Call  
 Zork 1 .....\$9.88  
 Zork Trilogy .....\$32  
 Zork Zero .....Call

**LDW**

Club Backgammon GS .....\$24  
 Vegas Craps GS .....\$24  
 Vegas Gambler GS .....\$24

**LEARNING COMPANY**

Math Rabbit .....\$24  
 Reader Rabbit GS .....\$39  
 Reader Rabbit .....\$24  
 Think Quick! .....\$32  
 Writer Rabbit .....\$32

**MECA**

Andrew Tobias: Managing Your Money .....\$95

**MICROPROSE**

F-15 Strike Eagle .....\$23  
 Pirates 128K or GS .....\$25 Ea.  
 Silent Service .....\$23  
 Silent Service GS .....\$25

**MINDSCAPE**

Balance of Power 128K .....\$25  
 Crossword Magic .....\$32  
 De Ja Vu GS .....\$32  
 Gauntlet 128K .....\$25  
 Gauntlet GS .....\$29  
 Paperboy GS .....\$25

Perfect Score SAT .....\$44  
 Shadowgate GS .....\$32  
 Super Star Ice Hockey 128K .....\$25  
 Super Star Ice Hockey GS .....\$29  
 Uninvited GS .....\$29

**ORIGIN**

Autoduel .....\$25  
 Moebius .....\$25  
 Times of Lore .....\$25  
 Ultima 1 or 3 .....\$25 Ea.  
 Ultima 4 or 5 .....\$39 Ea.

**POLARWARE**

**Electronic Crayon Series:**

Dinosaurs are Forever 128K .....\$19  
 Holidays & Seasons 128K .....\$19

**SHARE DATA**

Card Sharks .....\$9.88  
 Concentration .....\$9.88  
 Family Feud .....\$9.88  
 Jeopardy .....\$8.88  
 Jeopardy 2 .....\$9.88  
 Wheel of Fortune .....\$8.88  
 Wheel of Fortune 2 .....\$9.88  
 \*All Titles require 128K!

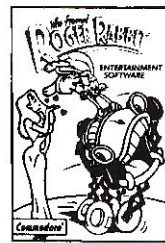


"Toon" into the outrageous adventures of Roger Rabbit and his friends in the fast-paced, action-packed game. High quality animation and sound effects. 128K

Roger Rabbit

List \$39.95

Our Discount Price \$25

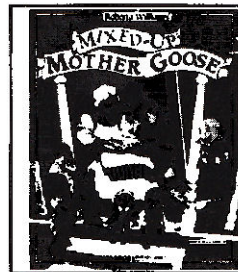


Space Quest 2 (128K) .....\$32  
 Space Quest 1 or 2 GS .....\$32 Ea.  
**SIMON & SCHUSTER**  
 Chem Lab .....\$14  
 Typing Tutor 4 .....\$25  
 Typing Tutor 4 GS .....\$29  
**SIR TECH**  
 Return of Werdna .....\$39  
**Wizardry Series:**  
 Knight of Diamonds .....\$32  
 Legacy of Lylgamin .....\$32

Pool of Radiance .....Call  
 Questron 2 GS .....\$29  
 Questron 2 .....\$26  
 Roadwar 2000 GS .....\$29  
 Typhoon of Steel .....\$32  
**SUBLOGIC**  
 Flight Simulator 2 .....\$32  
 Jet .....\$26  
**TAITO**  
 Arkanoid .....\$19  
**THREE SIXTY**  
 Warlock GS .....\$24  
**THUNDER MOUNTAIN**  
 Dig Dug .....\$8.88  
 Felony .....\$9.88  
 Murder by the Dozen .....\$9.88  
 Pac Man .....\$8.88

**TIMEWORKS**

Publish It! 128K .....\$65  
 Publish It Clip Art  
 Font Pack 1 .....\$25  
 People Places & Things .....\$25  
 Symbols & Slogans .....\$25  
**UNICORN**  
 Aesop's Fables GS .....\$29  
 All About America GS .....\$39  
 Animal Kingdom GS .....\$29  
 Magical Myths GS .....\$29  
 Math Wizard GS .....\$29  
 Read & Rhyme GS .....\$29  
 Tales Arabian Nights GS .....\$29  
**UNISON WORLD**  
 Print Master Plus .....\$24  
 Art Gallery #1 .....\$19  
 Art Gallery #2 .....\$19  
 Art Gallery #3 .....\$19  
**WEEKLY READER**  
 Stickybear Series:  
 ABC's .....\$24  
 Math 1 or 2 .....\$24  
 Numbers .....\$24  
 Reading .....\$24  
 Spell Grabber .....\$32  
 Talking Alphabet GS .....\$32  
**WINDHAM CLASSICS**  
 Treasure Island .....\$9.88  
 Wizard of Oz .....\$9.88



A fascinating, fantastic entertainment program for the home, nursery schools and kindergarten classes. A child's "adventure in a dream" come true.

Mixed-Up Mother Goose 128K

List \$29.95

Our Discount Price \$19

**SIERRA**

King's Quest  
 1, 2, 3, or 4 GS .....\$32 Ea.  
 King's Quest 1, 2 or 3 .....\$32 Ea.  
 Leisure Suit Larry GS .....\$25  
 Leisure Suit Larry 128K .....\$24  
 Manhunter GS .....\$32  
 Mother Goose 128K .....\$19  
 Mother Goose GS .....\$19  
 Police Quest GS .....\$32  
 Police Quest 128K .....\$32  
 Space Quest 128K .....\$32

Proving Ground .....\$32  
 Wizardry 5 .....\$32  
**SOFT BYTE**  
 Lotto Program .....\$16  
**SPECTRUM HOLOBYTE**  
 Dondra .....\$24  
 Intrigue! .....\$19  
 Soko Ban .....\$19  
 Tetris: The Russian Challenge .....\$25  
**SPINNAKER**  
 T-Shirt Maker .....\$9.88  
**SPRINGBOARD**  
 Certificate Maker .....\$24  
 C.M. Library Vol. 1 .....\$19  
 Newsroom .....\$32  
 N.R. Clip Art #1 or #3 .....\$17  
 N.R. Clip Art #2 .....\$23  
 Publisher Clip Art .....Call  
 Publisher 128K .....\$84  
**SSI**  
 Demon's Winter .....\$21  
 Dungeon Master Assistant Vol. #1 .....\$21  
 Kampfgruppe .....\$39  
 Phantasie 1, 2 or 3 .....\$26 Ea.

**HI-TECH EXPRESSIONS**

Design and print signs, cards, stationery, banners & more! A program for home, office and school.

Print Power

List \$14.95

Our Discount Price \$9.88



P.O. BOX 111327—DEPT. AP—BLAWNOX, PA 15238

\*Please Read The Following Ordering Terms & Conditions Carefully Before Placing Your Order: Orders with cashiers check or money order shipped immediately on in stock items! Personal & Company checks, allow 3 weeks clearance. No C.O.D.'s! Shipping: Continental U.S.A.—Orders under \$100 add \$3; free shipping on orders over \$100. AK, HI, FPO, APO—add \$5 on all orders. Canada & Puerto Rico—add \$7.50 on all orders. Sorry, no other International orders accepted! PA residents add 6% sales tax on the total amount of order including shipping charges. CUSTOMER SERVICE HOURS: Mon.-Fri. 9 AM-5:30 PM Eastern Time. REASONS FOR CALLING CUSTOMER SERVICE—412-361-5291 (1)Status of order or back order (2)if any merchandise purchased within 60 days from S.D. of A. is defective, please call for a return authorization number. We will not process a return without a return auth. #! Defective merchandise will be replaced with the same merchandise only. Other returns subject to a 20% restocking charge! After 60 days from your purchase date, please refer to the warranty included with the product purchased & return directly to the manufacturer. Customer service will not accept collect calls or calls on S.D. of A.'s 800# order lines! Prices & availability are subject to change! New titles are arriving daily! Please call for more information. ORDER LINE HOURS: Mon.-Thurs. 9:00 AM-9:00 PM Fri. 9:00 AM-5:30 PM Sat. 10:00 AM-4:00 PM Eastern Time.

Continued from p. 33.

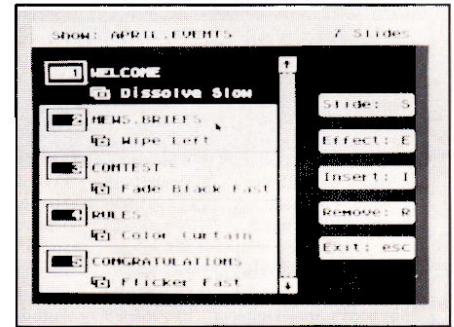
Is the system practical? For some, simply getting full value from a commercial package is enough reason to buy the FutureSound board. You can use it in a variety of ways, limited only by your creativity. You can even use sounds you've recorded in other programs. For instance, teachers and parents can write simple programs that help teach spelling, with FutureSound pronouncing the words or letters correctly as they appear on screen. You can also incorporate verbalized instructions in homemade programs. You can use music to provide positive reinforcement following a correct response or just as background to enhance a program.

Most music programs currently on the market can import digitized sounds, then let you modify them in any number of ways. Broderbund's Fantavision, for example, can import voice or music re-

corded by FutureSound to give a new and exciting dimension to the animation you create. And, of course, anything created by other programs—whether imported from FutureSound or not—will play back in full stereo for maximum enjoyment of IIGS sound.

Applied Visions has given GS owners the future of sound now. The FutureSound board is state of the art—but the best thing is that although users with a true grasp of musical concepts and programming can coax the most from it, even novices can benefit from what it has to offer. No matter what your level of expertise, you'll get your money's worth from this product. Applied Visions is making noise about the audio capabilities of the GS, and FutureSound is a board that demands to be heard. ■

*James Trunzo  
Leechburg, PA*



## On with the Show

### SLIDE SHOP

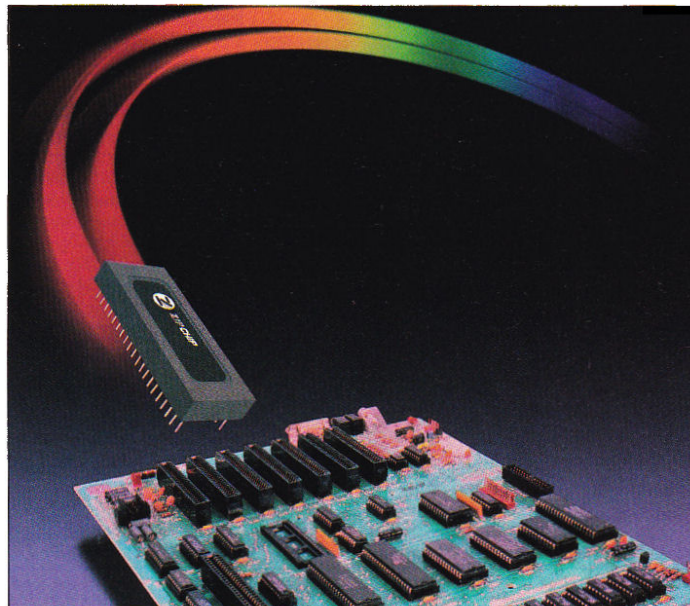
**Scholastic Inc.**, 730 Broadway, New York, NY 10003, (212) 505-3000  
Graphics-presentation program; 128K  
Apple IIe, IIc, IIGS  
\$29.95  
Rating: ■■■■

# "ZIP CHIP..THE UP-GRADE"

**400%  
FASTER**

**ZIP CHIP** is the original new 4 MEGAHERTZ microprocessor replacement for the Apple II+, IIe, IIc, (and other compatibles like the Laser 128). Guaranteed to accelerate and transform your Apple II into **THE FASTEST IN ITS CLASS! UP TO FOUR TIMES FASTER**, the ZIP CHIP is the perfect Apple speed upgrade for home, work, and classroom!

- **SUPER FOR WORK!**  
AppleWorks flies! Zzzip through Desktop Publishing!
- **GREAT FOR TEACHERS!**  
(Imagine a week's grading process in 30 minutes or less!)
- **SIMPLE FOR KIDS TOO!**  
With 19 variable speeds at the touch of your keyboard.
- **PRINT SHOP** at breakneck speed! Lively Graphics! Games more exciting!
- **100% COMPATIBLE** with all Apple hardware and software.
- **SAVES YOU TIME AND MONEY — AND A CARD SLOT TOO!**



**inCider 1988 Star Product of the Year!**

**DEALER INQUIRIES INVITED**

Apple, Apple II, AppleWorks are trademarks of Apple Computer, Inc. Print Shop is a trademark of Broderbund. ZIP CHIP is a trademark of ZIP Technology. Patent Pending. **Photography by Tom Skrivan**

**ORDER YOUR ZIP CHIP TODAY — JUST \$179.00!**

- ★ Education and Corporate volume pricing available.
- ★ **CONTROL DATA** Corvus/OMNINET compatibility now available too!
- ★ Complete instruction manual
- ★ Easy do-it-yourself installation
- ★ **FREE** Diagnostic/Utility diskette with two memory testers and ZIP configuration program — A \$40.00 Value!
- ★ **LIFETIME WARRANTY** for registered owners plus 30-day unconditional Money-Back Guarantee!

**SHIPPING FROM STOCK! JUST \$179.00!** (Plus \$6.25 shipping, handling, and insurance.) Add \$10.00 outside U.S.A. Visa, MasterCard and American Express accepted.

**TO ORDER NOW, CALL:**  
TOLL-FREE **1-800-628-3278**  
OR DIAL **(213) 473-7662**

For more information write:  
**ZIP Technology**  
11340 West Olympic Blvd.  
Suite 350  
Los Angeles, CA 90064

We know what you're thinking. A product that turns your Apple II into a *slide projector*? Come on, family slide shows are boring enough—there can't be much of a market for it. There's more to Slide Shop than meets the eye, though. Who wouldn't appreciate a greeting card with sound and graphics, for instance?

Make your brother's birthday unforgettable; liven up your next office party. You can put together presentations of up to 200 continuously running slides (screens). Add a PC Viewer overhead projector to present your show to large audiences. If you're into making home videos, you can use Slide Shop to make titles or record entire slide shows on your VCR.

## CREATIVE JUICES

Slide Shop's easy to use, too. Commands (in pull-down menus) are logical and directions are simple. Except for an

occasional reference, you'll hardly need the 128-page manual; a disk tutorial gives you all the intellectual ammunition you'll require to begin working on your own slide shows. If you have any problems, there's also an on-screen help feature.

To begin with, decide whether your slide will be graphics or text. Graphics slides are more impressive, but you can store more text slides on a show disk.

If you create a text slide, you can dress it up with a border from a library disk. Add music, sound effects (such as drums, a helicopter, or a train), or speech to jazz up your presentation. The program includes an undo feature, so making corrections is easy.

Your creative juices really begin to flow when you make a graphics slide. Besides adding borders and sound, you can also choose a graphics background—anything from a car-wash scene to a sci-

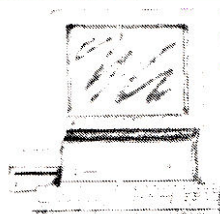
ence class. Slide Shop comes with 72 clip-art images. You can also import Print Shop graphics, or use anything you've created with any hi-res paint program.

Slide Shop incorporates many paint-program features—such as brush, pen line, frame, block, and ring—so you can customize your slides. You can also fill in and color your drawing, copy any part of a slide and stamp it to another slide, move it within the same slide, or save it for use as clip art later.

## SHOW TIME

What makes Slide Shop different from other graphics programs is its ability to string together "slides" in any combination you want. Just create a "script" describing their order of appearance. Forty different special effects add pizzazz and let you clear the screen and go on to the next slide. Set the interval between slides ▶

## New! EasyDrive 1.5™



If you have this . . .

. . . and this



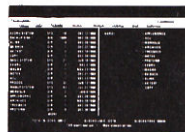
. . . you need this

EasyDrive is, simply, the most important breakthrough in hard-disk technology — ever. It's the first and only complete software interface for the hard-disk (for Apple IIe, IIgs and compatibles). Nothing else is faster or easier. With EasyDrive you get:

- Automatic self-installation
- Automatic program installation
- Fast program selection
- Fast, accurate back-up and restore
- File indexing
- Disk optimizer
- ProDOS 8 & 16, GS/OS compatible
- User friendly
- Expandable and upgradeable
- Free ProDOS book



The Menu System will help you quickly launch and organize your most frequently used programs.



By displaying files and disk map simultaneously, TreeSurgeon gives you complete, easy control of your data.



The Status and Optimizer facilities maximize disk access speed on any ProDOS disk including 5.25" and 3.5" drives.

### TAKE A TEST DRIVE ON US!

Too good to be true? Try us out for 30 days. If EasyDrive doesn't make your hard-disk work faster and easier, just return it for a quick and courteous refund. You can keep the free book.

EasyDrive — \$69.95



Quality Computers



15102 Charlevoix  
Grosse Pointe, MI 48230  
313/331-0700

POWER FOR PERFORMANCE

To Order Call: 1-800-443-6697

Circle 155 on Reader Service Card.



The other two screen routines BLOAD and display SHRG screens. The documentation suggests you load all screen or graphics data at the beginning of your program, but you can load them as needed within a program, as well.

## TEXT AND ICONS

Iconix has two basic text functions: You can plot a single character on screen by POKEing the ASCII value of the character you want, along with the character's color and X-Y coordinates; to print a complete string of characters, you'll have to use the variable name SG\$ (reserved for that purpose by Iconix) to define the string, then POKE the color and position information and CALL the routine.

One routine reads your mouse's X-Y location and the status of the mouse button (whether or not you're pressing it). You can then pass these values to the mouse-cursor routine to place the pointer on screen or move it around.

Naturally, the major graphics object in Iconix is the icon. Icons are rectangular areas of the SHRG bit-map screen that you can copy from a background and paste to the current view screen. Using four icon-control routines (Open Icon, Put Icon, Pull Icon, and Close Icon) you can manipulate even large areas of the screen easily.

Perhaps the best feature of these routines is that when you place an icon on top of the screen, the software saves the area beneath it automatically and restores it when you remove the icon.

## UTILITIES

Iconix comes with three utility programs designed to help you create or modify icon or color data. The first is the Icon Editor. It's not a graphics editor like the ones you'll find in paint programs. Instead it lets you design an *icon sheet*, an SHRG display containing the images you want to use in your program.

To achieve the maximum number of colors, Iconix's Palette Editor lets you define up to 16 color palettes for an SHRG screen. This color-palette information is stored in a special location on

the SHRG screen, and is BLOADED and BSAVED with the image.

The final utility is the SCB (scanline control byte) Editor, which specifies the palettes used by each part of the screen. With this utility, you can designate all 16 possible palettes to be used in a particular display, giving the picture a total of 256 simultaneous colors. You can also change the horizontal resolution (320 or 640 bits wide) to different values on the same screen.

## PROGRAMMER'S CHOICE

For a long time, there was no way for the experienced Applesoft programmer to exploit his or her GS' super-hi-res graphics abilities without delving into the fairly complex Apple Toolbox routines. For taking care of that, So What Software should be commended.

For most programmers, however, Ico-

nix would be a vastly superior package if the routines were available in the form of commands with parameters instead of unwieldy PEEK, POKE, and CALL techniques, which offer little to the beginner or intermediate programmer.

Unfortunately for Iconix, there are now BASIC languages for the GS that offer direct support for many graphics routines—and they use easy-to-understand commands, not Applesoft's cryptic POKES and PEEKs. And because these new BASICs are generally superior to Applesoft in other aspects, as well, they may be a better choice. All things considered, I recommend Iconix only to the "hard-core" Applesoft programmer who doesn't want to switch to one of the newer implementations of BASIC. ■

Lou Wallace  
Peterborough, NH

CALL FOR  
**FREE CATALOG**



**DISKETTES \$3.38**  
**IMAGEWRITER RIBBONS \$2.75**  
**MULTICOLOR RIBBONS \$6.95**

---

**YOUR SINGLE SOURCE SUPPLIER FOR COMPUTER SOFTWARE • DISKETTES • ACCESSORIES**

---

USA/CANADA  
TOLLFREE  
**1-800-624-2926**



IN ILLINOIS CALL  
**312-884-7040**

**SAVE UP TO 50% EVERYDAY!**

**NOW YOU CAN BUY WHERE THE SCHOOLS BUY**

- OVER 5,000 SOFTWARE TITLES AVAILABLE
- NATIONWIDE TOLL FREE SERVICE
- TRAINED EDUCATIONAL EXPERTS TO ASSIST YOU IN COURSEWARE SELECTION
- SCHOOL VERSIONS W/BACKUP & TEACHER MATERIALS



**Your Cost**  
**\$2195**

APL/IBM C64



**Your Cost**  
**\$2795 \$3595**

APL/C64 IBM/Igs  
Sampler/Party Edition \$2300



**Your Cost**  
**\$5495**

APL/Igs  
**NEW 2.0 Version**  
\$7495 APL/Igs



**Your Cost**  
**\$17995**

APL 128K  
Igs 1.25 mb \$19995

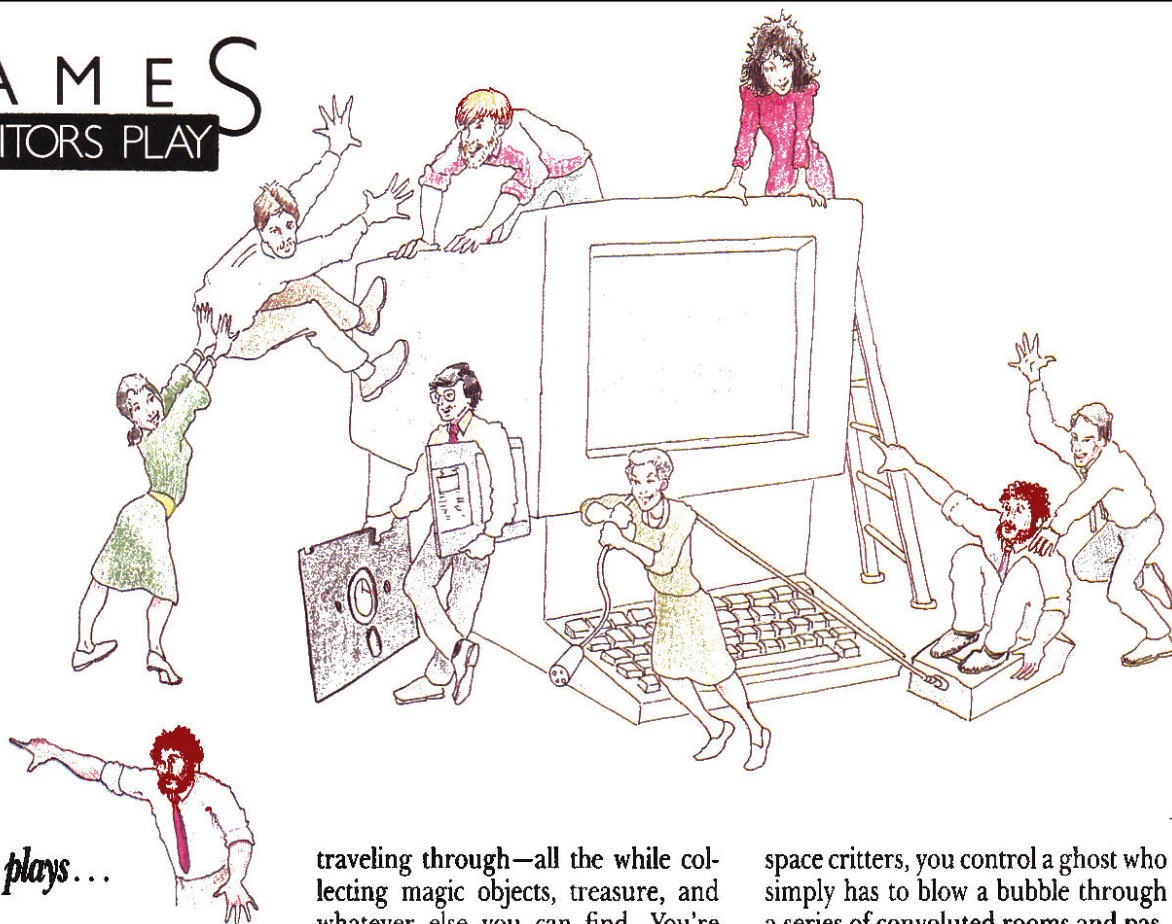
**MAIL SCHOOL EDUCATIONAL RESOURCES**  
**P.O.'S TO: 2380 HASSELL ROAD**  
**HOFFMAN ESTATES, IL 60195**




Prices effective Feb.-March  
\$50 min. on charge  
No min. on checks  
Add 5% shipping; \$3.00 min.

# GAMES

## EDITORS PLAY



### Lafe Low plays...

**Warlock GS**, *Three-Sixty Pacific, Inc.*, 2105 South Bascom Avenue, Suite 290, Campbell, CA 95008, (408) 879-9144, \$39.95

'Tis the season for arcade follies, fa la la la la, la la la la. Time for kids to get their jollies, fa la la la la, la la la la. It was December when we were working on this installment of Games Editors Play, and from the looks of things, kids across America (not to mention the kids at *inCider*) must have had a great Christmas. Arcade aficionados particularly had some great choices to satisfy their cravings.

One of the newer selections for action fanatics is Warlock. It's pretty slick. The theme is the standard "you against the evil whatever it is that threatens the world" that's central to so many fantasy role-playing games, but unlike other games, which take you deep into someone's imagination, Warlock lets you get right into blasting away at denizens of the underworld.

You're up against whatever grisly creature resides on the level you're

traveling through—all the while collecting magic objects, treasure, and whatever else you can find. You're armed only with a scepter that fires magic bolts—guaranteed to turn your foes into cosmic dust. Pick up the required eight magical objects, and you'll win the chance to do battle with the great evil It and save the world. Lucky you.

The world of Warlock looks (and sounds) as gruesome as the real thing (if there were the real thing). As soon as you start out, hordes of zombies crawl up out of the ground and start at you, so keep that scepter ready. On other levels you'll encounter ghosts, fire-breathing stone giants, piranhas, and a floating eye that can literally kill you with its looks. It's a scary place, but someone has to explore it.

### ...and plays...

**Bubble Ghost GS**, *Accolade*, 550 South Winchester Boulevard, San Jose, CA 95128, (408) 985-1700, \$34.95

Bubble Ghost is odd, yet it represents an interesting approach to arca-  
cading—guaranteed to captivate you. Rather than firing photon torpedos at

space critters, you control a ghost who simply has to blow a bubble through a series of convoluted rooms and passageways. Piece of cake, you say? Wait.

You can spin your ghostly accomplice in any direction—even upside down—then blow the bubble with a long gasp or a short puff, depending on how far you want it to go. That may sound easy, but you have to negotiate this delicate floating bubble around corners and various other hazards.

In some of the rooms you won't get far unless you figure out how to disable a trap. For instance, in one room you have to blow into a switch to turn off a fan. In another, you have to blow out a candle before passing over it. In an even more bizarre room, you have to blow into a trumpet to get a statue to lie down, letting you pass.

Bubble Ghost is definitely not standard fare. Dazzling graphics and weird sound effects make the maze-like rooms look and sound like a bad dream. Should you puff too hard and pop the bubble, your friendly ghost loses his Casperish smile and shakes his fist at you. You start out with five bubbles, though, so you'll get another chance if you "blow it."



## Paul Statt plays . . .



**Arkanoid GS**, Taito Software, 267 West Esplanade, North Vancouver, BC, Canada V7M 1A5, (604) 984-3344, \$29.95 (requires a mouse)

Should you buy Arkanoid? Take a quarter to the place in your neighborhood where the kids park their skateboards after school—the pizza parlor, the mall, or the arcade. Find the video games. Disperse the mob around the most crowded one, and you'll be sure to find Arkanoid.

Drop in your two bits, and bounce the silver ball off your rocket-shaped paddle against a wall of day-glo bricks. Enjoy the slick sound effects and bright colors as long as you can, because you'll eventually miss the silver ball and you'll have to insert another quarter to keep playing.

If you feel like spending another 25 cents, ask yourself, "Could I play Arkanoid 120 times?" If you answer, "Heck, I could play this 120 times on

my lunch hour" (as I did), then buy Arkanoid for the IIGS. It's the same furiously addictive game you've played in your local video arcade. After all, you already spent \$3000 for the computer. Now go home, leave the kids alone, and play.

. . .and plays . . .

**Serve and Volley GS**, Accolade, 550 South Winchester Boulevard, San Jose, CA 95128, (408) 985-1700, \$39.95

I play a good inner game of tennis. That means my outer game—the serve, backhand, forehand, lob, smash, topspin, and leap over the net—is bad. But I'm great at watching the pros on TV. I always know exactly what they should be doing. Serve and Volley is like that. It's a great tennis game for players who always know what they should be doing, but don't always have the skill to do it.

Serve and Volley is like a video arcade game—you can watch little ten-

nis players running around the computer court. But I promise your opponent will smash you if you waste time watching the action. You need to monitor your position, your choice of shot, and your aim constantly. A small screen, inset in an upper corner of the game display, requires your undivided attention.

Accolade mastered the sports-game interface with bars and meters on Hardball! and Mean 18. One drawback, though, was that the interface made it too easy for your opponent to see what you were doing—Hardball! in particular required blindfolds, two joysticks, or more trust than I have in my friends. But Serve and Volley fixes that neatly: You're so busy concentrating on your game you don't have time to worry about watching the split screen in your opponent's corner.

Serve and Volley is complex—I played two games before I returned a serve—but tennis isn't simple, either. It's worth the inner effort. ■

## Short Takes . . .

### California Games GS



*Epyx*, P.O. Box 8020, 600 Galveston Drive, Redwood City, CA 94063, (415) 366-0606, \$44.95

Super graphics and radical music make the GS version of this old favorite cooler than ever. Surfing's the best, but you've also got half-pipe skateboarding, roller-skating, footbag, bicycle motorcross, and flying disk. The only things missing are sunburn and salt spray. (See Games Editors Play, February 1989, p. 90.)

### Fourth and Inches



*Accolade*, 550 South Winchester Boulevard, Suite 200, San Jose, CA 95128, (408) 985-1700, \$44.95

If you're looking for elaborate simulations of intricate formations, this one's not for you. Fourth and Inches is a simple, fast-action arcade game; you can select plays and defenses, but that's as detailed as it gets. So far it's the best football game for the Apple II, though; ease of use, basic strategy, and entertainment go a long way here. (See Games Editors Play, February 1989, p. 90.)

### Mini-Putt



*Accolade*, 550 South Winchester Boulevard, Suite 200, San Jose, CA 95128, (408) 985-1700, \$39.95

To the best putter go the spoils. Mini-Putt's four minimalist courses of nine holes each sport windmills and elephants in addition to rolling hills and deep lakes. It's not as whacky as Zany Golf, and the game screen's just a two-dimensional map, but it's a tougher athletic challenge all around. (See Games Editors Play, February 1989, p. 90.)

### Skate or Die



*Electronic Arts*, 1820 Gateway Avenue, San Mateo, CA 94404, (415) 571-7171, \$39.95

Skate or Die's got all the "rad" happenings—twist and turn in a downhill run through the park, crank out some outrageous aerials in the half pipe, soar in the high jump. It's great to try all this stuff without worrying about losing your knees. Skate or Die will bring back a lot of memories—even if you never wore spiked leather gloves or a fuchsia mohawk. (See Games Editors Play, January 1989, p. 88.)

### Tomahawk GS



*Datasoft*, 19808 Nordhoff Place, Chatsworth, CA 91311, (818) 886-5922, (800) 245-4525 (orders only), \$39.95

Tomahawk simulates the complex controls and intricate maneuvers required to fly an Apache attack helicopter. The game has plenty of authentic details, including especially realistic sound effects. (See Games Editors Play, October 1988, p. 106.)

### Alien Mind



*PBI Software, Inc.*, 1163 Trilon Drive, Foster City, CA 94404, (415) 349-8765, \$54.95

Everything's out to get you as you blast your way through the corridors and levels of a space station. Along the way you log onto terminals to get clues and passwords from your friend, who's hiding somewhere deep in the station. Alien Mind is exciting action that will keep you occupied for a good long time. Joystick recommended. (See Games Editors Play, September 1988, p. 42.) □



## Welcome to the Real World

by Cynthia E. Field, Ph.D.

Tsk, tsk. Here you are swigging Mylanta and grappling with the prospect of filling out your 1988 tax return, while your children contentedly play computer games. Thanks to the half-dozen programs reviewed here, you can now make economic interests a family affair and introduce kids to the "real" world. Don't worry—you won't be the family spoiler. Playing these educational games and simulations is entertaining in its own right, and an absolute blast compared to completing the dread Form 1040.

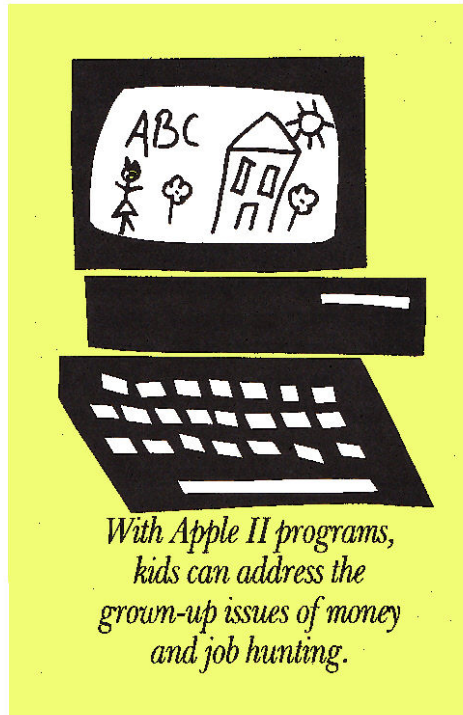
### BASIC MONETARY SKILLS

Want to get a jump on things and teach your kids the value of money *before* they become teenagers? You can do it with **Money Works** from MECC.

Money Works includes four games: How Much Money?, Money Machine, Counting Change, and Money Mint. Unlike some other programs I've seen, this one lets children aged 6-9 explore the appearance and value of either U.S. or Canadian money and appreciate its worth—or lack thereof—in foreign currency.

In the first game, crack the safe and count the money inside. Each variety of coin or denomination of paper currency looks like its real-life counterpart: nickels like nickels, dimes like dimes.

The graphics in Money Machine, the second game, may remind you of the coin changers amusement-park attendants wear. The program displays a certain monetary amount in words or in numbers on screen. Match the amount by using the arrow keys and the spacebar to dispense look-alike money from the Money Machine. You'll have to be astute: There may not be enough quarters, so you'll need to dispense a combination of dimes, nickels, and pennies instead.



*With Apple II programs,  
kids can address the  
grown-up issues of money  
and job hunting.*

Counting Change, the third activity, uses the "money machine," too. In this game, you're a cashier. The program displays a picture of a familiar item, its cost, and the amount of money the "customer" has given you. You make the correct change.

Money Mint, the fourth game on disk, strays from the drill-and-practice scenarios presented in the first three. Design your own paper money by determining the visage it'll carry and its value. Move over, George Washington! In Money Mint, you can select the image of a white, black, or Asian child.

Moreover, you can see your currency's worth in English, French, German, or Japanese money. You can also print play money. Parents or an older brother, sister, or babysitter can use Money Works' built-in utility to enter current exchange rates for the pound, franc, mark, and yen. This feature alone could be a springboard for discussing a real or make-

believe trip and for getting the kids involved in planning it.

### PROTECTING YOUR ASSETS

**House-a-Fire!** teaches an economic skill of a different sort: protecting home, hearth, and human life. This program, from E. Nelson Publishing, includes a database of information about, among other topics, Heat Transfer, Types and Causes of Fires, Firefighting Substances, and Leaving a Burning House. Learning or reviewing information contained in the database, children participate in two simulations: Make It Safe! and Firefighter!

Make It Safe! challenges you to avoid fire hazards as you move into your new, make-believe, two-story home. The program lets you furnish one or more rooms in the floor plan displayed on screen. Select and position your choice of graphics icons representing typical room furnishings: paper towels in the kitchen, a blow dryer in the bathroom, a computer in your bedroom. You might decide to place a fire extinguisher in the kitchen and maybe another in your living room, because of its fireplace.

When you're finished, the program assesses the home's fire safety. If your layout doesn't pass muster, fire breaks out. Even if your layout is safe, the program may generate a random fire. Try to put it out within the time limit or at least be sure to escape safely. Unlike real life, the program helps you undo the damage and learn to avoid fire hazards in the future.

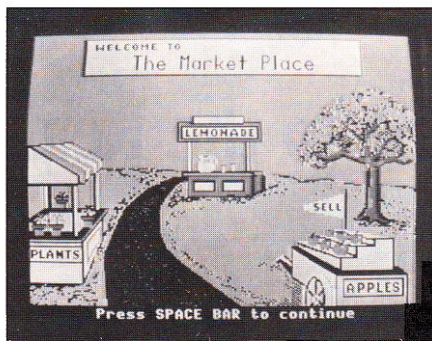
The second simulation, Firefighter!, teaches you about the six tasks firefighters must perform before they attempt to extinguish a fire. Not only do you learn to recognize types of fires, but you also become more aware of the effects of weather on firefighting and the necessity of turning off utilities, including gas, water, and electricity.

House-a-Fire! is an educational program with highly practical, if not life-saving, application. Use it as an impetus to beef up fire safety in your home. Otherwise, you could find yourself making an unpleasant entry relative to "casualties" on Schedule A.

## CAVEAT EMPTOR

If you want to help your kids avoid getting "burned" in the figurative sense, take a look at MCE's **Buyer Beware**, the teenager's survival guide to avoiding consumer rip-offs.

This unique program offers illustrated, interactive tutorials in five areas: Door-to-door Sales, Consumer Complaints, Mail-Order Fraud, Teens as Victims, and Sales Techniques. Parents already know about exaggerated advertising and high-pressure sales pitches. On the other hand, teens can be too trusting.



*Kids learn business-management techniques with The Market Place from MECC.*

Buyer Beware gives them consumer "smarts," including common-sense tips about handling salespeople and seeing through the mind games some of them play with their customers. The program includes information about protective legislation such as the "cooling off pe-

riod" and explains your options when you want to file a complaint.

The section on Teens as Victims really hits home. It teaches young people how unscrupulous advertisers and salespeople can exploit kids' concerns about their looks and dreams for the future. If Buyer Beware helps your child avoid even one costly mistake, the program will have paid for itself.

## FOR YOUNG ENTREPRENEURS

If your children aged 8-13 dream of someday making it on their own, **The Market Place** from MECC and **The Cactus Factory** from Exsym provide good basic training. Both programs are business-management simulations in which you don't have to worry about tax returns or Chapter 11 bankruptcy.

The Market Place's measured approach to teaching business skills involves

## MODEM MGR® \$49<sup>90</sup>

plus \$3 ship/hand • plus tax (Calif. only)

- A powerful telecommunications program
- For Apple IIGS, //c, //e, ][+
- Runs most internal and external modems
- Text capture and auto disk save
- Screen capture (snapshot)
- Full-screen editor
- Full- or split-screen display with type ahead (for CB, chat, packet radio)
- Macro script files for auto log-on
- Programmable function keys
- XMODEM and BINARY II file transfers
- Fast operation (110 to 19200 baud)
- Both ProDOS and DOS 3.3 support
- Supports Apple or Videx 80-column card
- On-screen display of time-of-day or elapsed time (with most clock cards)
- Unattended mode with password protection
- Emulates DEC VT52, DG D200, others
- **NEW for IIGS, //c, 128k //e (ProDOS):**
- ★ **DEC VT220, VT100 emulation**
- ★ **Reverse scroll review**
- ★ **Message flagger for easy retrieval**
- Available direct only. Send check to:

**MGR  
SOFTWARE**

Suite 101  
305 So. State College Blvd.  
Anaheim, CA 92806  
(714) 993-0294

Apple, ProDOS are trademarks of Apple Computer Inc.

## ALLTECH ELECTRONICS, Co., INC.

1300 E. EDINGER, STE D  
SANTA ANA, CA 92705

(714) 543-5011 - FAX (714) 543-0553

|                                     |  |
|-------------------------------------|--|
| <b>Full Height Drives for Apple</b> | <b>Apple II, II+, IIE Power Supply</b> |
| II, II+, IIE .....                  | Refurbished .....                      |
| IIC .....                           | w/Exchange .....                       |
| \$65.00                             | \$65.00                                |
| \$75.00                             | \$55.00                                |

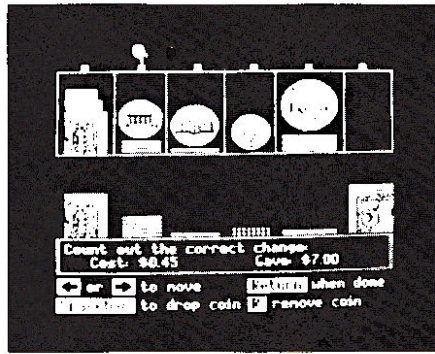
**Apple IIC Carrying Case**  
W 16", D 12", H 4" .....

| MANUALS FOR APPLE                                  | BOARDS FOR APPLE                  |
|--|-----------------------------------|
| Apple Works Reference Manual & Diskette .....      | 80 Column for Apple II, II+ ..... |
| \$35.00  | 80 Column for Apple Iie +128K ..  |
| Apple Writer II Users Manual & Diskette .....      | \$45.00                           |
| \$29.00  | Z80 Card .....                    |
| ProDOS Users Manual & Diskette ..                  | \$35.00                           |
| \$15.00  | Apple Parallel Printer Graphic    |
| Apple Super Pilot Language Reference Manual .....  | Interface Card .....              |
| \$10.00  | w/2K Buffer .....                 |
| Apple Super Pilot Editors Manual ..                | \$45.00                           |
| \$10.00  | 512K Memory BD Unpopulated ..     |
| Apple Super Pilot Log Users Guide ..               | \$35.00                           |
| \$5.00   | Apple Iie Carry Case .....        |
| Pascal Profile Managers Manual ..                  | \$29.00                           |
| \$10.00  | Apple Iie Monitor 9" Green .....  |
| MacProject .....                                   | \$75.00                           |
| \$10.00  |                                   |
| MacDaisy Wheel Connection (Diskette & Cable) ..... |                                   |
| \$20.00  |                                   |
| MacDraft .....                                     |                                   |
| \$10.00  |                                   |
|  | <b>MEMORY</b>                     |
|  | (All Pulled and Guaranteed)       |
| <b>CABLES FOR APPLE</b>                            | 4116 .....                        |
| Laser 128 Parallel Cable .....                     | \$95                              |
| \$15.00  | 4164-20 .....                     |
| Iic Serial Printer or Modem Cable ..               | \$1.25                            |
| \$9.95   | 4164-15,12,10 .....               |
| Image Writer II Cable .....                        | \$Call                            |
| \$9.00   | 41256-15,12,10,8 .....            |
| MacPlus Serial Adapter .....                       | \$Call                            |
| \$5.00   | 2716 .....                        |
| Mac Serial Printer or Modem Cable .....            | \$1.50                            |
| \$9.00   | 2732 .....                        |
| Hayes Transet 1000 Cables .....                    | \$1.50                            |
| \$9.00   | 2764 .....                        |
| Centronics M/Centronics M .....                    | \$2.95                            |
| \$8.00   | 27128 .....                       |
| Centronic F/Centronics M .....                     | \$4.00                            |
| \$8.00   | 27265 .....                       |
| ABCD Switch Box Centronics .....                   | \$5.00                            |
| \$29.00  | 6116 .....                        |
| ABC Switch Box DB25/F .....                        | \$3.00                            |
| \$19.00  | 6264 .....                        |
| ABxCD Switch Box .....                             | \$9.00                            |
| \$39.00  | 62256 .....                       |
|  | \$16.95                           |

three types of retail businesses: Sell Apples, Sell Plants, and Sell Lemonade.

The object of Sell Apples is to determine optimum pricing for each piece of fruit. During your one-month stint as an apple hawker, you select various prices from 1-50 cents. Responding to the program's prompts, you calculate daily profits. The program transforms this cumulative information into a bar graph. Watch trends carefully, and you'll soon determine the price that has the best effect on your bottom line.

In Sell Plants, you move up in the world—your class has elected you business manager. Your job is to market the tomato plants the class grew as a science project. The goal is to make enough money for a field trip. Select a slogan, determine the number of signs to make, and use your math skills to help fill in the daily sales report on the computer screen.



*Money Works teaches children the value of currency.*

Sell Lemonade is the most complex simulation of the three on this MECC disk. Not only do you have to make business decisions about prices and signs, but you also have to determine how many glasses of lemonade to make each day.

Watch weather predictions and track

the progress of the road construction going on near your location. At first, your parents give you the sugar you need, but, like other venture capitalists, they expect your business to become self-sufficient. Your overall goal is to earn \$100, after expenses, of course. Because the program lets you operate up to three lemonade stands at one time, brothers and sisters, relatives, and friends can enter the competition.

An individual mogul-to-be or a group of young entrepreneurs can also turn to The Cactus Factory. The overall object of this simulation is to sell 20 cacti in a minimum amount of time by determining the variety of cactus and the type of flower pot customers like best.

The menu in this colorfully illustrated program provides a logical business plan: Buy Seeds, Buy Pots, Grow Cacti, and Sell Cacti. Seeds cost \$1 per package of ▶

## COMPUTEREYES™



**NEW!**

**Color Video Images for your GS: \$249<sup>95</sup>**  
**Monochrome for any Apple II: \$129<sup>95</sup>**

Now you can easily and inexpensively digitize high quality images from any standard video source – videotape, camera, disk – for display on your Apple. Capture time is less than six seconds, and you have complete control of displayed color levels (or gray scales in monochrome).

ComputerEyes has everything you need: Interface hardware, complete easy-to-use software support, and owner's manual. It fully supports all Apple graphics modes and the images are compatible with virtually all popular graphics programs.

Think of the possibilities!

ComputerEyes is backed by a one year warranty and the success of over 10,000 systems sold. Satisfaction guaranteed or return within ten days for refund. Demo disk available, \$3.

See your dealer or order direct. For more information call 617-329-5400.

To order call 800-346-0090

or mail your order to: Digital Vision, Inc.  
 66 Eastern Avenue, Dedham, MA 02026  
 VISA, M/C, or COD accepted. S&H, \$4.

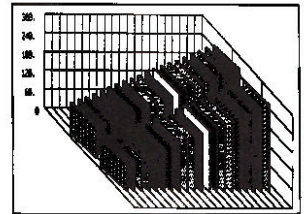
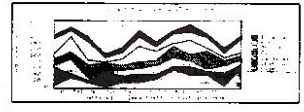
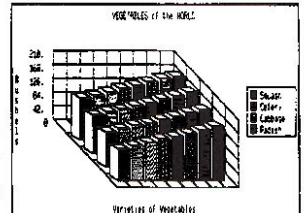
**DIGITAL VISION**

## APP STATS & GRAPHS

The complete statistical package with data management and graphs

### STATS:

Easy to use, no commands to memorize (menu-driven); Descriptive Statistics, t-tests (independent and dependent samples), General ANOVA/ANCOVA (up to five factors, unlimited number of cases, Repeated Measures, unbalanced designs, contrasts, adjusted means, and more), Correlations, Multiple Regression (up to 15 predictors, unlimited number of cases), Crosstabulation, Significance Tests, 10 Non-parametric Statistics, and more; user defined (multiple) conditional selection of subsets of cases, various ways of treating missing data; Flexible Data Editor, easy entering/editing of data, complex (conditional) transformations of variables, sorting, transposing, and more; can also access files created by spreadsheets (e.g. AppleWorks) and data bases.



### GRAPHS (by Third Wave Techn., Inc.):

Large selection of highest quality, impressive graphs (Column, Stacked column, 3-D stacked column, Horizontal bar, Line, Line/column, Scatter, Area, Pie chart, 3-D chart); User controllable legends, borders, titles, spacing, etc.; Up to 400 data points per graph; Double-high resolution, full colors; Mouse and joystick and over 60 printers supported (printout size up to 7" x 15")

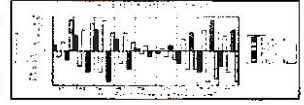
Price for APP STATS & GRAPHS:  
 \$99 (plus \$5 sh/h)



**StatSoft**

2325 East 13th Street  
 Tulsa, OK 74104  
 (918) 583-4149  
 Fax (918) 583-4376

Overseas offices: StatSoft of Europe (Hamburg, FRG), phone 040/4200347; StatSoft UK (London, UK), phone 0436/310056; StatSoft Pacific (Melbourne, Australia), phone 613-663-6600



# When You Need a *Real* Data Base Manager, Use a *Professional!*

"There's little doubt that DB Master is the most powerful database program available for the Apple II. It rivals, and even surpasses, sophisticated database programming languages in many ways."

— **Apple IIGS Buyer's Guide**, Winter '88

Software "All Star"

— **A+ Magazine**, December '87

"the database to beat all databases"

— **InCider**, June '88

"if you need power-this one really *moves*"

— **InCider** "Editors' Choice", July '88

"Librarians who work with gigantic files and need a more powerful data base than AppleWorks provides should look carefully at DB Master.... Stone Edge has really pushed the Apple II further than most people ever thought it could go."

— **Apple Library Users Group Newsletter**, January '88

"I have access to AT's and DBase, Foxbase and all the rest, but for ease of use, versatility and speed, nothing, and I mean nothing, beats DB Master!"

— **John LePire**, president, JCL Services

"I received my copy of DB Master Version Five a few weeks ago and have been putting it through its paces. In a word, it's **great!** It puts to shame every other database manager I've ever used, and believe me, I've tried them all!"

— **R.C.**, Grandville, Michigan

## DB Master *Professional*

The Ultimate DBM for the Apple //

Call or write for a free copy of "Apple // Data Base News!"



**Stone Edge**  
TECHNOLOGIES INC

P.O. Box 3200 • Maple Glen, PA 19002 • (215) 641-1825

DB Master is a registered trademark of DB Master Associates. Apple and AppleWorks are trademarks of Apple Computer, Inc.

Circle 290 on Reader Service Card.

## FIELD TRIP

five for all three cacti (Beavertail, Pin-cushion, and Woolly Torch), but planter prices vary: Plain ones set you back \$3 each; fancy ones, \$6! No matter, though, the right cactus in a fancy pot can bring in \$10.

The Cactus Factory provides on-screen business reports such as Daily Inventory and bar charts representing the number of cacti sold and your enterprise's cash flow. Successful proprietors enter the Cactus Factory Hall of Fame, a disk-based list of business standouts.

The Cactus Factory documentation deserves special mention for its "Cactus

Curriculum" activities. Though seemingly geared toward the classroom, these activities are nevertheless suitable for family discussions (free enterprise versus socialism, supply versus demand) and projects (a decision-making planner for purchasing a car). Three of the manual's reproducibles are shapes children can use as fabric patterns for creating soft-sculpture cacti.

### WHAT DO YOU WANT TO BE?

Not yet realizing that a particular job doesn't have to be an irrevocable commitment, kids often agonize over what

## PRODUCT INFORMATION

### Buyer Beware

MCE  
157 South Kalamazoo Mall  
Suite 250  
Kalamazoo, MI 49007-4823  
(800) 421-4157  
(616) 345-8681  
\$54.95, 5 $\frac{1}{4}$ -inch disk  
backup included  
48K, Apple II series  
ages 12 and up  
*Reader Service No. 315*

### The Cactus Factory

Exsym  
301 North Harrison Street  
Building B  
Suite 435  
Princeton, NJ 08540  
(609) 737-2312  
\$39.95, home or school edition,  
5 $\frac{1}{4}$ -inch disk  
backup included  
64K, Apple II series  
ages 8-13  
*Reader Service No. 316*

### House-a-Fire!

E. Nelson Publishing  
Decision Development Corp.  
2680 Bishop Drive  
Suite 122  
San Ramon, CA 94583  
(415) 830-8896  
\$49.95, 5 $\frac{1}{4}$ - or 3 $\frac{1}{2}$ -inch disk  
backup \$10  
64K, Apple II series  
ages 7-13  
*Reader Service No. 317*

### Money Works, \$59

school edition, 3 $\frac{1}{2}$ - or 5 $\frac{1}{4}$ -inch disk  
backup included  
128K, Apple II series  
ages 6-9

### The Market Place, \$59

school edition, 3 $\frac{1}{2}$ - or 5 $\frac{1}{4}$ -inch disk  
backup included  
\$29.95 home edition, 5 $\frac{1}{4}$ -inch disk  
\$34.95 home edition, 3 $\frac{1}{2}$ -inch disk  
64K, Apple II series  
ages 8-11

### MECC

3490 Lexington Ave. North  
St. Paul, MN 55126  
(800) 228-3504  
(612) 481-3500  
*Reader Service No. 318*

### The Right Job

Sunburst Communications  
39 Washington Avenue  
Pleasantville, NY 10570-2898  
(800) 431-1934 (USA)  
(800) 247-6756 (Canada)  
(914) 769-5030 (collect)  
\$189 school edition, 5 $\frac{1}{4}$ -inch disk  
backup included  
48K, Apple II series  
ages 12 and up  
*Reader Service No. 319*

they want to be. This decision can be especially difficult for teenagers who won't be attending college and need to make what they see as an all-important choice at the ripe old age of 18.

Sunburst's **The Right Job** can help noncollege-bound and special-education students assess their skills and interests and compare them to those required by various occupations in areas such as sales, service, or the building trades.

The program helps teens master job jargon such as *seasonal work*, *references, Inc.*, and *receptionist*. Moreover, the program shows kids how to read classified

## SHARE AND SHARE ALIKE

Truth is kids can use many educational products such as **The Right Job** successfully both in school and at home. If you'd like to help the children in your community enjoy the best of both worlds, consider acting as a catalyst for a home/school software partnership.

In my town at least one school maintains a software lending library that loans out programs (which the school has purchased or parents or the PTA have donated) on weekends and during vacations. Not only does this kind of partnership help forge a closer link between parents

## Fielding Questions

### The "New" GS

**We just purchased an Apple IIGS for our daughter. I've inquired about some programs only to learn they won't run on the IIGS. Is this only because the GS hasn't been around as long as the IIe and IIc?**

**J.R., Amarillo, TX**

**Because the GS is a 16-bit machine and much more powerful, there are bound to be some misconceptions and fears about its compatibility with programs designed originally for 8-bit IIs.**

**All but one or two of the educational programs I've seen have loaded and run properly on the GS. I, too, have heard "stories" of in-**

**compatibility, but I haven't found this to be a widespread problem.**

**If your dealer stocks a program you're interested in, ask him or her to let you try running it on an in-store GS or borrow a demo version, if available, to try at home. If you're concerned that your existing software may become quickly obsolete by upgrading to a GS, bring the software to your dealer and ask to test it. If you intend to order the program by mail, call the program's publisher and ask whether the software has actually been tested on the GS. Many of these publishers have toll-free numbers. □**

ads, fill out job applications, take part in an interview, and behave appropriately on the job.

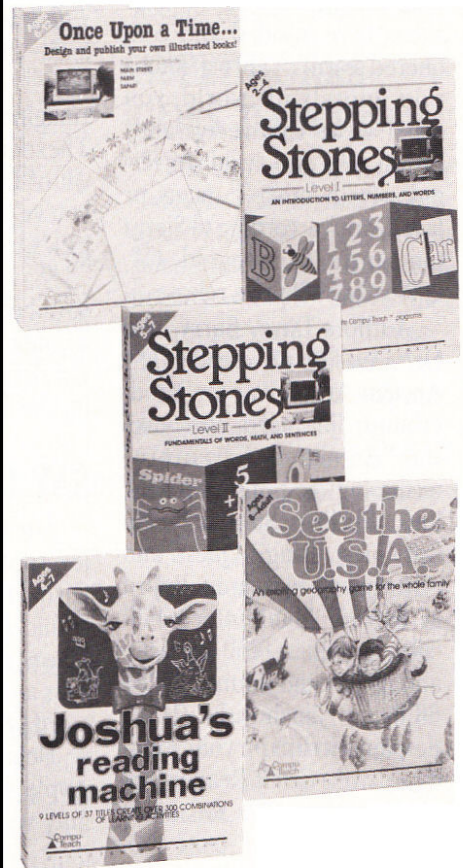
**The Right Job** costs nearly \$200, so this probably isn't a product you'd purchase for your own home. Nevertheless, it's one you might suggest your school consider adding to its computer lab or lending library. (Sunburst lets schools preview this program and others in their catalogue free for 30 days.)

and teachers, it provides children with an opportunity to further expand their computing horizons. ■

*Cynthia E. Field is a free-lance journalist specializing in computer-related topics. She is a contributing editor and the author of Press Room, inCider's column on desktop publishing. Write to her at 60 Border Drive, Wakefield, RI 02879. Enclose a self-addressed, stamped envelope if you'd like a personal reply.*

# A classic education starts right here.

Five award-winning, creative programs designed for interactive learning at home or in school.



Available for:

- Apple IIGS • Apple II +, IIe, IIc
- IBM & MS-DOS Compatibles • Macintosh

Featured at leading software dealers coast-to-coast, or call toll-free for a full-color brochure: 1-800-44-TEACH (Connecticut: 203-777-7738)

**Compu-Teach**

CHILDREN'S SOFTWARE™  
Circle 154 on Reader Service Card.

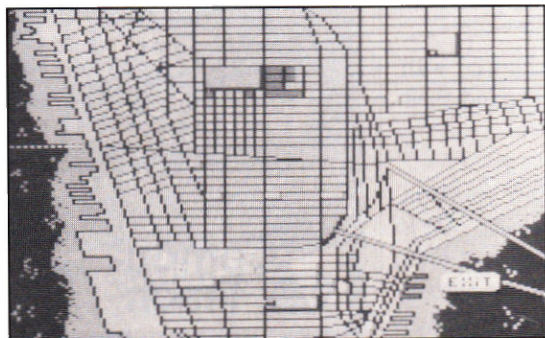
edited by Paul Statt **FAMILY FRIGHT**

## Software

### I LOVE N.Y.

You're a **Manhunter** in Manhattan, two years after aliens have invaded and conquered earth. "Thrust into a post-apocalyptic world, you must wear the designated brown robe and avoid conversation with other humans or face death," according to Sierra On-Line's (Coarsegold, CA, 209-683-6858) press release.

Authors Dave, Barry, and Dee Dee Murray created *The Ancient Art of War* for Broderbund; for Sierra they take the "Animated Adventure" technology responsible for the look of *Leisure Suit Larry*, *Police Quest*, *King's Quest*, and other games to its limit. Priced at \$49.95, *Manhunter's* full-color graphics—250 scenes—and gruesome sound effects fill four 3½-inch disks. (Don't despair—it runs on your hard-disk drive.) Circle Reader Service number 350 for more information.



Full-color graphics and gruesome sound effects make for an unforgettable trip to NYC in the animated fantasy *Manhunter*.

**Warlock** is grisly fun. The first Apple IIGS offering from Three-Sixty (Campbell, CA, 408-879-9144) combines humor and arcade action in a game for the whole family.

If you thought *Friday the 13th* was a funny movie, *Warlock*, priced at \$39.95, will have you rolling in the aisles. Imagine the slick graphics of *Thexder* combined with the wit of *Leisure Suit Larry*, and you've got a good idea of *Warlock's* looks.

"Save the Karna," using your head, your heart, and just a little hand-eye coordination. For details, circle number 352 on the Reader Service card.

### SAY IT IN COLOR

After setting the standard for Apple IIGS paint programs with *DeluxePaint II*, Electronic Arts hopes to provide "the complete solution for papers and reports" with its new **word processor**, *DeluxeWrite*.

*DeluxeWrite* supports all Apple IIGS type fonts, sizes, and styles on screen and in



Turn in your scalpel: Optical Data offers bloodless dissection in its new videodisc slide collection, *The Frog*.

print. It's fully AppleWorks compatible, which means you'll keep all your AppleWorks formatting commands if you choose to compose with AppleWorks and print with *DeluxeWrite*. It also has a 90,000-word spelling checker.

But the greatest strength of *DeluxeWrite* is its easy integration with *DeluxePaint II*. Your word-processor documents can include any *DeluxePaint* image, including clip art. You can resize and crop the images for the best fit in your document, and use all the original colors from *DeluxePaint II*.

*DeluxeWrite* sells for \$79.95; the "DeluxeWrite/DeluxePaint II combo" is only \$129.95, from Electronic Arts, San Mateo, CA, (415) 571-7171. For additional information, circle Reader Service number 354.

### KERMIT EXCLUDED

Don't dare dissect? **The Frog**, the latest addition to the Living Textbook videodisc series from Optical Data (Warren, NJ, 201-377-0302) does the job bloodlessly.

*The Frog* is a collection of more than 200 slides and 34 movie clips stored on two sides of a videodisc. Material covers

embryology, development, and anatomy of the frog, and includes films of frogs in their natural habitat. For biology classes that go ahead with dissection experiments, there are also detailed instructions.

The *Frog* videodisc costs \$195; it's also available for \$395 in an Interactive Multimedia Package that adds an image directory on either an AppleWorks database file or a Macintosh HyperCard stack. Contact the company, or circle Reader Service number 355 for more information.

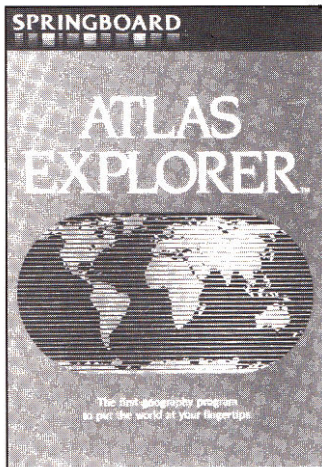
### AROUND THE WORLD

Could you find Maputo on the map? Americans know too little about the world. At teachers' conventions across the country, the hot topic is **geography**.

*Atlas Explorer*, from Springboard Software (Minneapolis, MN, 612-944-3915) is like an atlas on disk, and its quizzes and games make geography fun. It works on two levels: first as a digital reference work, and second as a programmed learning experience. Teachers can replace the traditional geography class with *Atlas Explorer*, or simply use it as an ancillary reference work.



Atlas Explorer costs \$49.95 for the Apple IIc, IIe, and IIGs. A lab pack is also available for \$100. For more information, see if you can find number 356 on the Reader Service card.



Your Apple's your ticket to exotic lands as Atlas Explorer takes you around the globe.

## DOWN AND OUT IN CHIBA CITY

You can be a **Neuromancer** when you play the first cyberpunk computer game. The plot of this fantasy role-playing adventure, created by the guys who brought you *Wasteland* and *Bard's Tale*, is lifted from William Gibson's best-selling sci-fi novel of the same name.

You're a cyberspace cowboy on the skids in Chiba City. That is, you're a professional computer hacker in the 21st century, when everything's done on a mega on-line network, and you're out of work. This one requires brains and skill. And it wouldn't hurt to

read the book first, either.

*Neuromancer* from Interplay Productions (Costa Mesa, CA, 714-549-2411) costs \$44.95 and includes the original soundtrack by Devo. For more information, circle Reader Service number 351.

## NEW WISHES

- **Mathematica** (Wolfram Research): a "whole new way of doing mathematics with a computer." But you need a Mac II with megabytes to show it off.

- **AccuWeather** (AccuWeather): on-line weather maps from the same people who probably report the weather for your local radio station—if you have a Mac or IBM PC. But look for the National Geographic Society's "educational" on-line weather maps in April.

## Hardware

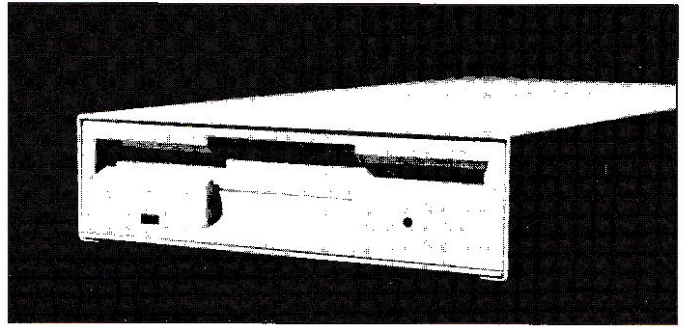
### DISK DATA

Here are the facts about the SystemGate M300 **3½-inch, 800K floppy disk**:

- The M300 measures an inch high, four inches wide, and less than eight inches long. (Apple's is 2 by 5 by 8 inches.)

- The M300 works with the Apple IIGs, Apple IIc Plus, and the Laser 128EX/2, alone or in daisychain with other drives (just like Apple's drives).

- The M300 is warranted for one full year (Apple's drives



SystemGate's M300 3½-inch disk drive takes on Apple's popular model in the mass-storage marketplace.

for 90 days).

- The M300 doesn't have an "eject" button; you have to remove the disk by software or paper clip. (Apple's disk has a button.)

- The M300 costs \$259. (Apple's costs \$425.)

Get a disk drive (and a paper clip) from SystemGate, Monterey Park, CA, (818) 282-4720, or circle number 353 on the Reader Service card.

## Resources

### THE FUTURE IS NOW

Stewart Brand, founder of *The Whole Earth Catalog*, takes a tour *Inside the Media Lab* (Viking Penguin, New York, NY, 212-545-7433) at the Massachusetts Institute of Technology. All the nifty "technology of the future" is here today in this \$10 paperback: holography, talking computers, computer music and art, artificial realities, and first-graders programming robots with Logo and Lego. You'll need to be a knowledge navigator to find your way through Brand's excited, wandering prose; it's nonlinear. But the pictures are worth ten bucks.

For more information, circle Reader Service number 357.

## APPLEWORKS GOES TO SCHOOL

*The AppleWorks Resource Guide for Teachers and Parents*, priced at \$12.95, might interest some students, too. It's a comprehensive list of more than 125 AppleWorks templates—AppleWorks disk files in which useful information has already been entered.

Jim Carlisle, founder of the Teachers' Idea and Information Exchange and the country's foremost template collector, was a major contributor; Claris Corporation (Mountain View, CA, 415-960-2790), publisher of AppleWorks, produced this official guide to AppleWorks for education. Call the distributor, Scholastic Software, at (800) 631-1586, to order, or circle Reader Service number 358 for more information. ■

*Product descriptions contained in this section are based on information supplied to us by the respective manufacturers. These announcements are provided solely as a service to our readers and do not constitute endorsement by inCider of any given product.*

# HINTS/TECHNIQUES



Apple users know there's always an easier way to get the job done. A shortcut here, an elegant twist there—that's what *Hints/Techniques* is all about. It's an information swap for readers who want to share their programming pointers, DOS tips, hardware secrets, AppleWorks applications, and all those other insights. Bracketed numbers in listings refer to new Applesoft Program Proofer, p. 24.

## Apple Macros

by Andy Haas

Wish your Apple II had definable function keys? Now you can create your own macros with the accompanying programs, Macro Driver (**Listing 1**) and Apple Macros (**Listing 2**). You'll reduce keyboard activity by defining 16 control keys capable of reproducing up to 31 characters each.

Type in **Listing 1**, SAVE it, and RUN. Then type BSAVE Macro.Driver,A\$9300,L\$300 to save the binary program and macro-definition file the program creates. Be sure to use that name, because **Listing 2** looks for it.

Now type in, SAVE, and RUN **Listing 2**. Apple Macros is the editor you use to personalize the macros you define in Macro Driver.

After a brief pause, during which Apple Macros BLOADs Macro Driver, you'll see a list of macro keys followed by their character-output definitions. The program prompts you to press the key corresponding to the macro you want to edit.

Next, type in any Applesoft or ProDOS command as the macro's definition, such as LIST for the macro Control-L. Press C to clear all macro definitions if you want to start with a clean slate. Press Q to quit, and use the macros you saved most recently in subsequent programs. Once installed, you'll now have a collection of commands waiting at your fingertips.

While listing definitions, be aware that

**Listing 1.** Macro Driver defines keystroke equivalents.

```
10 REM Make Macro.Driver [3537]
20 REM by Andy Haas [2402]
30 REM Copyright 1988, inCider [4735]
40 FOR I = 37632 TO 37877: READ N: POKE I,N: NEXT I [3276]
50 FOR I = 37878 TO 38399: POKE I,0: NEXT I [2771]
60 PRINT "Macro driver code in memory. BSAVE it as:"
   [9132]
70 PRINT "MACRO.DRIVER,A$9300,L$300." [5633]
80 END [1050]
100 DATA 186,142,226,147,162,27,169,147,142,242 [8857]
110 DATA 3,141,243,3,73,165,141,244,3,44 [7244]
120 DATA 31,192,48,3,76,98,250,174,226,147 [7741]
130 DATA 154,169,0,133,115,169,147,44,0,191 [1214]
140 DATA 48,2,169,143,133,116,162,76,169,147 [1284]
150 DATA 134,56,133,57,44,0,191,16,3,76 [1102]
160 DATA 191,157,44,31,192,16,6,142,50,190 [1272]
170 DATA 141,51,190,76,0,190,142,225,147,186 [1362]
180 DATA 142,226,147,44,227,147,16,4,145,40 [1281]
190 DATA 48,105,44,31,192,16,6,32,5,195 [1186]
200 DATA 76,106,147,32,27,253,201,145,208,18 [3624]
210 DATA 141,12,192,162,191,169,157,44,0,191 [3626]
220 DATA 48,142,162,0,169,190,208,136,201,157 [3732]
230 DATA 208,31,173,229,147,73,128,141,229,147 [3839]
240 DATA 72,162,144,138,202,208,253,170,44,48 [3772]
250 DATA 192,202,208,245,104,10,176,238,177,40 [3885]
260 DATA 76,92,147,162,15,221,230,147,240,5 [5873]
270 DATA 202,16,248,48,46,138,10,10,10,10 [5306]
280 DATA 10,141,204,147,169,149,176,3,56,169 [5793]
290 DATA 148,141,205,147,110,227,147,174,228,147 [6408]
300 DATA 238,228,147,189,0,148,208,13,141,227 [5962]
310 DATA 147,141,228,147,44,229,147,16,195,169 [6099]
320 DATA 141,174,225,147,96,1,240,0,0,128 [7432]
330 DATA 129,130,133,134,135,137,140,142,143,144 [9034]
340 DATA 146,148,150,151,153,154 [5431]
```

End

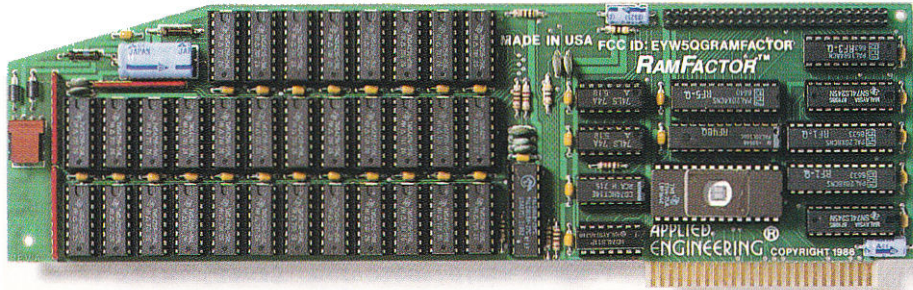
**Listing 2.** Apple Macros works as a macro editor.

```
10 REM Apple Macros [2602]
20 REM by Andy Haas [2402]
30 REM Copyright 1988, inCider [4735]
70 REM [831]
80 ONERR GOTO 340 [722]
100 HIMEM: 36608: TEXT : HOME : DIM M$(15),K$(15): FOR
   Y = 0 TO 15: READ K$(Y): NEXT : DATA A,B,E,F,G,I,
   L,N,O,P,R,T,V,W,Y,Z: VTAB 12: HTAB 7: PRINT "Load
   ing macros from disk...": PRINT CHR$(4);"BLOAD
   MACRO.DRIVER" [18612]
110 A = 37888: FOR Y = 0 TO 15:M$(Y) = "": FOR X = 0 TO
   31: ON NOT PEEK (A + X) GOTO 130:M$(Y) = M$(Y) +
   CHR$( PEEK (A + X) - 128): NEXT [10758]
130 A = A + 32: NEXT Y [1222]
140 HOME : HTAB 15: PRINT "APPLE MACROS": HTAB 15: PRINT
   "-----" [4422]
150 FOR Y = 0 TO 15: VTAB 3 + Y: PRINT "CTRL-";K$(Y);
   ">";M$(Y): HTAB 40: PRINT "<": NEXT : VTAB 21: PRINT
   "<Q>uit <C>lear macros from memory" [11913]
170 PRINT : VTAB 20: PRINT "Edit which macro key? CTR
   L-"; GET I$: PRINT I$:X = ASC (I$):I$ = CHR$(
   X - (X > 96) * 32): FOR Y = 0 TO 15: ON I$ = K$(Y
   ) GOTO 220: NEXT : IF I$ = "Q" THEN 300 [10766]
```

Continued ►

# RamFactor™

## The Ultimate Slot 1-7 Memory Card



RamFactor is automatically recognized as additional workspace memory by AppleWorks 1.3, 2.0 and 2.1. In addition, RamFactor's memory can be used for creating the ultimate in program speed—a lightning-fast RAMdisk for the Apple IIGs, IIe, II+, Franklin and Laser 128. A RAMdisk does not depend on the slow moving parts of a conventional floppy drive. RAMdisks eliminate wear and tear on your disk drive plus your programs run up to 20 times faster! When a program is in RAM, your computer won't have to search for it in the mechanical disk drive during program operation. With RamFactor, you can have up to 9 separate simultaneous RAMdisks—even in different operating systems! Now you can instantly switch from one program to another or even switch from AppleWorks to DOS 3.3 to CP/AM to Apple Pascal 1.3 to ProDOS.

### Apple Memory Expansion Card Compatible

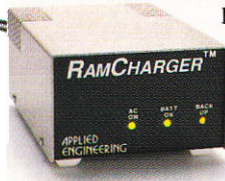
RamFactor is 100% Apple Memory Expansion Card compatible. This means that software designed for Apple's card is automatically compatible with RamFactor. Thousands of software programs—including AppleWorks, Pinpoint, MacroWorks, MultiScribe, and Managing Your Money—can take advantage of the speed and performance RamFactor provides. But with Apple's card, you can have only one RAMdrive partition instead of the 9 simultaneous RAMdrives that RamFactor offers. And that's only part of the story...

### 2.0 AppleWorks Power

Other slot 1-7 cards can give AppleWorks a larger desktop, but that's the end of their story. RamFactor provides many more powerful functions. It's the only slot 1-7 card that increases AppleWorks 2.0 internal limits by increasing the maximum number of records in the database to 22,600, increasing the maximum number of lines permitted in the word processor to 22,600, and expanding the clipboard size to 2,250 lines maximum. RamFactor is the only standard slot card that will automatically load all of AppleWorks into RAM, dramatically increasing speed and

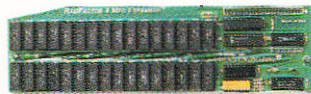
eliminating the time required to access the program disk. It will even display the time and date on the AppleWorks screen with a ProDOS clock. RamFactor will automatically segment large files so they can be saved on multiple 5¼" and 3½" floppies or a hard disk. All this performance is available for the Apple IIe, Laser 128, Franklin or 64K Apple II Plus when used with an 80 column card. No other standard slot card comes close to enhancing AppleWorks so much.

### The "Electronic Hard Disk"



RamCharger is an optional battery back-up device, (about the size of a disk drive), that can plug into a connector on RamFactor. With RamCharger added to RamFactor, your program will appear almost instantaneously when you turn on your computer. RamCharger contains LED's that let you know RamFactor's reserve power status. Since RamCharger has its own built-in power supply, it can retain RamFactor's memory indefinitely. Plus, RamCharger's battery will continue backing up RamFactor's memory for up to 10 hours during power failures. An optional "Y" cable is also available that allows one RamCharger to power two fully expanded RamFactors.

### If 1 MEG Isn't Enough



A 4 MEG RamFactor Expander can be plugged into the expansion port on RamFactor for up to 5 MEG's total. RamFactor Expander uses standard 1 MEG chips and can be expanded in 1 MEG increments. With the addition of RamCharger, both RamFactor and the expander will provide up to 5 MEG's of lightning-fast battery backed storage.

### Features

- Compatible with Apple IIGs, IIe, II+, Franklin and Laser 128
- 256K to 1 MEG on main board with 256K

memory chips; expansion port supports up to 5 MEG with Expander option

- 100% Apple Memory Expansion Card compatible
- RamCharger battery back-up option available for permanent storage
- Reduces power strain to internal power supply with RamCharger option
- Fully socketed and user upgradeable
- Expands internal limits of AppleWorks 2.0
- Automatically recognized by ProDOS, DOS 3.3, Apple Pascal 1.3 and CP/AM
- Built-in RAMDrive software (true RAMdisk not disk caching)
- Graphic memory test included
- Allows Apple II+ to run AppleWorks 2.0 without buying additional software
- Automatically recognized by AppleWorks 1.3 and 2.0
- Fits in any I/O slot except slot 3
- 5 year warranty — parts and labor
- Proudly made in the U.S.A.

|   |              |
|---|--------------|
| <b>RamFactor with 256K</b>                                      | <b>\$299</b> |
| <b>RamFactor with 512K</b>                                      | <b>\$439</b> |
| <b>RamFactor with 1 MEG</b>                                     | <b>\$719</b> |
| <b>RamFactor Expander with 1-4 MEG</b>                          | <b>CALL</b>  |
| <b>RamCharger backup option</b>                                 | <b>\$179</b> |
| <b>"Y" cable</b>  | <b>\$24</b>  |
| <small>(Allows one RamCharger to power two RamFactors.)</small> |              |

Order RamFactor today... with 15 day money back guarantee and our five year warranty. See your dealer or call (214) 241-6060, 9 a.m. to 11 p.m., 7 days, or send check or money order to Applied Engineering, MasterCard, VISA and C.O.D. welcome. Texas residents add 7% sales tax. Add \$10.00 if outside U.S.A.

**AE APPLIED ENGINEERING®**  
The Apple enhancement experts

A Division of AE Research Corporation.

(214) 241-6060

P.O. Box 5100, Carrollton, TX 75011

Prices subject to change without notice.

Macro Driver records all keys except Control-H (left arrow), Control-U (right arrow), and Control-M (Return) as output. Use a backspace-arrow key combination to delete errors.

To install your macros in other programs without using the Apple Macros editor, simply BRUN MACRO.DRIVER, which reserves two control keys as commands. Press Control-Q or use the IN# or PR# command to deactivate Macro Driver and reset your Apple to its standard state. Type CALL 37632 to reactivate it. Press Control-] to switch the two entry modes: Mode 1 allows for more input after each macro entry, while mode 2 sends a carriage return. Macro Driver defaults to mode 2. Each time you press Control-], you'll hear a chirp-like sound. If mode 1 is active you'll hear it once, otherwise twice.

Macro Driver is located at \$9300-

*Continued*

```

180 IF I$ = "C" THEN A = 37888: FOR Y = 0 TO 15: M$(Y)
    = " ": POKE A,0:A = A + 32: NEXT : GOTO 140 [6309]
210 FOR Y = 1 TO 3: FOR X = 1 TO Y:A = PEEK (49200):
    NEXT : NEXT : GOTO 170 [5182]
220 M$(Y) = "":X = 1 [1724]
230 VTAB 3 + Y: HTAB 8 + X: GET I$: IF I$ = CHR$(13
    ) THEN PRINT SPC(32 - X): GOTO 270 [5538]
240 IF I$ = CHR$(8) THEN PRINT " ":X = X - (X > 1)
    : ON X GOTO 220:M$(Y) = LEFT$(M$(Y),X - 1): GOTO
    230 [7503]
250 IF I$ = CHR$(21) THEN I$ = " " [1688]
260 PRINT I$:M$(Y) = M$(Y) + I$:X = X + 1: IF X < 32 THEN
    230 [4719]
270 A = 37887 + 32 * Y:X = 1: IF LEN (M$(Y)) THEN FOR
    X = 1 TO LEN (M$(Y)): POKE A + X, ASC ( MID$( M$
    (Y),X,1)) + 128: NEXT [11384]
280 POKE A + X,0: GOTO 170 [1762]
300 HOME : VTAB 12: HTAB 6: PRINT "Save macros to dis
    k? (Y/N): ";: GET I$: HOME : IF I$ = "Y" OR I$ =
    "y" THEN VTAB 12: HTAB 16: PRINT "Saving...": PRINT
    CHR$(4);"BSAVE MACRO.DRIVER,A$9300,L$300" [9932]
310 VTAB 12: HTAB 13: PRINT "Macros installed.": CALL
    37632 [5532]
340 CALL 54915: ON PEEK (222) = 255 GOTO 140: HOME :
    PRINT "Insert disk with the Macro Driver": PRINT
    "program, then press a key.": GET I$: PRINT : RESUME
    
```

*End*

## The Sider™ Storage Solutions

# The PRAISES.

It seems like it happens year after year. The leading publications to the Apple II marketplace, in product reviews and round-ups, single out First Class Peripherals and *The Sider* for special praise.

This year, the accolades read like this:

**#1 INDEPENDENT MASS STORAGE SUPPLIER.**

1988 APPLE II USERS BRAND PREFERENCE STUDY

**1988 READERS' CHOICE AWARD, STORAGE PERIPHERALS.**

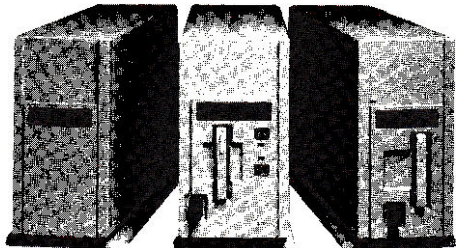
A+ MAGAZINE

**1988 "DREAM MACHINE" SELECTION, HARD DISK STORAGE.**

A+ MAGAZINE

**"ALL TIME BEST"/TOP TEN APPLE II HARDWARE PRODUCTS.**

INCIDER MAGAZINE, DECEMBER 1988



We think the reason is simple enough. Value. *The Sider* gives you more reliable hard disk, tape and tape/disk combo subsystem hardware, more capacity choices, easier-to-use software, comprehensive documentation, and on-line help and diagnostics, and warranty protection. We give you smart-looking packages with

*Listing 3. Auto Quit.*

```

10 REM BINARY TO SYSTEM CONVERSION PROGRAM [6932]
11 REM BY HAROLD PORTNOY [3476]
12 REM COPYRIGHT 1989, INCIDER [4903]
40 PRINT CHR$(4);"PR#3": PRINT [1854]
50 VTAB 6: HTAB 5: PRINT "Enter name of binary file:
   ";: INPUT "";N$ [7600]
60 PRINT CHR$(4)"Blood";N$;"a$2100" [1764]
70 BLN = 256 * PEEK (48858) + PEEK (48857):PG = PEEK
   (48858) + 35 [7124]
80 VTAB 9: HTAB 5: PRINT "Enter name of system file
   to be created: ";: INPUT "";N$ [10445]
90 PRINT CHR$(4)"Create";N$;"tsys" [1739]
100 RESTORE : FOR I = 8192 TO 8447: READ N: POKE I,N
   : NEXT I: POKE 8192 + 64,PG [4951]
110 VTAB 12: HTAB 5: PRINT "Enter name of system fil
   e to follow (RTN for none): ";: INPUT "";M$ [12307]
120 ON NOT LEN (M$) GOTO 160: POKE 8198, LEN (M$) [2699]
130 FOR I = 1 TO LEN (M$) [1597]
140 A$ = MID$(M$,I,1): POKE 8198 + I, ASC (A$) [4091]
150 NEXT [599]
160 PRINT CHR$(4)"Bsave";N$;"a$2000,1":BLN + 256;
   ",tsys" [7116]
180 PRINT : PRINT : PRINT "   DONE" [1044]
190 END [7507]

```

*Continued*

\$95FF. To use those memory locations for other purposes, it's important to deactivate Macro Driver with Control-Q to avoid hanging or crashing your system. When you first install it, Apple Macros prevents BASIC, DOS 3.3, or ProDOS from interfering with these locations. ■

*Write to Andy Haas at 313 East 9th Avenue, Coal Valley, IL 61240.*

## Auto Quit

*by Harold D. Portnoy*

Auto Quit (**Listing 3**) converts any binary program to a ProDOS .SYSTEM file containing the quit code that passes control directly to another designated system file. If you place your newly created .SYSTEM program as the first file in the volume directory, ProDOS will execute that program immediately after bootup.

## The Sider™ Storage Solutions

# The PRICES.

minimal desktop footprints and, now, six-foot cabling that lets you put *The Sider* out of sight for a *zero desktop footprint*. And we give all of it to you for prices that, as you will see on the right, are praiseworthy indeed.

|           |       |  |        |
|-----------|-------|--|--------|
| D2        | 20 MB | Hard Disk Subsystem                                | \$ 595 |
| D4/A      | 40 MB | Hard Disk Subsystem*                               | \$ 795 |
| D4/T      | 40 MB | Hard Disk Subsystem/Turbo*                         | \$ 995 |
| T6        | 60 MB | Backup Tape Subsystem                              | \$ 895 |
| D9        | 90 MB | Hard Disk Subsystem/High Performance*              | \$1695 |
| C96 Combo | 90 MB | Hard Disk & 60 MB Tape Subsystem/High Performance* | \$2495 |

\*Features SiderFile and ProSEL disk and tape software.

To order, call direct for the dealer nearest you or speak with one of our First Class sales representatives.

**(800) 982-3232**

**FIRST CLASS**  
P E R I P H E R A L S

Continued

```

1000 DATA 76,236,32,238,238,49,0,0,0,0 [3039]
1010 DATA 0,0,0,0,0,0,0,0,0,0 [2165]
1020 DATA 0,0,0,0,0,0,0,0,0,0 [2135]
1030 DATA 0,0,0,0,0,0,0,0,0,0 [3190]
1040 DATA 0,0,0,0,0,0,0,0,0,0 [3395]
1050 DATA 0,0,0,0,0,169,33,133,61,169 [4501]
1060 DATA 32,133,67,169,36,133,63,160,0,132 [5496]
1070 DATA 60,132,62,132,66,32,44,254,32,0 [5191]
1080 DATA 32,174,0,31,240,91,189,0,31,157 [5165]
1090 DATA 128,2,202,16,247,32,0,191,196,212 [7663]
1100 DATA 31,176,74,172,216,31,200,208,68,32 [7883]
1110 DATA 0,191,200,184,31,176,60,173,189,31 [7876]
1120 DATA 141,191,31,141,196,31,32,0,191,209 [7898]
1130 DATA 190,31,176,43,173,194,31,208,38,173 [8134]
1140 DATA 193,31,201,152,176,31,141,200,31,173 [8414]
1150 DATA 192,31,141,199,31,169,32,141,198,31 [1249]
1160 DATA 32,0,191,202,195,31,176,9,32,0 [1107]
1170 DATA 191,204,176,3,76,0,32,32,0,191 [1100]
1180 DATA 204,203,31,32,0,191,101,205,31,0 [1189]
1190 DATA 3,128,2,0,26,0,2,0,0,0 [905]
1200 DATA 0,4,0,0,32,0,0,0,0,1 [882]
1210 DATA 0,4,0,0,0,0,0,0,10,128 [938]
1220 DATA 2,0,0,0,0,0,0,0,0,0 [2102]
1230 DATA 0,0,0,0,0,0,162,0,189,6 [2481]
1240 DATA 32,157,0,31,232,208,247,76,49,31 [3338]
1250 DATA 0,0,0,0,0,0 [1370]
    
```

End

Converting a binary file to a .SYSTEM file is easy. Just RUN the program in Listing 3 (AUTO.QUIT) and follow the on-screen directions. Auto Quit first requests the name of the machine-language program you want to convert, then asks you to name the newly converted program. Lastly, it asks for the name of the .SYSTEM file that will run after yours is finished. ■

Write to Harold D. Portnoy at 1431 Woodward, Bloomfield Hills, MI 48013.

Got a hint of your own? inCider would like to see it. If we can use it in Hints/Techniques, we'll buy it from you. Send your tip to inCider, Elm Street, Peterborough, NH 03458.



## Give your family the gift of music.

**PYWARE™**  
**MUSIC WRITER**  
**INSTRUMENT DESIGNER**

**Did you know** that the AppleIIcs is a musical instrument in disguise? It can make up to 15 sounds at one time. And for as little as \$119, you and your family can begin making music.

The **Pyware™ Music Writer** will allow your family to learn about music, or if they already know music, let them create compositions up to 32 staves. (There are three levels for the beginner to the professional.)

With the **Pyware™ Instrument Designer**, your family will not only learn about sound but will be able to create infinite tones with the Apple IIcs ensoniq sound chip. From acoustic instruments to your original sounds, Instrument Designer is an educational and fun program.

**CONTACT YOUR LOCAL DEALER OR CALL PYGRAPHICS: 1-800-222-7536**

Apple IIcs is a registered trademark of Apple Computer Inc.

# INDEX TO ADVERTISERS

| Reader Service | Page                          | Reader Service                                | Page                               | Reader Service              | Page        |                 |                            |        |
|----------------|-------------------------------|---|------------------------------------|-----------------------------|-------------|-----------------|----------------------------|--------|
| 58             | Abby's Disc Software.....     | 101   | * Personal Financial Services..... | 72                          | 127         | Softspoken..... | 100                        |        |
| 286            | Abracadata .....              | 75  | 77                                 | PIE.....                    | 99          | 270             | Software Disc.             |        |
| 258            | Advanced Logic Systems ..     | 42  | * Preferred Computing.....         | 44, 45                      |             |                 | of America.....            | 76, 77 |
| 103            | Alltech Elec. Co. Inc.....    | 86  | 128                                | Programs Plus.....          | 32, A, B, C |                 | * Southern Cal.            |        |
| *              | Apple Link .....              | 49  | 269                                | Public Domain Exchange..... | 103         |                 | Research Group.....        | 101    |
| *              | Applied Engineering.....      | 5, 14, 15, 25, 27, 43, 54, 55, 56, 57, 67, 93 | 13                                 | Pygraphics.....             | 96          | 129             | StatSoft .....             | 87     |
| 54             | Applied Ingenuity .....       | CV2   | 136                                | Quality Computers .....     | 46          | 290             | Stone Edge Technologies .. | 88     |
| 65             | Az-Tech Computer Services ..  | 80  | 155                                | Quality Computers .....     | 79          | 156             | subLOGIC Corp. ....        | 73     |
| 48             | Barnum Software.....          | 100   | 185                                | S.A. AuTeur Company .....   | 99          | 78              | TCX Ltd.....               | 101    |
| *              | Beagle Bros Inc. ....         | 2, 3  | *                                  | Shareware Connection .....  | 98          | 50              | Tom Snyder Productions ..  | 68     |
| 285            | Berkeley Softworks.....       | 20, 21  | 143                                | Silicon Express.....        | 84          | 130             | Top "20" Plus .....        | 60     |
| 46             | Bits & Pieces Tech Inc. ....  | 62  | 292                                | Softdisk.....               | 1           | 214             | Valuesoft.....             | 74     |
| 287            | Cambridge Marketing ..        | 64, 65  | 51                                 | Softool .....               | 101         | 260             | Zimco Int. ....            | 13     |
| 116            | Canadian Computer Outlet ..   | 100   | 96                                 | Sofronics.....              | 99          | 189             | Zip Technology.....        | 78     |
| 123            | Checkmate Technology, Inc.:   | 97  |                                    |                             |             |                 |                            |        |
| 94             | Choice Computer .....         | 99  |                                    |                             |             |                 |                            |        |
| 205            | Computer Direct .....         | 28, 29  |                                    |                             |             |                 |                            |        |
| 288            | Computer Friends .....        | 4   |                                    |                             |             |                 |                            |        |
| 154            | Compu-Teach .....             | 89  |                                    |                             |             |                 |                            |        |
| 124            | CompuServe .....              | 59, 61, 63                                    |                                    |                             |             |                 |                            |        |
| 109            | CompuShare .....              | 99  |                                    |                             |             |                 |                            |        |
| 142            | Computers Plus Co. ....       | 101   |                                    |                             |             |                 |                            |        |
| 80             | Dandam Software .....         | 99  |                                    |                             |             |                 |                            |        |
| 134            | Dayton Computer Co.....       | 100   |                                    |                             |             |                 |                            |        |
| 184            | Digital Vision .....          | 87  |                                    |                             |             |                 |                            |        |
| 220            | Educational Resources .....   | 81  |                                    |                             |             |                 |                            |        |
| 132            | First Class Peripherals.....  | 94, 95  |                                    |                             |             |                 |                            |        |
| *              | Golem Computers .....         | 10, 11  |                                    |                             |             |                 |                            |        |
| 88             | HowardSoft.....               | CV3   |                                    |                             |             |                 |                            |        |
|                | inCider                       |   |                                    |                             |             |                 |                            |        |
|                | Success with AppleWorks:      | 101   |                                    |                             |             |                 |                            |        |
| *              | Intuit .....                  | 19  |                                    |                             |             |                 |                            |        |
| 2              | L&L Productions .....         | 100   |                                    |                             |             |                 |                            |        |
| 175            | Laser Computer Inc.....       | CV4   |                                    |                             |             |                 |                            |        |
| 186            | MECA .....                    | 6   |                                    |                             |             |                 |                            |        |
| 248            | Memory Plus Distributors ..   | 26  |                                    |                             |             |                 |                            |        |
| 4              | Merritt Computer Products:    | 100   |                                    |                             |             |                 |                            |        |
| 251            | MGR Software.....             | 86  |                                    |                             |             |                 |                            |        |
| 55             | National AppleWorks           |   |                                    |                             |             |                 |                            |        |
|                | Users Group .....             | 101   |                                    |                             |             |                 |                            |        |
| 173            | New Science Prospects .....   | 100   |                                    |                             |             |                 |                            |        |
| 98             | Nexo Distribution .....       | 99  |                                    |                             |             |                 |                            |        |
| 89             | North Forty Enterprises.....  | 100   |                                    |                             |             |                 |                            |        |
| 37             | Ohio Kache Systems .....      | 23  |                                    |                             |             |                 |                            |        |
| 52             | Origin Systems.....           | 9   |                                    |                             |             |                 |                            |        |
| 42             | Origin Systems.....           | 58  |                                    |                             |             |                 |                            |        |
| 59             | Perfect Solutions Software .. | 99  |                                    |                             |             |                 |                            |        |

This index is provided as an additional service.  
The publisher does not assume liability for errors or omissions.

## #1 TELECOMMUNICATIONS SOFTWARE

Unleash the power of your **APPLE**®, **EPIC**™, **DATALINK**™, **HAYES**™, or any Hayes-compatible modem with **ProTERM**™ telecommunications software. Only **ProTERM** easily links your //c, IIGS, Enhanced //e or Laser 128 with VAX and other mainframe computers, automatically learns routine keystrokes and integrates with your AppleWorks™ word processor files. **ProTERM** will even log onto a BBS, retrieve and download your messages or information and sign off *completely unattended!*

**ProTERM** software includes pop-up menus and detailed instructions, making it the simplest and most user-friendly modem software package available.

|                                 | ProTERM<br>V 2.0 | Point-To-Point<br>V 2.1 | MouseTalk<br>V 1.30 |
|---------------------------------|------------------|-------------------------|---------------------|
| VT-100 Emulation                | Y                | N                       | N                   |
| Expanded RAM cards supported    | Y                | N                       | N                   |
| Capture buffer                  | 2.5 Mb           | N                       | 4 pages             |
| Copy buffer                     | 45K              | 17K                     | 36K                 |
| Dial lists                      | unlimited        | 16                      | —                   |
| File transfer protocols         | 7                | 4                       | 3                   |
| Copy files, Format disk         | Y                | N                       | N                   |
| Load/Save AppleWorks™ files     | Y                | N                       | N                   |
| Editor commands                 | 42               | 12                      | 14                  |
| Set page margins                | Y                | N                       | N                   |
| Print formatting commands       | Y                | N                       | N                   |
| Automatic learn keyboard macros | Y                | N                       | N                   |
| Procedure macros                | unlimited        | N                       | N                   |
| Commands available              | 20               | N                       | N                   |
| PRICE                           | \$129.00         | \$129.95                | \$99.95             |

### ProTERM™ PROFESSIONAL TELECOMMUNICATIONS SOFTWARE

Also, fine hardware products from Checkmate Technology:

|   |               |
|---|---------------|
| MemorySaver™ - ROM disk system for the Apple IIGS       | \$149.95      |
| MultiRam™ GS - Up to 2 Mb of memory for the Apple IIGS  | from \$229.95 |
| MultiRam™ CX - memory upgrades for the Apple //c        | from \$219.95 |
| MultiRam™ //e & RGB - memory upgrades for the Apple //e | from \$144.95 |

For more information about Checkmate's full line of Apple II & Macintosh products, see your favorite dealer or order directly from:

All prices are subject to change without notice.

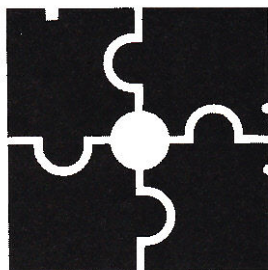
ProTERM, MemorySaver, MultiRam and the Chess piece logo are trademarks of Checkmate Technology, Inc. Other brand and product names are trademarked by their respective holders.



**Checkmate Technology, Inc.**  
509 S. Rockford Dr. - Tempe, AZ 85281  
(800) 325-7347 • (602) 966-5802



# inCider's SHAREWARE CONNECTION



## Get Your Share of the Best!

Thousands of economical, no-frills applications and enhancements are out there ready to help you get more from your Apple. Let the inCider Shareware Connection link you to the best.

### What's The Connection?



- Software selected for excellence by inCider's editors
- Toll-free, easy ordering
- Product mailed direct from the author
- Virus-free
- Automatic registration for updates and upgrades
- Squirt-16 by Steven Stephenson  
He's done it again: A super-fast selector/launcher for any Apple II-executable file including EXEC text files. Complete program catalog, run list, auto-boot, on-line help and single key-stroke selection continue the highly successful Squirt tradition...IIGS only.

- **Diversi-Copy** by Bill Basham  
Copy your 3.5- and 5.25-inch diskettes at lightning speed! Single or multiple drive copies. Although not required, uses memory-expansion for single pass copying...Any Apple II.
- **Diversi-Cache** by Bill Basham  
Boost your Apple 3.5-inch disks (not UniDisk 3.5) to RAM disk speed without the hassle of loading and saving to a RAM disk! Even doubles the write speed under ProDOS...512K IIGS with at least one 3.5-inch drive.
- **Diversi-Key** by Bill Basham  
Add macros and mouse functions to all your Apple programs. A complete collection of Appleworks 2.0 macros and mouse functions provided. And add your own...Apple IIGS.
- **ProSel** by Glen Bredon  
Hard disk drive salvation: Program selector and utilities in one simply elegant package. Use mouse or keyboard to choose applications, or copy files and disks. ProSel also features advanced ProDOS tricks for recovering and reconstructing lost files...Any ProDOS-compatible Apple II.
- **Rx** by Glen Bredon  
The perfect antidote for viral infections! Detect viral infections in your ProDOS programs. Protect your system and programs...Apple IIGS or 65802-Apple IIe/c.
- **Z-Link** by Dave Whitney  
Everything you'd expect in an excellent modem communication product: capture buffer, terminal emulation, split-screen chat mode, etc. Includes X- and YMODEM and soon-to-be-released KERMIT and BINARY-II transfer utilities... any ProDOS-compatible Apple II with Super Serial or compatible interface.

- **PathFinder** by Randy Brandt  
You'll never have to memorize or type in a pathname for AppleWorks again! This must-have enhancement lists all subdirectories and AppleWorks files for easy selections...Any Apple II with AppleWorks version 2.0/2.1.
- **PatchMania** by Randy Brandt  
Skip entering a date into AppleWorks; re-order your file lists; pre-load only your favorite application; and much more!...AppleWorks 2.0/2.1 enhancement collection for any Apple II.
- **Late Nite Patches** by Randy Brandt  
Add MouseText to your AppleWorks menus; manage several directories at once; load ASCII and DIF files from a catalog list; and more!... AppleWorks 2.0/2.1 enhancement collection for any Apple II.
- **MiniPaint** by Randy Brandt  
This low-priced paint system for the IIGS rivals the big guys! Full-screen, 320- and 640-mode color with high-speed brushes, auto-shadowing, special pen modes, fat-bits, lasso, and much more...512K Apple IIGS.
- **JumpStart** by Dave Hill  
Launch any program, even EXEC a text file with a "click" using this state-of-the-art IIGS program selector. Menu-bar options also include: boot from any slot (slot 5, drive 2!), unlimited program selection list, text file dump, dish utilities, a print buffer, and much more. Self-installing...512K IIGS only.
- **Squirt** by Steven Stephenson  
No more pathnames! A single key-press selects your next application from a disk catalog menu. Memory-resident for instant access; compatible with all ProDOS versions...Any ProDOS-compatible Apple II's.

## JOIN the inCider Shareware Connection today!

Send credit card number or check or money order for your software selections below to:  
inCider's Shareware Connection, 80 Elm St., Peterborough, NH 03458

|  | Specify disk size:                     | No. Copies       | \$Total | Specify disk size:                         | No. Copies     | \$Total |
|--|--|------------------|---------|--|----------------|---------|
|  | <input type="checkbox"/> Diversi-Copy  | ___ x \$30 ea.   | _____   | <input type="checkbox"/> Squirt-16         | ___ x \$20 ea. | _____   |
|  | <input type="checkbox"/> Diversi-Cache | ___ x \$35 ea.   | _____   | <input type="checkbox"/> Pathfinder        | ___ x \$20 ea. | _____   |
|  | <input type="checkbox"/> Diversi-Key   | ___ x \$45 ea.   | _____   | <input type="checkbox"/> Patch Mania       | ___ x \$20 ea. | _____   |
|  | <input type="checkbox"/> ProSel        | ___ x \$40 ea.   | _____   | <input type="checkbox"/> Latenight Patches | ___ x \$20 ea. | _____   |
|  | <input type="checkbox"/> Rx            | ___ x \$25 ea.   | _____   | <input type="checkbox"/> Mini-Paint GS     | ___ x \$25 ea. | _____   |
|  | <input type="checkbox"/> Squirt        | ___ x \$8.50 ea. | _____   | <input type="checkbox"/> JumpStart         | ___ x \$25 ea. | _____   |
|  |  |                  |         | <input type="checkbox"/> Z-Link            | ___ x \$25 ea. | _____   |

Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City, State, Zip: \_\_\_\_\_  
 Total check or money order enclosed: \$ \_\_\_\_\_  
 Bill my credit card: # \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ / Expiration date: \_\_\_\_\_

**WHY WAIT?**  
**1-800-343-0728**  
 Order TOLL FREE NOW







## Incider Adds POWER To APPLEWORKS!

Get Ruth K. Witkin's popular disks "Success with AppleWorks" Vol I and Vol II. Each volume contains 10 easy-to-use templates and is accompanied by an attractive documentation booklet.

| Vol I   | Vol II   |
|---|--|
| <ul style="list-style-type: none"> <li>• Mail List</li> <li>• Price Quote</li> <li>• Quote Letter</li> <li>• Price/Volume</li> <li>• Sales Report</li> <li>• Checkbook</li> <li>• Loan</li> <li>• Newsletter</li> <li>• Budget</li> <li>• Expenses</li> </ul> | <ul style="list-style-type: none"> <li>• Cash Flow</li> <li>• Net Worth</li> <li>• 3-Across Labels</li> <li>• Car Loan</li> <li>• Cover Letter</li> <li>• Breakeven</li> <li>• Menu</li> <li>• Income</li> <li>• Rent or Buy</li> <li>• Important Numbers</li> </ul> |

Only **\$29.97** each or **\$53.94** for both.  
Order Now—Call Toll-Free  
**1-800-343-0728**

Incider Magazine—80 Elm St.—Peterborough, NH 03458

## Schools! YOUR P.O.'S ARE WELCOME

NET 30

### 30 DAY MONEY BACK GUARANTEE

80 COL./64K CARD\* \$32  
(100% Apple & Appleworks Compat.) (5 Year Warranty)

1/2 HEIGHT DRIVE \$78 (100% Apple Compatible)

Graphic Parallel Printer card w/cable \$29

Super Serial Card \$48

(Original Apple Super Serial card compatible)

Breford EC-10 Rollabout Carts

Call for prices

Laser 128 \$360 • Laser 128ex \$420

Monochrome monitor \$99

RGB 80 Col Hi-Res Color monitor 225.

Monitor or Printer cable 20.

system must be purchased with monitor and cable

Panasonic 10801 Printer (144cps, NLQ) \$179

80 Col printer stand (wire mesh w/rear tray) \$19

All products are 100% compatible with II+, IIe, IIgs except \*II+ \*II+, IIe • Prices subject to change w/ notice, add \$3 min. per \$100 for shipping (please call to confirm heavier items) • Net 30 to Univ. & Schools. Cash or Bank check otherwise • Manufacturers warranties apply on brand name product, all others one year unless stated • Apple is a trademark of Apple Computer

DEALERS AND END USERS WELCOME!

Fax 516/249-1267

6 outlet Surge Protection strip w/reset UL App. \$15  
Power Center (UL App. Surge Protect., ON-OFF Switch  
for each outlet, + master power switch for unit) \$49  
System Saver fan w/surge protection\*\* \$26

| SWITCH BOXES | 2-1 | 4-1 | CABLES<br>(Box to Printer) 6 |
|--------------|-----|-----|------------------------------|
| Serial       | 25. | 37. | 10.                          |
| Parallel     | 24. | 35. | 10.                          |
| Spin mini    | 25. | 30. | 10.                          |

(Autoswitch, Crossover boxes & Complete line of cables available)

Disk 2 Cont Card \$20

16K Ram Card \$30

132 Col Printer Stand (wire mesh w/rear tray) \$19

Joysticks 3 button (like Mach 3) \$23

Z-80 (CPM Card) \$29

**TCX LTD**  
(516)  
**249-1200**

41 N. Mall, Plainview, NY 11803

Circle 78 on Reader Service Card.

## SCRG PERIPHERALS FOR APPLE COMPUTERS

**PADDLE-ADAPPLE.** 16-pin game port adapter. Plug in 2 joysticks or devices. "Regular" for 2 16-pin, "D" for 2 9-pin, "COMBO" for one of each. \$29.95

**MOUSTIK SWITCH.** Plug joystick & APPLE mouse into //c. \$29.95

**9-16 ADAPTER.** Use 16-pin devices on 9-pin //c gameport. \$14.95

**16-9 ADAPTER.** Use 9-pin gameport devices on the //c. \$14.95

Other products available:  
SWITCH-A-SLOT EXTEND-A-SLOT  
PROMGRAMMER quikLoader  
Call or write for catalog

### SOUTHERN CALIFORNIA RESEARCH GROUP

P. O. Box 593-R Moorpark, CA 93020  
(800) 635-8310 (U.S.) (800) 821-0774 (CA)  
(805) 529-2082

VISA/MC/COD/CK-Shipping \$2.50 U.S. & Canada  
10 day return • 6 month warranty

## 62 Meg Hard Drive for IIGS \$895

(Can be used as 62 Meg once having formatted with IIGS, or can be formatted as a 40 Meg with IIe alone.)

1200B Anchor Ext. modem w/GS,c cable \$99

2400B Anchor Ext.modem w/GS,c cable \$179

Turbo Mouse ADB (New Version 3) IIGS \$129

Turbo Mouse ADB (Old Version) IIGS ...\$59

SYSTEM SAVER IIGS...\$79, For IIe...\$69

GRAPPLER GS/Mac/c for Parallel Printer \$79

CH Mach IV Plus Mouse/Joystick IIGS ..\$69

CH Mach IV Plus IIe, IIe\*\* .....\$69

\*\*(\$79 IIe Mousecard required for IIe application)

CH Mach III Joystick...\$39, Flightstick ...\$59

MECC Calendar Crafter for 512K IIGS \$45

DB MASTER Version 5 for IIGS, IIe,c. \$149

AppleWorks GS \$229, 256K Memory set \$120

6 Ribbons for Scribe Printer Blk \$30, Clr \$60

6 Quality Ribbons for Imagewriter, Black \$60

6 Quality Ribbons for Imagewriter multicolor \$72

CIRCLE READER SERVICE CARD FOR A CATALOG

Note 1: Shipping \$4 per \$100 by surface in USA.

Note 2: Prices subject to change w/ notice.

Note 3: For Defective Merchandise, call in 10 days of receipt for Authorization. Refund/Replacement at our option.

COMPUTERS PLUS COMPANY

2303 N. 44th St. #2, Phoenix, AZ 85008

PHONE: 602-955-1404

FAX: 602-840-3767

Circle 142 on Reader Service Card.

## A FULL FEATURED BBS

for your Apple // computer

ONLY \$59.95!

### The Magic City Micro v4.2

- Multiple message boards
- E-Mail, Program Libraries
- On-Line Games, more!

Written in AppleSoft BASIC; easily customized and a great way to learn programming! Enhanced by ModemWorks, a powerful communications language!  
Modem Demo: (305) 271-7402, 300-2400

To order, send check or money order to:



**SofTools, Inc. (since 1985)**  
8306 Mills Drive, Drawer 262  
Miami, Florida 33183  
or call (305) 271-6644

Generous site licensing available for schools. Quantity discounts for dealers & clubs. Liberal upgrade policy and on-line support! We discount hardware & guarantee compatibility!

Circle 51 on Reader Service Card.

## The AppleWorks Forum

If you use AppleWorks, you should read the AppleWorks Forum, the largest and most comprehensive monthly AppleWorks newsletter. Only \$27 a year.

National AppleWorks Users Group  
Box 87453  
Canton, Michigan 48187  
(313) 454-1115

Circle 55 on Reader Service Card.



## DISCOUNT SOFTWARE

11 S. Wright Avenue  
Fairborn, Ohio 45324

CALL TOLL FREE: 1-(800)-282-0333

CUSTOMER SERVICE  
& OHIO RESIDENTS

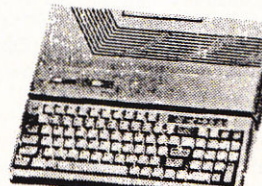
1-(513)-879-9699

### APPLE COMPATIBLE

Laser 128 . . . \$369.00, Laser 128 EX . . . \$429.00

### ACCESSORIES & PERIPHERALS

|                                     |        |                                  |       |
|-------------------------------------|--------|----------------------------------|-------|
| 5 1/4" Disk Drive . . . . .         | 95.00  | Laser 128 Mouse . . . . .        | 59.00 |
| 3 1/2" Disk Drive . . . . .         | 179.00 | Laser 128 Cables . . . . .       | 16.95 |
| 2-Slot Expansion Box . . . . .      | 54.95  | Laser Tech Ref. Manual . . . . . | 22.95 |
| Universal Disk Controller . . . . . | 74.95  | Laser Carrying Case . . . . .    | 54.95 |



### Call for price and Availability of the Laser 128EX/2

CALL ON THESE AND OTHER PRODUCTS.

WE CARRY A COMPLETE LINE OF SOFTWARE.

10 a.m.-8 p.m. Monday-Thursday • 10 a.m.-6 p.m. Friday • 10 a.m. to 3 p.m. Saturday

SOFTWARE ONLY-Prepaid orders over \$50 receive free shipping via UPS in continental U.S. Please add \$3 orders under \$50. HARDWARE and all orders requiring shipment via U.S. Post Office are subject to additional freight charges. C.O.D. orders under \$100.00 are accepted-add \$5. Charge card orders add \$2 service charge. Ohio residents add 6% sales tax. Personal checks require a three-week waiting period. All items subject to availability and price change. ALL RETURNS MUST BE ACCOMPANIED BY AN AUTHORIZATION NUMBER. FOR YOUR PROTECTION WE CHECK FOR CREDIT CARD FRAUD.

Circle 58 on Reader Service Card.

# CLASSIFIEDS

## Insurance

### INSURE YOUR COMPUTER

Safeware provides full replacement of hardware, media, and purchased software. As little as \$39 a year provides comprehensive coverage. With blanket coverage, no lists of equipment are needed. One phone call does it all! Call 8am to 10pm ET (Sat 9 to 5).

### SAFWARE, THE INSURANCE AGENCY INC.

2929 N. High St.  
P.O. Box 02211  
Columbus, OH 43202  
(800) 848-3469 Nat;  
(614) 262-0559 (OH)

## Software

### DO-RE-ME VERSION 2.1

Full-function Integrated System: SPREADSHEET (bi-res graphics, date arithmetic, text in 38 functions), WORD PROCESSOR (Spelling Checker, 50,000-word Dictionary, 36 embedded commands, text/graphics merge), DATA BASE (Report Writer, Mail Merge, functions in computed fields), MACRO facility, pop-up CAL-NDAR, context-sensitive HELP. Multi-disk files, Laser Printers, hard disk. Copyable. Fast. Nice 352-page Manual. Runs on 128K IIc, e, gs, ProDos. The best price/performance ratio ever. Only \$79.95 + \$5 S/H. Send check/MO to:

### MULTISOFT

120 East 90th Street, Box 5J  
New York, NY 10128  
(212) 534-4047

### CHURCHWORKS WITH CLERGY/TAX-88

Church management application templates for IBM and Apple II compatible computers (and others). \$40.00 Ppd. Templates work with: AlphaWorks, AppleWorks, DoReMe, Eight-In-One, First Choice, Microsoft Works, PC Quintet, etc. CHURCHWORKS includes: attendance, contributions; budgeting and accounting; planning, goal setting, and evaluation; committee work; music and worship; church school, and more. CLERGY/TAX-88 is designed especially to help clergy with 1988 tax returns. Send for details:

### SOFTWARE SHARING MINISTRIES

P.O. Box 657  
Sitka, Alaska 99835

### WIN LOTTO MILLIONS!

Now For Apple! Lotto Picker™ Plus, the original lottery selection software, allows you to store winning Lotto, Keno, & Pick % numbers & choose between three modes of probability analysis (hot, due, unbiased) in order to give you the winning edge! Guaranteed to work for all lotteries. Bonus numbers are easily handled and our full-featured database editor gives you access to your files. We give you the PICKS—not a bunch of jumbled statistics! \$34.95 (+ 5.55 s/h). 64k Apple II. 3.57"GS addl. \$10. NY res. add tax. NOT Copy-protected! IBM, C-64 avail.

### GE RIDGE SERVICES

170 Broadway, Suite 201-IC  
New York, NY 10038  
800-634-5463 ext 293 (M-F 8-5)  
Info 718-317-1961

### APPLE COMPUTER RENTAL CLUB

World's largest computer club. We have over 10,000 free public domain programs. Just pay a small copy charge. The club commercial and professional library has over 5,000 programs for rent or sale. Choose from 5 categories: 1) utility, 2) personal, 3) business, 4) education, 5) recreation. You can trade or sell your old unwanted programs and peripherals. Year's membership is only \$15.00. You get a "software catalog on a disk" and the "catalog filer." This is a \$30.00 value. \$29.00 will get you a lifetime membership with a 10% rent rate, and the deluxe catalog file system with 10 disks. Visa and MC orders 502-275-4343. Free details and brochure.

### CSU/INTERNATIONAL

9720 Old Hartford Rd.  
Utica, KY 42376

### PROJECT MANAGEMENT PLUS

For Apple II+, IIe, IIc, IIc+, IIIGS! 64K. EVERYBODY'S PLANNER: the only full-featured project manager for Apple II's. PERT charts have Projects to 5 years, 54 tasks, 216 resources, optional costing, critical path, early & late, start & finish dates, 8 reports and graphs. Included flowchart utility has 19 shapes, 9 sizes, 3 fonts. All for \$99.95! 13 more reports: \$39.95. Enhance above projects with WEL-COME! It creates databases of project milestones, tasks, resources, etc. \$79.95. Special: all 3 programs: \$199! Ck/Visa/MC/Amex/MO

### ABRACADATA

PO Box 2440 Dept. DD  
Eugene, OR 97402  
orders only: 1-800-451-4871  
all others: 503-342-3030

## Mail-Order

### FACTORY FRESH RIBBONS

| Ribbon                          | Black          | Color  |
|---------------------------------|----------------|--------|
| Apple ImageWriter               |                |        |
| I, II: . . . . .                | \$2.75 . . . . | \$3.30 |
| ImageWriter II 4 Color. . . . . |                | \$9.50 |
| ImageWriter LQ                  | \$14.00        |        |
| Epson LX80/90 . . . . .         | \$3.35 . . . . | \$4.25 |
| Epson MX/FX/80                  | \$2.90 . . . . | \$3.50 |
| Epson MX/FX/100                 | \$3.80 . . . . | \$4.95 |
| Okidata 182 . . . . .           | \$5.50         |        |
| Panasonic KXP . . . . .         | \$5.50         |        |
| Star NL/NX/NP10                 | \$4.95 . . . . | \$5.95 |
| Star NX1000 . . . . .           | \$4.50         |        |

Many more, call or write for prices.  
S/H \$3.00. (Over \$50.00 we pay S/H)  
Check, Money order, C.O.D. NY Res. add sales tax.

### \*\*MONEY BACK GUARANTEE\*\*

Colors (Blue, Red, Green, Purple).

### ISLAND COMPUTER SUPPLY

P.O. Box 3092  
Farmingdale, NY 11735  
(516) 293-6818

## Retail

### RETAIL SUPERVISOR™

A retail management system for small business. Point-of-Sale & Inventory Control. Interfaces Bar Code Scanner and Cash Drawer. Prints as well as Reads bar code. Provides detailed & Summary sales reports, inventory value & re-order reports, sales receipts. We handle Scanners, Cash Drawers, Software & Accessories for Retailers. Retail Supervisor™ will help eliminate over stocks, identify slow movers, reduce stock outs, save time & improve profit margins. For detailed info and pricing, call or write today! Apple IIe and IIc compatible.

### ABACUS SYSTEMS

707 Cass St.  
La Crosse, WI 54601  
(608) 785-1740

## Taxes

### TAX PREPARATION IS EASY

with TAXMASTER! Requires 128K & AppleWorks. Forms: 1040, A, B, C, D, E, R, SE, 2106, 2119, 2441, 3903, 4562, 6251, 8582, 8598, 8606, 8615. Features: forms are linked to transfer numbers between forms, IRS acceptable output, automatically calculates: IRA, passive loss, AMT, Kiddie tax, capital gains, W-4 analysis and much more. Easy to use, easy to customize. \$50.00 Professional version: \$75.00. Visa/MC 1989 Tax Planner also available! \$50.00 \$25.00 with 1988 Prep, free with 1988 Prep if ordered by Jan 15, 1989. Home Money Pack \$25.00

### ISLAND COMPUTER SERVICES

3501 E. Yacht Drive  
Long Beach, NC 28465  
(800) 826-7146 (orders)  
(919) 278-9483 (info)

### TAX PACKAGE ONLY \$19.95

Tax Spreadsheet is a stand alone program. It does NOT require AppleWorks, and will run on any Apple II with at least 48K. It includes forms 1040, 1040A, 2441, 2106 and schedules A through F and SE. All of the tax tables are built in. Just enter your data on each form and calculations are done in spreadsheet fashion. Totals from each form are carried over to the other appropriate forms. Forms are then printed in an IRS-approved format on plain paper. The data can be saved to disk and retrieved later to make changes. Best of all, yearly updates are only \$10.00. Send \$19.95 plus \$2.00 shipping to:

### STEVEN KARASEK

855 Diversey Dr.  
St. Louis, MO 63126  
314-961-2052

## Music

### ELECTRONIC MUSIC AND MIDI HELP

Call for leading MIDI products, prices, and A Guide To Computer Music. An introductory user book for Apple II, GS, Mac and MIDI users with illustrations for set-up, resources, glossary and buying tips. \$14.95 includes Shipping/Handling/MC/Visa/MO/CK.

### SOUND MANAGEMENT

P.O. Box 3063  
Peabody, MA 01961-3053  
(508) 531-6192 (MA Res.)  
(800) 548-4907

*inCider* magazine is published monthly by IDG Communications/Peterborough, Inc. Entire contents copyright 1988 IDG Communications/Peterborough, Inc. No part of this IDG Communications publication may be reprinted, or reproduced by any means, without prior written permission from the publisher. All programs are published for personal use only. All rights reserved.

*inCider* is a publication of IDG Communications, the world's largest publisher of computer-related information. IDG Communications publishes over 90 computer publications in 33 countries. Fourteen million people read one or more IDG Communications publications each month. IDG Communications publications contribute to the new IDG News Service offering the latest on domestic and international computer news. IDG Communications publications include: ARGENTINA'S *Computerworld Argentina*, ASIA'S *Communications World*, *Computerworld Hong Kong*, *Computerworld Malaysia*, *Computerworld Singapore*, *Computerworld SE Asia*, *PC Review*, AUSTRALIA'S *Computerworld Australia*, *Communications World*, AUSTRALIAN *PC World*, AUSTRALIAN *Microworld*; AUSTRIA'S *Computerwelt Österreich*; BRAZIL'S *DataVirus*, *PC Mundo*, *Micro Mundo*; CANADA'S *Computer Data*, *CHILE'S Informatica*, *Computacion Personal*; DENMARK'S *Computerworld Denmark*, *PC World Denmark*; FINLAND'S *Mikro*, *Tietoaika*; FRANCE'S *Le Monde Informatique*, *Distributive InfoPC*, *Telecom International*; GREECE'S *Mikro & Computer Age*; HUNGARY'S *ComputerworldSZT*, *Mikrovilag*; INDIA'S *Dataquest*; ISRAEL'S *People & Computers Weekly*, *People & Computers Biweekly*; ITALY'S *Computerworld Italia*; JAPAN'S *Computerworld Japan*; MEXICO'S *Computerworld Mexico*; THE NETHERLANDS' *Computerworld Netherlands*, *PC World Benelux*; NEW ZEALAND'S *Computerworld New Zealand*; NORWAY'S *Computerworld Norge*, *PC World Norge*; PEOPLES REPUBLIC OF CHINA'S *China Computerworld*, *China Computerworld Monthly*; SAUDI ARABIA'S *Arabian Computer News*; SOUTH KOREA'S *Computerworld Korea*, *PC World Korea*; SPAIN'S *CBWORLD*, *Computerworld Espana*, *Commodore World*, *PC World Espana*, *Comunicaciones World*, *Informatica Industrial*; SWEDEN'S *Computer Sweden*, *MikroData*, *Svenska PC World*; SWITZERLAND'S *Computerworld Schweiz*; UNITED KINGDOM'S *Computer News*, *DEC Today*, *ICL Today*, *LOTUS*, *PC Business World*, *UNITED STATES' AmigaWorld*, *CD-ROM Review*, *CHO*, *Computer Currents*, *Computerworld*, *Computers in Science*, *Digital News*, *Federal Computer Week*, *80 Micro*, *FOCUS Publications*, *inCider*, *InfoWorld*, *Macintosh Today*, *MacWorld*, *Computer & Software News* (Micro Marketworld/Leshar-Friedman), *Network World*, *PC World*, *Portable Computer Review*, *Publisher*, *PC Resource*, *RUN Windows*; VENEZUELA'S *Computerworld Venezuela*; WEST GERMANY'S *Computerwoche*, *Informations Management*, *PC Welt*, *PC Woche*, *Run*

**Problems with Advertisers:** Send a description of the problem and your current address to *inCider*, Route 101 and Elm Street, Peterborough, NH 03458, attn. Rita Rivard, Customer Service Manager. If urgent, call (800) 441-4403.

**Problems with Subscriptions:** Send a description of the problem and your current and/or most recent address to: *inCider*, Subscription Department, P.O. Box 58618, Boulder, CO 80322-8618. Or call (800) 325-0643, or (303) 447-9330 in Colorado, between 9 a.m. and 5 p.m. Mountain time, Monday through Friday. If you have a problem with payment, please have your mailing label and your cancelled check or credit card statement in front of you.

**Change of Address:** Send an old label or a copy of your old address and new address to: *inCider*, P.O. Box 58618, Boulder, CO 80322-8618. Please give eight weeks' advance notice.

**Microfilm:** This publication is available in microform from University Microfilms International. United States address: 300 North Zeeb Road, Dept. P.R., Ann Arbor, MI 48106. Foreign address: 18 Bedford Row, Dept. P.R., London, WC1R4EJ, England.

**Dealers:** Contact Linda Ruth, Direct and Newsstand Sales Manager, *inCider*, Route 101 and Elm Street, Peterborough, NH 03458. Call (800) 343-0728.

**Back Issues:** Send \$3.50, plus \$1.00 postage for each copy to *inCider*, Back Issues Dept., Route 101 and Elm Street, Peterborough, NH 03458. For ten or more copies postage is a blanket \$7.50. To order by telephone using VISA, MasterCard or American Express call (800) 258-5473.

## COMING ATTRACTIONS

■ You don't need programming expertise to create your own software selector or AppleWorks patch—next month *inCider* shows you how.

■ All hard drives are not created equal. Find out which one's right for you in our comparative review of the leading models.

■ *inCider's* readers take the credit in our upcoming roundup of all-time-best hints and techniques.

■ Apples are meeting the challenge of special-needs education and assistance. Discover the latest hardware and software developments that are helping disabled users reach their potential.

■ Reviews: Music Writer and Music Shapes, Talking Reading and Me, Passport Mastertracks Jr., Learning with LogoWriter, Audubon Wildlife Adventures: Grizzly Bears, X-Press Information Service, and more

### THE BEST II, IIGS

SOFTWARE FOR UNDER \$10  
PUBLIC DOMAIN AND SHAREWARE



#### APPLE IIGS 3 1/2" DISKS

#### Editor's Choice — Best IIGS Graphics

- GS63 CHEAPPAIN**—full-featured color painting program for only \$9 (768K Req.) (SHAREWARE) ..... \$9
- GS47,48** 300 b/w graphics for use w/Print Shop™ (2 disks) \$18
- GS61,62** 200+ holiday color & b/w graphics & borders for your Print Shop™ (2 disks) ..... \$18
- GS1** Diversi-Cache/Copy/Key/Hack 1.6 (SHAREWARE) ..... \$9
- GS2,GS3,GS4** DAS: Calendar, Picsaver (3 disks) ..... \$27
- GS5** Convert Atari & Mac pics to GS ..... \$9
- GS6** Freeterm telecom: A+ Mag's "All Stars" (ron 512K) ..... \$9
- GS7,GS8,GS9** Lots of pictures to run with PaintWorks Plus, Deluxe Paint II, or GS63 (3 disks) ..... \$27
- GS14,GS25,GS26** 113 fonts: formal to fancy (3 disks) ..... \$27
- GS15** Games: Towers of Hanoi puzzle, Othello ..... \$9
- GS16,17** Digitized sounds for Start ups & Sys beeps: (2 disks) \$18
- GS32** 15 icons for your desktop ..... \$9
- GS28,36,37** 19 golf courses: treacherous fairways, deceptive valleys & gulches to use w/your World 18™ (3 disks) ..... \$27
- GS58** War game, car race, with graphics ..... \$9
- NEW GS68** Mailing labels (sorts), cassette labeler, virus detect. .... \$9
- NEW GS73** Fast disk duplicator, quick program launcher, FKeys: print-screen, disk-eject, etc. .... \$9
- ANY 8 DISKS FOR ONLY** ..... \$49.95
- ANY 17 DISKS FOR ONLY** ..... \$99.95

#### Art APPLE II 5 1/4" DISKS

- 800** B/W graphics 10 disks use w/your Print Shop™ \$39.95
- 023** Make drawings, paint w/23 textures ..... \$5

#### CAD

- 310/311/312** CAD & graphing pkg. (REQ. PRINT PROG., 3 DISKS) \$15

#### Genealogy

- 192** Family Tree Surgeon, hi res movies ..... \$5

#### Business/Home

- 037** Full-featured word processor ..... \$5
- 056** Versatile Check Balancer, w/doc ..... \$5
- 406** Address/phone Dbase w/RAM drive (SHAREWARE) ..... \$5

#### Education

- 1064** Drills: typing, spelling, history, SAT ..... \$5
- 066** Teacher's aid: grader, make tests ..... \$5
- 085** Elem math: +, -, x, ÷, 23 levels ..... \$5
- 186** Compose, edit & play music, with doc. .... \$5
- 502** Flash cards, speed reading, Spanish ..... \$5
- 518** History, vocabulary, math, astronomy, (SHAREWARE) ..... \$5
- 767** Speedreading—control speed & passage size ..... \$5
- 768,769** Grade utility program for teachers (2 disks) ..... \$10
- NEW 834,835,836** Solar energy tutor w/hi-res graphics (3 DISK SET) ..... \$15
- NEW 837,838** SAT vocabulary drills (2 DISK SET) ..... \$10

#### Games

- 118** ANDROMIDA: Hi res space shoot-em up ..... \$5
- 126** Anti-Gravity — Fast action — Addictive! ..... \$5
- 127** Defender (like arcade version), D-Day ..... \$5
- 131** Electronic jigsaw puzzle ..... \$5
- 750/751** Fireground — fight fires (2 disks) ..... \$10
- NEW 814** Monopoly: Apple II vers. of popular board game ..... \$5
- NEW 829,830,831** Hires adventure game—create own adventurer (REQUIRES JOYSTICK, 3 DISK SET) ..... \$15

#### Tutorials

- 000** Learn BASIC programming, assembler ..... \$5

#### Communication

- NEW 832** Term.emulator: For IIG, GS & IIG w/80 col & SS card \$5

#### Passion

- 190/191** Graphics and games, adults only (2 disks) ..... \$10

#### Utilities

- 213** Best of Utilities: Disk arranger, disk catalog, etc. .... \$5

### SPECIALS!

Any 6 disks plus 1 Yr. Membership  
(IIG disks may be included)

Only \$39<sup>95</sup> (plus \$4 s/h)

Includes 350 pg directory, qtrly. magazine, special discounts!

Add \$4 (\$10 foreign) shipping for disk orders. CA add sales tax. Offer good for these disk numbers only.

Enclosed \$ \_\_\_\_\_ by  Check  VISA  MC

Card No. \_\_\_\_\_ Exp. \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

DEALER INQUIRIES INVITED

**P.D.E.**

In CA 2074-C Walsh Ave., #767

408-496-0624 Santa Clara, CA 95050

ORDER TOLL FREE 800-331-8125

# FASTEST COMPANY

## TransWarp GS



Apple IIgs users, including all of us here at *inCider*, have probably waited more eagerly for Applied Engineering's **TransWarp GS** than for any other third-party product (P.O. Box 5100, Carrollton, TX 75011, 214-241-6060, projected to sell at \$399). With the colossal size of today's 16-bit programs, the machine has been in desperate need of something to rev up operations.

Now the GS has its own accelerator card—a new engine that boosts program speed two and a half times, from 2.8 megahertz to 7. Think it's a bit pricey? Wait 'til you see it perform. Folders and icons open from the Finder like lightning; text wraps instantly around graphics in your favorite desktop-publishing program; documents scroll at a reasonable rate in any graphics-based word processor. "TransWarp makes the GS as good as the Mac, because it's fast and it's still in color," declares Technical Editor Bill Kennedy.

Installation's straightforward—even easier than plugging in the IIe TransWarp, because you won't be fooling with DIP (dual in-line package) switches. Inserting the board adds a classic desk accessory automatically to your array of GS tools, as you'll see when you press Control-Open apple-Escape to bring up the Control Panel. You can configure TransWarp (determine whether you want the startup graphics and sound), perform a self-test, and adjust the speed. You can even disable the card, though why you'd want to is beyond us, unless you can't keep up with your favorite arcade game anymore. There's also an interrupt-logic option that runs AppleTalk on your GS.

"Applied Engineering's RamWorks memory-expansion cards transformed the Apple IIe into a serious machine by fixing its most obvious fault—a mere 128K of RAM (random-access memory)," recalls Senior Editor Paul Statt. "The most obvious fault of the GS is its 2.8-megahertz microprocessor: It's slow.

When you install TransWarp GS, you literally rip out that poky old 65C816 and replace it—but you won't miss it any more than you missed the old 80-column card on your IIe."

"Once I started using the original TransWarp in my old IIe, I found I couldn't do without it," adds Review Editor Life Low. "TransWarp GS promises to be equally indispensable."

"You're probably thinking, 'I just paid more than two grand for my IIgs. Why should I spend another \$400 on an accelerator card?'" observes Editor in Chief Dan Muse. "Unless you enjoy looking at watches and spinning wheels on your GS' screen, though, TransWarp GS will be the best \$400 you ever spent." ■

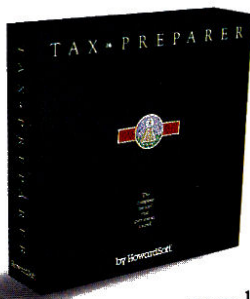
*Every month, hardware and software manufacturers release dozens of new products into the Apple II market. Editors' Choice singles out one product each month that the inCider editors feel is a significant addition to the Apple II family of products. Products evaluated in Editors' Choice are among the most recent releases and may not be available yet for retail distribution.*

# I can't afford a tax return that isn't accurate. Neither can you.

I prepare tax returns. Lots of them. So I considered buying tax software for my computer. But when I found that most professional packages cost well over \$1,000, with a hefty annual charge to match, I was a bit surprised. For an investment like that, I'd seriously consider staying with my service bureau.

*"Then I saw an ad for  
HowardSoft's Tax Preparer®"*

I was skeptical. First, Tax Preparer only costs \$295, and updates are less than \$100 a year.



Second, I know that a lot of people use Tax Preparer to do their own personal taxes. So when I read that the same software was supposed to do the job for us pros, I had to put it to the test.

I plugged in the numbers for one of my toughest clients. We have to file Form 8582 for this guy. He's got real estate, limited partnerships, bank accounts for his kids . . . you name it.

Getting started was simple. My computer-phobic partner and I did it on the first try.

But the big surprise came when I found out we didn't have to complete any passive worksheets. In fact, we didn't have to enter *anything* on Form 8582 ourselves, or even tell the computer we needed it! Instead, Tax Preparer generated it automatically.

Its execution of the Passive Activity Rules was nothing short of brilliant. When I did it by hand I had to calculate the whole return with *and* without the passive activities to get it right. Tax Preparer transfers *hundreds* of numbers among IRS forms, and recomputes AGI as often as necessary to get an accurate return. Automatically. It all happened so fast, I almost missed it. And the results were clear, and right to the penny.

Next, I gave it a return that even had the \$1,000 packages confused last year. In fact, the IRS had to issue Special Announcement 88-38 to show people how, if you have an IRA

deduction, you have to compute the taxable part of social security *twice* to get the right result. HowardSoft was way ahead of these guys. Their software performed flawlessly.

Tax Preparer even understood about limiting investment carryovers to 17.5% of the total carryover, long before IRS Announcement 88-52.

I tried everything to trip it up. It blocked illegal combinations of dates, methods, and recovery periods from my depreciation entries. It kept my itemized lists accurate to the penny, but rounded to the dollar on the form, just like the IRS says to do. It even cross-referenced my supporting statements to the forms they supported, automatically.

*"HowardSoft's attention to detail  
made all the difference."*

I was impressed. So impressed, I bought it. And I've used it all year, both to prepare returns, and to plan taxes using its built-in projections into the 1990's.

So, look. You can keep fooling around with a service bureau. Or you can pay five to ten times as much for software with no more tax knowledge. Or you can even chance one of those cheapies if you plan to do the complicated calculations yourself.

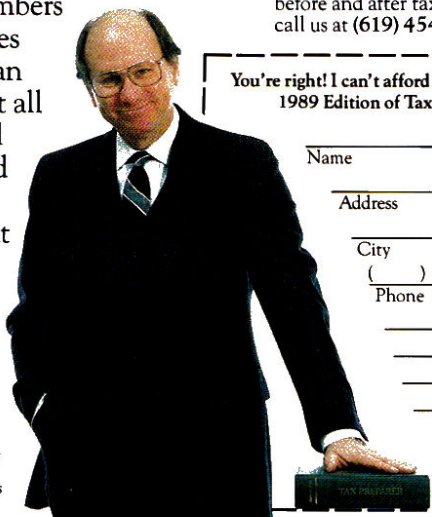
But why risk it? Just fill out the coupon, or pick up the phone and call HowardSoft. Get the tax software that gives you just what you need, at a price you can afford.

**Tax Preparer by  
HowardSoft®**

Professional software at  
a personal price.

1224 Prospect Street, Suite 150  
La Jolla, CA 92037

HowardSoft's professional software at personal prices includes our California Supplement™ for preparing the state return starting with Federal data, and Real Estate Analyzer® for analyzing income property before and after taxes. For more information, or a dealer near you, call us at (619) 454-0121.



You're right! I can't afford inaccuracy, either. Please send me my copy of the 1989 Edition of Tax Preparer (for 1988 taxes) as soon as it's released.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

( ) \_\_\_\_\_

Phone \_\_\_\_\_

\_\_\_\_\_ IBM-PC or MS-DOS compatible @ \$295 \$ \_\_\_\_\_

\_\_\_\_\_ Apple II series @ \$250 \$ \_\_\_\_\_

\_\_\_\_\_ My check is enclosed. In California, please add 6-1/2% sales tax.

\_\_\_\_\_ Please charge to my  Visa  MasterCard.

Acct. No. \_\_\_\_\_

Signature \_\_\_\_\_

HowardSoft, Tax Preparer, Tax Preparer: Partnership Edition, Tax Preparer: California Edition, and Real Estate Analyzer are trademarks of Howard Software Service; IBM of International Business Machines Corporation; Apple of Apple Computer, Inc.

Circle 88 on Reader Service Card.

# Three Affordable Ways To Enter The Computer Age.



If you're looking for an Apple® or Apple-compatible, Laser 128® computers offer you exceptional performance in every category.

Including price.

All cost less than the new Apple //c Plus. All run the full library of Apple //e and //c programs—over 10,000 titles. And all come with extra “built-in” features.

*InCider* magazine called our LASER 128EX® “a fully loaded, souped up... computer... at a price that should make Apple blush for shame.” It runs three times faster than a //e and has a built-in expansion board for up to 1MB of memory—perfect for Appleworks®.

Our LASER 128EX/2™ surpasses even the

Apple //c Plus. You get a ProDOS®-compatible real-time clock, MIDI interface for musical instruments, your choice of a 5¼" or 3½" internal disk drive, and the ability to daisy chain drives just like a IIgs®.

Finally, there's our LASER 128, the original Apple-compatible. It's so popular, it's now in hundreds of thousands of homes nationwide.

See your LASER dealer today. Call 312/540-8911 (West Coast 503/690-8086) for the one nearest you. Or write LASER COMPUTER, 550 E. Main St., Lake Zurich, IL 60047.

You'll discover more than a way to enter the computer age for less. You'll discover some of the best the age has to offer.

**//// LASER 128**

LASER 128, LASER 128EX and LASER 128EX/2 are registered trademarks of LASER Computer, Inc. Apple, Apple //c, Apple //e, Apple IIgs and ProDOS are registered trademarks of Apple Computer, Inc. Appleworks is a trademark licensed to CLARIS Corporation.