



A+

Apple II / Macintosh

RINGING UP PROFITS

Six Apple II Business Success Stories

Souping Up AppleWorks

Add-Ons, Patches, And Macros For Peak Performance

Reviews:

- SuperPrint II
- The Playroom
- Sports Scheduler
- Super Story Tree
- Airball
- Qix GS
- Solitaire: Volume II

USA \$3.95
Canada \$4.50



Inside Story

64K Video RAM

Controlled by our own Video Display Generator (VDG) array, this feature off-loads video work from the 128K system RAM, providing both analog and digital (IBM®-type RGB) outputs.

Very Large Scale Integration

We manufacture our own custom gate arrays to improve performance and make our products compact, reliable, and affordable.

Triple Speed Processor

The 65C02 power plant blazes through your applications at 3.6 Mhz - three times faster than the IIe®.

1MB RAM Board

Controlled by our own Memory Management Unit (MMU) array, add an extra 1MB using inexpensive 256 x 1 DRAM's.

Apple® Compatible ROM

Since 1985, we have made a huge investment to develop and maintain the only legal Apple compatible ROM on the market.

Built-In Ports

Video and disk expansion, two serial, a parallel, and a mouse/joystick port are part of our motherboard design. The EX/2 even adds a MIDI port and Real-Time Clock.

Universal Disk Controller

Our unique UDC array allows the use of both 3 1/2" and 5 1/4" drives. The 128EX/2™ even supports the IIGS®-compatible "Daisy Chain" drives.

Having all this performance usually means compromising one thing. Price. But like a good book, this story has a surprise ending. With a one year warranty, the Laser 128EX™ and 128EX/2 cost about half of what you'd pay for a stripped Apple IIe.

Want more inside information? Find out the reason why *inCider* said "Look at today's Laser if you want to see tomorrow's Apple." Call (708) 540-8911 for a free catalog and the name of a Laser dealer near you.

NOW Available for the Apple IIcs!

Why do over 25,000* Apple owners like you buy *Softdisk*™ and *Softdisk G-S*™ every month?

See why with a three-month trial subscription for only \$19.95!



SOFTDISK & *SOFTDISK G-S* are monthly software collections created especially for the Apple II family of computers. Each month, users receive from six to ten original, useful programs on their choice of one 3½" 720K, or two 5¼" 360K disks. Here are just eight reasons why Apple II owners look to us for the latest in quality programs.

- 1. Variety.** Each monthly *Softdisk* and *Softdisk G-S* delivers office productivity tools, AppleWorks® templates, educational software, games, utilities, clip art, professional fonts, and more! You've never seen a selection like this anywhere.
- 2. Demonstrations.** We frequently offer demonstrations or limited-use programs so you can "try-before-you-buy". Major software companies from around the world offer our subscribers advanced previews of what's to come in commercial software.
- 3. Program Integrity and Tech Support.** Every issue of *Softdisk* and *Softdisk G-S* passes through dozens of quality checks. If there ever is a problem, our technical staff is eager to help!
- 4. Create Your Software Library.** With so many original programs at your disposal, it won't take long to collect an entire software library. Collect utilities for copying, cataloging, saving time, and more. Enjoy incredible games with challenging electronics and mind-blowing graphics. Choose software for word processing, spreadsheets, financial planning and more!
- 5. Super Discounts on Commercial Software.** Subscribers automatically become members of our *Software Savers Club*. You'll receive regular mailings listing hundreds of commercial software items, many at up to 40% off the retail price. In addition, you can also select from an extensive list of back issues of *Softdisk* and *Softdisk G-S* to fill in the holes of your library.
- 6. Reasonably Priced.** A three-month trial subscription to *Softdisk* is only \$19.95! If you have a Apple IIcs and would like a three-month trial subscription to *Softdisk G-S*, it's only \$29.95! Subscribe to both for a combo trial subscription for just \$39.95!
- 7. Free Bonus When You Act Now.** Order your trial subscription to *Softdisk* or *Softdisk G-S* and receive free the *Softdisk Premium Graphics Collections, Vol. 4*. This superb collection contains signs, animals, sports figures, people, plus maps and symbols. Order the *Softdisk* combo and receive both *Softdisk* and *Softdisk G-S* at incredible savings. Or take the software collection of your choice, and still receive the graphics collection absolutely free!
- 8. Money-Back Guarantee.** If for any reason you're not completely satisfied, simply return your first issue for a prompt, cheerful refund. But keep the *Softdisk Premium Graphics Collection, Vol. 4* as our gift!

3-Month Trial Subscription only \$19.95

Contents of Issue #100 (Available as a back issue)

- Calendar Wizard**—Create custom calendars with this powerful application.
- Birthday Games**—Celebrate with a super trilogy of arcade games.
- Softdisk Centennial**—Browse through a decade of impressive programs.
- Job Hunter**—An AppleWorks® template that helps track your resumes.

Plus 3 more great programs!

"Softdisk isn't just for the new owner ... [it's] for the serious user as well—you'll have to go a long way to beat the price."
—in *Cider Magazine*

"In a word where real bargains are hard to find, *Softdisk* is a very pleasant surprise"
—*Electronic Learning*

Call Toll Free 1-800-831-2694

ORDER TODAY!
Send in the order form now or call toll free for a trial subscription. Three sample issues are only \$19.95, and you get the free bonus disk. So fill in the coupon or call 1-800-831-2694 for even faster service.

*As of press time, but growing by leaps daily.

SOFTDISK PUBLISHING
monthly software

YES! Rush my free bonus, **The Premium Graphics Collections, Vol. 4**, and start my three-month trial subscription to *Softdisk* and/or *Softdisk G-S*, postage paid. Make check or money order payable to **Softdisk Publishing** in U.S. funds. (Louisiana residents, add 4% sales tax).

Check one: *Softdisk (for the Apple II)* \$19.95
 Softdisk G-S (for the Apple IIcs) \$29.95
 COMBO—Softdisk and Softdisk G-S \$39.95

Check Disk format: Two 5¼" 360K disks One 3½" 720K disk

Name _____
 Street _____
 City _____ State _____ Zip+4 _____
 Phone # _____

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

Card # _____ Exp. Date _____

Signature _____

SOFTDISK PUBLISHING • P. O. Box 30008 • Shreveport, LA 71130-0008
 318-221-8718 • 1-800-831-2694

IN010

Softdisk: 64K Required; 128K Recommended.
Softdisk G-S: 768K—One 3.5" drive Required; 1.25 Meg.—Two 3.5" drives Recommended.

QUALITY COMPUTERS **OVER-NIGHT!**

1-800-966-1508 or 1-800-443-6697

Hard-Disk Headquarters



Quality Computers was one of the first Apple II companies to sell and support a full line of hard-disk drives, and we're still the leader. Why? We offer more - more service, more support, more hard-disk systems, and more innovative products like EasyDrive.



HARD-DISK BUYERS' GUIDE

Base your decision to buy a hard-disk on fact, not fiction. The

Hard-Disk Buyer's Guide, exclusively from Quality Computers, is packed with brand name evaluations, performance charts, and informative articles. **\$6.00** (Shipped overnight to most locations)

HARD-DISKS

AMR (Apple SCSI)

20 MEG.	549.95
45 MEG.	649.95
60 MEG.	729.95

CHINOOK (*Apple SCSI)

20 MEG.*	539.95
40 MEG.*	729.95
80 MEG.*	1,395.95
20 MEG. (IIc)	579.95
40 MEG. (IIc)	749.95

CMS (Apple SCSI)

20 MEG.	495.95
40 MEG. (Conner Drive)	675.95
60 MEG.	699.95
80 MEG.	899.95
45 MEG. (Removeable)	899.95
Cartridges	99.95

APPLIED ENGINEERING

20 MEG. Vulcan (IIe, IIGS)	519.95
40 MEG. Vulcan (IIe, IIGS)	649.95
100 MEG. Vulcan (IIe, IIGS)	1,285.95

SCSI INTERFACE CARDS

Apple High-Speed	109.95
RamFAST/SCSI (w/256K RAM)	199.95

MEMORY CARDS



AE RAMWORKS III

256K	139.95
512K	159.95
1 MEG.	209.95
RGB ColorLink Option	99.95
1 MEG. Expander	179.95
2 MEG. Expander	269.95

AE RAMFACTOR

256K	169.95
512K	199.95
1 MEG.	249.95
RamCharger Option	139.95
Y Cable Adapter	20.95
1 MEG. Expander	219.95
2 MEG. Expander	309.95

AE Z-RAM ULTRA II

256K	179.95
512K	219.95
1 MEG.	269.95

AE RAM EXPRESS II

256K	179.95
512K	219.95
1 MEG.	249.95

AE GS-RAM PLUS

1 MEG.	229.95
2 MEG.	319.95
3 MEG.	409.95

AE GS-RAM ULTRA

1 MEG.	229.95
2 MEG.	329.95
3 MEG.	429.95

AE RAMKEEPER

Slot/Mover Adapter	139.95
	34.95

CHINOOK 4000 GS

1 MEG.	179.95
2 MEG.	269.95
4 MEG.	449.95

MEMORY CHIPS

256K (bank)	24.95
256Kx4 (bank)	25.95
1 MEG. (bank)	79.95

DISK DRIVES

AE 3.5"	199.95
AE 5.25"	119.95
AMR 3.5"	189.95
AMR 5.25" (Daisy chainable)	144.95
Laser 3.5"	179.95
Laser 5.25"	99.95
Laser UDC	49.95
Apple 3.5" (IIe, II+)	309.95
Apple 3.5" (IIc Plus, IIGS)	319.95
Apple 5.25"	249.95
Apple Controller	69.95

PRINTER INTERFACE CARDS

AE Parallel Pro	79.95
AE Serial Pro	109.95
AE Buffer Pro Option	89.95
Fingerprint GSI	94.95
Fingerprint Plus	89.95
Fingerprint G+ or SS	59.95
Grappler 9 Pin	84.95
Grappler Plus	79.95
SPECIAL! SuperWriter 924	64.95
SMT Printech or Envoy	54.95



MAGNAVOX RGB MONITOR

Magnavox's new monitor is an affordable replacement for the IIGS monitor (requires cable \$24.95). Also works with the IIe. Features: 13" diagonal screen, built-in tilt stand, 2,000 char. display, vertical and horizontal controls, analog and digital input, and more! **\$299.95**

ATTENTION PRICE-HUNTERS

We'll match any advertised price, plus our service can't be beat!

PRICE MATCH POLICY AT MANAGER'S DISCRETION

THE DECKED OUT GS



BEGINNER SYSTEM \$1,999

- IIGS CPU w/1 meg.
- Apple RGB Monitor*
- ImageWriter II Printer w/cable
- AE 3.5" Disk Drive
- 10 3.5" Diskettes
- Mouse Pad
- 1,000 sheets of paper

STORAGE SYSTEM \$3,269

- IIGS CPU w/ 1 meg.
- Apple RGB Monitor*
- ImageWriter II Printer w/cable
- AE Vulcan 40 meg. w/EasyDrive
- AE 3.5" Disk Drive
- AE GS-RAM Plus 2 meg.
- AE TransWarp GS
- Mouse pad, diskettes and paper

*Save up to \$150! Get the Magnavox RGB monitor. MORE FEATURES! LESS MONEY!



Quality Computers

POWER FOR PERFORMANCE

YOUR COMPLETE APPLE II SOURCE

Quality Computers is the largest Apple II-specific company in the industry. Why? We offer more: a staff of Apple II sales experts; a complete product line; user-friendly Customer Service; the best Technical Support in the business; our own software development division, Q Labs; our own newsletter, *Enhance*; and special programs, like the Teacher Bonus Point program. No other company offers all this at prices you can live with.

QUALITY COMPUTERS **OVER-NIGHT!**

1-800-966-1508 or 1-800-443-6697



QUICKIE VITESSE
The fast, versatile hard-held image scanner that lets you import professional-looking halftones and graphics into your Apple IIGS, IIe, II+, or Laser. Features real-time CRT display (IIGS only), double rollers, and special audio feedback software. **\$199.95**



3.5 DRIVE APPLIED ENGINEERING
All the performance and reliability of Apple's 3.5" drive, including the same top-quality Sony internal mechanism, but AE added a dual-color read/write light, and gave it a price you can afford. Compatible with Apple IIe, IIGS, IIc Plus and Macintosh **\$199.95**



LASER 128 SYSTEM LASER
The Laser 128® System with Color Monitor and Starter Software is a complete, ready-to-run system in a box. Can run over 10,000 Apple IIe/IIc software titles. Includes Laser 128, tilt/swivel base, RGB color monitor, cables, and MagicWriter word processor. **\$510.95**

PRINTERS

ImageWriter II	459.95
ImageWriter LQ	1,249.95
Panasonic 1180	199.95
Panasonic 1191	249.95
Panasonic 1124	329.95
Panasonic 1624	449.95

MODEMS

AE DataLink 2400 (Internal)	174.95
AE DataLink Express	184.95
Mitac 2400	119.95
SupraModem 2400	119.95

MONITORS

Magnavox or Goldstar 12" Amber	99.95
Magnavox or Goldstar 12" Green	99.95
Laser RGB	289.95
NEW! Magnavox RGB	299.95
Custom Cable	24.95
Apple RGB	459.95
Sony KV1311	529.95

INPUT DEVICES

AppleMouse IIe	119.95
AppleMouse IIc	89.95
A+ Mouse IIGS	79.95
Laser Mouse	49.95
Kensington Turbo Mouse	109.95
CH Roller Mouse	75.95
CH Mach II Joystick	28.95
CH Mach III Joystick	34.95
CH Mach IV Plus Joystick	62.95
CH Flightstick	47.95
Kurta Drawing Tablet	255.95
IBM-Compatible Keyboard	79.95
Cutting Edge ADB Keyboard	129.95

SOUND & GRAPHICS HARDWARE

Quickie Scanner	199.95
LightningScan	199.95
ThunderScan	159.95
ComputerEyes IIe	99.95
ComputerEyes IIGS	195.95
Apple Video Overlay Card	429.95
HyperStudio	86.95
AE Sonic Blaster	98.95
AE Audio Animator	189.95
AE Phasor	129.95
MIDI Interface (IIGS)	99.95
MIDI Interface (w/tape & drum)	99.95
MIDI Interface (w/drums)	149.95
Stereo Speakers (IIGS)	39.95

ACCELERATORS

AE TransWarp GS	289.95
Zip Chip 8MHz (IIe)	149.95

COMPUTERS

Apple IIGS CPU (w/1 MEG. RAM)	825.95
Laser 128EX	387.95
Laser 128EX-2 (3.5")	449.95
Laser 128EX-2 (5.25")	409.95
Laser 286/2	from 699.95
Laser Turbo XT	from 599.95

ACCESSORIES

AE Conserver	77.95
AE FastMath	139.95
AE PC Transporter	299.95
AE PC Transporter IIe Installation Kit	29.95
AE PC Transporter IIGS Installation Kit	39.95

AE Power Supply	64.95
NEW! AE Power Supply IIGS	79.95
AE TimeMaster	78.95
AE TransDrive	189.95
AE TransDrive (Duo)	289.95
AE ViewMaster	124.95
AE Z80 Plus	119.95
AE Z80 C	119.95
Apple IIe Enhancement Kit	59.95
Cables (most)	14.95
ClockPro (IIe, IIc, IBM PC/XT)	29.95
Diskettes 3.5" (10)	8.95
Diskettes 5.25" (10)	6.95
Disk Notcher	5.95
Kensington Antiglare Filter (IIGS)	39.95
Kensington System Saver IIe	59.95
Kensington System Saver GS	69.95
Kensington Universal Copy Stand	39.95
Kensington Printer Stand	24.95
Kensington Printer Muffler 80	49.95
Kensington Dust Covers	11.95
Keyboard Skin	14.95
Laser 128EX Power Supply	39.95
Laser 128 Monitor Stand	25.95
Laser 128 Expansion Box	59.95
SMT No Slot Clock	29.95
Switchboxes	from 32.95

BUSINESS SOFTWARE

Alpha Check	32.95
AppleWorks 3.0	170.95
AppleWorks GS	199.95
BeagleWrite	48.95
BeagleWrite GS	59.95
BusinessWorks Bundle	249.95
BusinessWorks Payroll	99.95
DB Master Pro	189.95
Dollars & Sense	74.95
Labels, Labels, Labels	28.95
Managing Your Money 4.0	89.95
On Balance	39.95
Quicken	38.95
Sensible Grammar	52.95
Sensible Speller	79.95
Will Maker	34.95
WordPerfect IIe	99.95
WordPerfect GS	104.95

COMMUNICATION SOFTWARE

Point to Point	59.95
ProTERM v.2.2	79.95
ReadyLink	59.95
TIC	39.95

EDUCATIONAL SOFTWARE

THE LEARNING COMPANY

Reader Rabbit	
Home	24.95
School	36.95
Lab Pack	84.95
Talking Reader Rabbit GS	
Home	36.95
School	49.95
Lab Pack	94.95
Math Rabbit	
Home	24.95
School	39.95
Lab Pack	84.95
Magic Spells	
Home	24.95
School	39.95
Lab Pack	84.95
Think Quick (Home)	29.95
Think Quick GS (Home)	29.95

ATTENTION: CANADIAN RESIDENTS

All of these products, with the same great service, are available from Dandam Software. Avoid import-export delays!

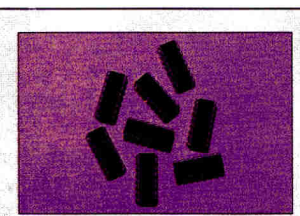
THIS MONTH'S SPECIALS:

- AE 3.5 Drive \$309 Can.
- Laser 128EX/2 549 Can.
- SupraModem 2400 ... 125 Can.
- Q Labs Products 46 Can.
- DPS 46 MEG. 28ms
- SCSI Hard-Disk 699 Can.
- DPC 100 MEG. 24ms
- SCSI Hard-Disk ... 1,099 Can.
- RamFAST/SCSI Card 299 Can.
- Apple SCSI Card 179 Can.
- TransWarp GS 419 Can.

Dandam is an authorized AE dealer with a large selection of Apple II, Amiga & IBM software. Call for our free catalogue.

1-800-265-9576

8408 Wyandotte St. E. • Windsor, Ont. N8S 1T6
(519) 974-3011 • FAX (519) 974-6643



MEMORY CHIPS

Expand your RAM with these high-quality RAM chips. Fully Apple IIc, IIe and IIGS compatible. Easy to install on most RAM cards. Five year warranty.

256K	\$24.95/bank
256Kx4	25.95/bank
1 MEG.	79.95/bank

ASK ABOUT OVERNIGHT DELIVERY!

Quality Computers



POWER FOR PERFORMANCE

POLICY

- VISA, MasterCard and Discover accepted with no added charges. Add \$3.95 for C.O.D. certified.
- If order is split, we pay freight on balance of items.
- We ship via Airborne Express, UPS, and US Mail. Saturday deliveries available.
- Prices subject to change without notice.
- Quality Computers is not an authorized Apple dealer.
- We accept school P.O.'s by mail or FAX.
- Dealers and User Groups may qualify for volume discounts. Call for details



Circle 136 on Reader Service Card.

QUALITY COMPUTERS OVERNIGHT!

1-800-966-1508



PROTERM *INSYNC*

Easy-to-use, state of the art features have made ProTERM the choice of novices and pros alike. *inCider* calls ProTERM "The all-around favorite." Supports all Hayes-compatible modems, and features Automatic Logon, Text Editor, and more. **\$79.95**



BUSINESSWORKS *MANZANITA*

Integrated Accounting System for the Apple II. Make your small-to-medium sized business more efficient and productive with four powerful and versatile modules: General Ledger, Accounts Payable, Accounts Receivable, and Inventory Control. **\$249.95**

EDUCATIONAL SOFTWARE

THE LEARNING COMPANY

Children's Writing & Publishing Center

Home	32.95
Home GS	32.95
School	54.95
School GS	54.95
Lab Pack	99.95
Lab Pack GS	99.95

BRØDERBUND

Where in the World is Carmen Sandiego?

Home	25.95
Home GS	29.95
School	32.95
School GS	32.95
Lab Pack GS	74.95
Lab Pack GS	79.95

Where in Time is Carmen Sandiego?

Home (3.5 or 5.25)	29.95
School	34.95
Lab Pack	74.95

Where in the USA is Carmen Sandiego?

Home	29.95
School	34.95
Lab Pack	74.95

Where in Europe is Carmen Sandiego?

Home	29.95
School	34.95
Lab Pack	74.95

The Playroom

Home	27.95
School	34.95
Lab Pack	84.95

Geometry GS

Home	54.95
School	64.95
Lab Pack	129.95

Science ToolKit - Master Module

Home	54.95
School	64.95
Lab Pack	136.95

Science ToolKit - Module 1

Speed and Motion	
Home	27.95
School	34.95

Science ToolKit - Module 2

Earthquake Lab	
Home	27.95
School	34.95

Science ToolKit - Module 3

Body Lab	
Home	27.95
School	34.95

VCR Companion

Home	34.95
School	45.95
Lab Pack	79.95

MECC

Word Munchers

Home	27.95
School	39.95
Lab Pack	84.95

Number Munchers

Home	27.95
School	39.95
Lab Pack	84.95

Fraction Munchers

Home	27.95
Home 3.5	27.95

Paint with Words

Home	22.95
School	39.95
Lab Pack	84.95

World GeoGraph GS

Home	84.95
Lab Pack	94.95

USA GeoGraph GS

Home	89.95
School	99.95

Oregon Trail

Home	27.95
School	39.95
School 3.5	39.95

Lab Pack

Lab Pack	84.95
----------	-------

VICE PRESIDENT/GROUP PUBLISHER **Paul Boule**

EDITOR IN CHIEF **Dan Muse**

MANAGING EDITOR **Eileen T. Terrill**

SENIOR EDITOR **Paul Statt**

REVIEW EDITOR **Life Low**

TECHNICAL EDITOR **Cameron Crotty**

COPY EDITOR **Carla Barker**

EDITORIAL ASSISTANT/ **Janet Cote**

SPECIAL-PRODUCTS COORDINATOR

WEST COAST EDITOR **Jeff Cable**

CONTRIBUTING EDITORS **Joe Abernathy,**

Cynthia E. Field, Eric Grevstad,

Owen W. Linzmayer, Ruth K. Witkin

FIELD EDITOR **Babs Cringely**

DESIGN

ART DIRECTOR **Roger Goode**

SENIOR DESIGNER/AD GRAPHICS **Dianne K. Ritson**

PRODUCTION MANAGER/DESIGNER **Carolyn Boutwell**

ADVERTISING

ASSOCIATE PUBLISHER/ **Dale Strang**

NATIONAL SALES MANAGER **(800) 441-4403**

EASTERN SALES MANAGER **Peter Slingluff**

(800) 441-4403

MARKETPLACE/CLASSIFIEDS **Diane Maguire**

SALES REPRESENTATIVE **(800) 441-4403**

ADVERTISING COORDINATOR **Mary Hartwell**

(800) 441-4403

ADMINISTRATIVE ASSISTANT **Carmen Bryer**

WESTERN SALES MANAGER **James Burns**

2421 Broadway

Suite 200

Redwood City, CA 94063

(415) 363-5230

MARKETING SERVICES/PROMOTION

MARKETING MANAGER **Peg Brown**

MARKETING ASSISTANT **Rita Rivard**

CORPORATE PRODUCTION

MANUFACTURING MANAGER **Sue Gross**

SYSTEMS COORDINATOR **Doreen Means**

TYPOGRAPHER **Heidi N. Thomas**

IDG COMMUNICATIONS/PETERBOROUGH

PRESIDENT **Roger J. Murphy**

VICE PRESIDENT **Dennis S. Christensen**

MANUFACTURING/OPERATIONS

DIRECTOR OF TECHNOLOGY RESEARCH **Jeffrey D. DeTray**

SINGLE-COPY SALES DIRECTOR **Linda Ruth (800) 343-0728**

NEWSSTAND PROMOTION MANAGER **Debbie Walsh**

CIRCULATION DIRECTOR, *inCider* **Megan Lane**

ASSISTANT CIRCULATION MANAGER **Laurie K. Seamans**

CUSTOMER SERVICE **(800) 289-0619**

DIRECTOR OF CREDIT, SALES, **William M. Boyer**

AND COLLECTION

AUDITS AND STATISTICS **Cecile Giguere**

FOUNDER **Wayne Green**

inCider now supports a forum on America Online. For information on obtaining appropriate software, call Quantum Computer Services at (800) 227-6345 x5290 or 5291.



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, \$49.00 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.)

YOU WILL BE A WINNER!

How? Just order from Quality Computers. While other companies tempt you with prizes that you have a slim-to-none chance of winning, we give ALL of our customers things they can really use. Just what do they get?

- **The best Technical Support in the industry.** Having a technical problem? Call the Apple II experts. Quality Computers Technical Support is staffed with Apple II programmers, researchers and specialists. We give more Apple II support than our three biggest competitors combined.
- **Our bi-monthly newsletter, *Enhance*.** *Enhance* is packed with Technical Tips, Product News, and advertised specials.
- **48-hour turn around on defective items.** We will ship you a new item from stock within 48 hours of receipt.
- **The Quality Computers Bonus Disk.** Starting in October 1990, every customer receives a valuable diskette FREE with every order. It's filled with public domain software, technical tips, and product information.

QUALITY COMPUTERS **OVER-NIGHT!**

1-800-966-1508 or 1-800-443-6697



CROSSWORKS *SOFTSPOKEN*

Copies and converts files either way between Apple II and IBM, and translates the formats. Exchanges AppleWorks files with Microsoft Works, WordPerfect, Lotus 1-2-3, dBase or most popular MS-DOS programs via universal cable (included) or modem. **\$69.95**

DAVIDSON

MathBlaster Plus	34.95
MathBlaster Mystery	34.95
AlgeBlaster Plus	34.95
Read & Roll	34.95

MISCELLANEOUS

Math Talk GS	27.95
Mavis Beacon Teaches Typing (Ile)	28.95
Mavis Beacon Teaches Typing (IIGS)	33.95
McGee	29.95
StudyMate	27.95

GAMES

Arkanoid II GS	22.95
Battle Chess GS	32.95
The Cryllan Mission	34.95
Crystal Quest	32.95
The Duel	27.95
Grand Prix Circuit	28.95
Hardball	27.97
Hunt for Red October	34.95
Jack Nicklaus Golf	34.95
Serve & Volley	28.95
Test Drive	27.95
Tetris GS	27.95
Tunnels of Armageddon	29.95
Xenocide	32.95

SOFTWARE & GRAPHICS SOFTWARE

Award Maker	29.95
Dazzle Draw	33.95
Deluxe Paint GS	65.95
Design Your Own Home GS	59.95
Diversi-Tune	52.95
Font Factory GS	25.95
GraphicWriter III	84.95
GS Font Editor	29.95
Jam Session	34.95
MusicWriter Limited	84.95
MusicWriter Special	209.95
MusicWriter Professional	399.95
PaintWorks Plus	32.95
PaintWorks Gold	45.95
PrintShop NEW!	29.95
PrintShop GS	36.95

PS Graphics Library Sampler	24.95
PS Graphics Library Party	24.95
PS Graphics Library School & Business	24.95
PS Lover's Utility Set (Ile or IIGS)	27.95
Publish It! 3	79.95

TIMEOUT SERIES

DecisionPak	89.95
StylePak	79.95
PerformancePak	69.95
DeskTools	32.95
FileMaster	32.95
PowerPak	32.95
Thesaurus	32.95
SideSpread	32.95
TextTools	40.95
SpreadTools	40.95
UltraMacros	40.95
MacroEase	25.95
ReportWriter	48.95
Graph	55.95
SuperFonts	42.95
Telecomm	42.95
QuickSpell	40.95

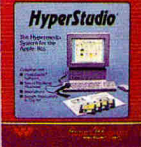
UTILITIES & LANGUAGES

Apple IIGS System Software Update 5.0	44.95
Bag of Tricks	29.95
Chinook SCSI Tools	29.95
Copy II Plus	25.95
CrossWorks	69.95
EasyDrive	39.95
Exorciser	29.95
Guardian	34.95
Wings	54.95
GS Desk Accessories	37.95
Merlin 8/16	75.95
Orca/M	39.95
Orca/C	80.95
Orca/Pascal	80.95
RAMUP	39.95
Renaissance	34.95
RepairWorks	39.95
SuperPatch	39.95
TML Basic	84.95



EASYDRIVE *Q LABS*

The complete management system for your hard-disk. Includes a Launcher, Selector, File Maintenance Program, Image Backup/Restore (with compression), Disk Optimizer, Index Program, and an informative guide to ProDOS and GS/OS. **\$39.95**



HYPERSTUDIO

ROGER WAGNER

Hypermedia authoring system for the Apple IIGS that provides every-

thing you need in one complete package. Integrate text, super Hi-Res graphics and digitized sound files to create your own hypermedia applications or edit existing ones. Includes: Paint Tools, Text Editor, Sound Editor, Sound Digitizing Hardware, and Microphone. Requires 1.25 MEG. RAM. **\$86.95**



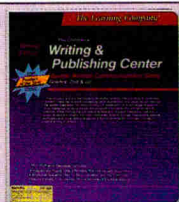
TIC *Q LABS*

Enjoy a full-featured communication program at a price you can live with. TIC includes a comprehensive macro language (over 70 commands), dozens of terminal emulations, file compression, a no nonsense command structure and GS/OS compatibility. **\$39.95**

HEY, TEACHER! YOU GET A BONUS!

Schools are on a tight budget. At Quality Computers, we understand that. That's why we offer the Teacher Bonus Point program, an exciting way for you to earn free hardware and software simply by telling your school about Quality Computers. It's easy and fun! Call a Quality Computers representative for details. Sign up today!

We carry a full line of educational software for Apple, IBM, Macintosh and more! Call for your free catalog!



THE CHILDREN'S WRITING & PUBLISHING CENTER

Helps children write and think clearly. Combines word processing, pictures, and page design to help produce first-class reports, letters, stories, and more! Ages 8-14.

School	54.95
Lab Pack	99.95



REPAIRWORKS/SUPERPATCH

Two Q Labs utilities that all AppleWorks user should have. RepairWorks is the award-winning database/word processing recovery and repair program. SuperPatch is the customization program that lets you change AppleWorks in over a hundred ways. **\$34.95 ea.**

**ASK ABOUT
OVERNIGHT DELIVERY!**

Quality Computers



POWER FOR PERFORMANCE

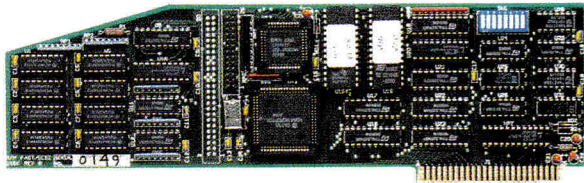
BUSINESS HOURS

SALES: 1-800-966-1508 or 1-800-443-6697 Mon.-Fri. 9AM-7PM Sat. 10AM-4PM (Eastern Time)
TECHNICAL SUPPORT: (313) 774-7740 Mon.-Fri. 10AM-5:30PM (Eastern Time)
CUSTOMER SERVICE: (313) 774-7200 Mon.-Fri. 9AM-5PM (Eastern Time)

20200 E. Nine Mile Road • Box 665 • St. Clair Shores, MI 48080
Orders & P.O.'s by FAX (313) 774-2698

Circle 136 on Reader Service Card.

HARD-DISK PERFORMANCE. THE SECRET IS OUT.



RAMFAST/SCSI

\$199.95

Why Quality Computers?

Quality Computers was the first Apple II company to sell and support a full line of hard-disk drives. While other companies scrambled to catch up, we moved ahead. We staffed our technical and sales offices with hard-disk experts to recommend a system that meets your needs and fits your budget. We published EasyDrive, a hard-disk management program that makes getting started a snap. We compiled the Hard-Disk Buyers' Guide, an informative package filled with brand name comparisons, and performance charts to help you select the right hard-disk.

That's why we're happy to endorse the RamFAST/SCSI interface card. Its innovation, performance and reliability make it the kind of product we are proud to carry.

MEET YOUR NEED FOR SPEED

The RamFAST/SCSI card from CV Technologies is the fastest hard-disk interface available for your Apple computer.

How fast is it? How would you like to boot GS/OS in just 6 seconds? Or launch AppleWorks GS in 5 seconds? That's more than twice as fast as Apple's new DMA SCSI card, plus the RamFAST/SCSI card supports up to eight partitions.

The RamFAST/SCSI card is easy to install. Just plug the card into your Apple IIe or IIGS, and fasten your seatbelt. You'll experience the speed and performance that you've only dreamed of until now.

FEATURES

- **SCSI COMPATIBILITY.** Apple has chosen SCSI as its standard interface. For flexibility, reliability, Apple compatibility, and power, you can't beat a SCSI hard-disk and interface. (Also supports Sider drives).
- **EASY TO USE.** Built-in configuration software automatically formats and partitions your hard-disk to your specifications.
- **ADVANCED TECHNOLOGY.** The RamFAST/SCSI card includes its own 10MHz processor, 256K RAM, Cache-Lookahead, Background-Writing, transfer rates of 1 MB/sec. (GS) and 980K/sec. (IIe), GS/OS Driver, Built-in ROM disk, DMA compatibility, and lifetime warranty.

WHAT THEY'RE SAYING

"It has the performance I was expecting, but didn't get from the Apple DMA card."

Rick Shanahan, Baltimore

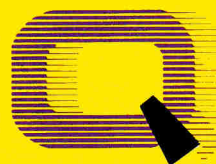
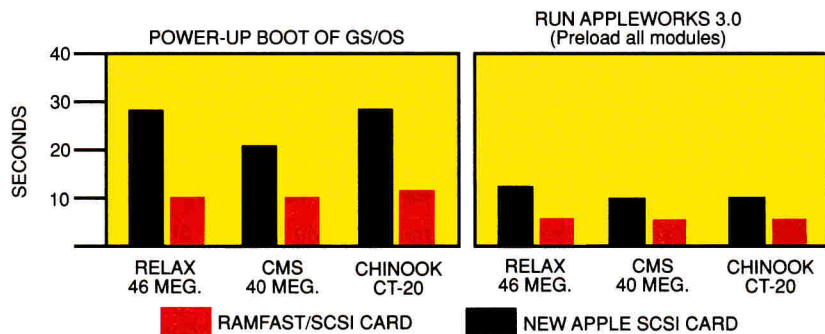
"Even in ProDOS 8, RamFAST is just as fast as a ROM disk."

II at Work

"This is the most impressive peripheral I've seen in years."

Glen Bredon

IMPROVED PERFORMANCE



Circle 165 on Reader Service Card.

Quality Computers

POWER FOR PERFORMANCE

1-800-966-1508

P.O. Box 665 • 2020 E. Nine Mile Road • St. Clair Shores, MI 48080 • (313) 774-7200



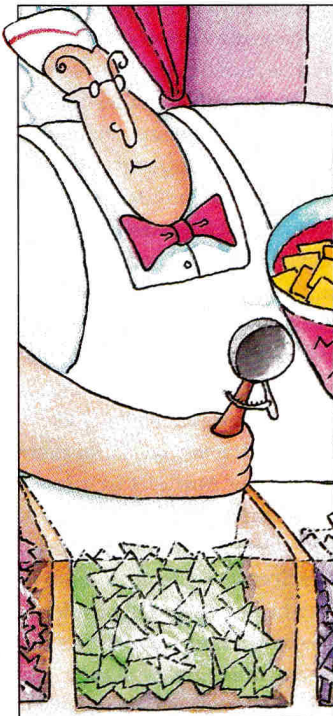
OCTOBER

1990 Vol. 8 No. 10

ARTICLES

- 44 Taking Care of Business**
Hang out your shingle and put that *Open* sign on the door — with an Apple II on staff, your small business will be ringing up profits in no time.
- 51 AppleWorks with the Works**
inCider's recipe for SuperWorks: topping off plain-vanilla 3.0 with an assortment of patches, utilities, and macros for enhanced power and unlimited productivity.

p. 44



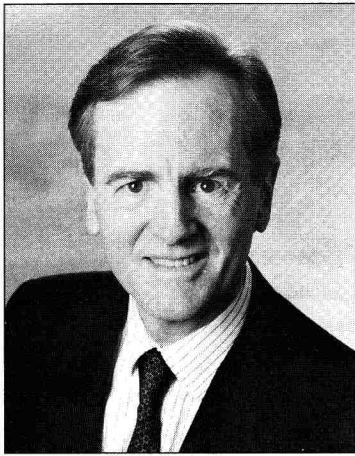
p. 51

COLUMNS

- Sculley's View** * John Sculley
An Open Letter from Apple's CEO 8
- Status Report** * Paul Statt
Perception and Reality 28
- AppleWorks in Action** * Ruth Wilkin
In the Balance 58
- Press Room** * Cynthia E. Field
All the News That Fits 62
- Apple IIgs Basics** * Joe Abernathy
Shell Service 66
- Learning Curve** * David D. Thornburg
Keeping Pace with Time 82

DEPARTMENTS

- Letters to the Editor** 12
- What's New**
Software, Resources,
AppleWorks Notes, Apple Bits 20
- Apple Clinic**
Caught in the Middle: Transporter
Translations, Expand Your Memory,
Is There a Link? Myriad Colors,
Quadram Quandary 30
- Reviews**
SuperPrint II: The Next Generation,
The Playroom, Sports Scheduler,
Super Story Tree 32
- Game Room**
Airball, Qix GS, Solitaire: Volume II 38
- Hints & Techniques**
Take Command: TimeOut Text Display 86
- Editors' Choice**
In with the New: The New Print Shop 96



AN OPEN LETTER FROM APPLE'S CEO

SCULLEY'S VIEW

“We value the Apple II product family as an asset, which we will continue to nourish.”

HAVE NO DOUBT, APPLE COMPUTER Inc. is committed to supporting and marketing the Apple II computer for years to come. Speculation whirling in the marketplace about the Apple II product family has users confused about Apple's commitment to the line. With this open letter to readers of *inCider/A+*, I hope to dispel concern and assure our Apple II customers that their loyalty to Apple and its products is warranted. I also will address how changes in the marketplace affect the future.

Apple II buyers are a very loyal and passionate group, and your continued appreciation of our products guides us in our decisions. It is particularly gratifying to me and to Apple II engineers, both past and present, to see that the Apple II, which launched Apple as a business, continues to be endorsed by educators, consumers, and small-business owners.

During the past few months, I've become more personally involved in Apple's product research and development efforts. Recently funds to continue to improve the Apple II product line were increased substantially. The future of the Apple II's development has been put into the very capable hands of Roger Heinen, Apple Products' vice president of software, and Ralph Russo, Apple Products' director of Apple II development, who now sees to it that the enhancements to the Apple II on the drawing board come to fruition.

Within the last year we've also added employees in both worldwide product marketing and USA product marketing dedicated to the Apple II line.

In 1989 and so far in 1990, Apple introduced a number of significant technological improvements for the Apple IIGS, IIC Plus, and IIE without increasing the price of the basic products. Currently, we are working closely with Apple II hardware and

software developers to encourage the creation of innovative products for the Apple II family and to provide them with the information they need to make decisions so their businesses continue to be viable. A number of developers in the past year introduced new software and hardware for the Apple II family, as well as made commitments to their customers to continue to introduce creative new products that support our own Apple II development.

One major step Apple made last year to ensure the longevity of the IIGS was to introduce Apple IIGS System Software 5.0, the first 16-bit operating system for the IIGS that operates over the AppleTalk network system. In response to requests from customers and developers for improved ease of use and functionality, Apple improved the system software's speed and network capabilities as well as made changes to the toolbox that enable the system to handle basic functions, including sound, drawing, scrolling, and memory management, about twice as fast as our earlier System Software 4.0. New toolbox components for developers also make programming for the Apple IIGS easier and faster.

Besides new system software, Apple last year expanded standard memory for the Apple IIGS to 1 megabyte without increasing cost and introduced the Apple II Video Overlay Card, which gives our customers the ability to use the Apple II as a basic interactive multimedia platform. In March, we introduced the Apple II High-Speed SCSI Card, which moves information up to ten times faster between Apple II computers and peripherals. This card provides the user with greater functionality at the same price as the earlier card. This new High-Speed SCSI Card is just one example of Apple's philosophy — based on customers' needs — to allow Apple II users access to

This month, Editor in Chief Dan Muse turns over his space to John Sculley, Apple's chairman, president, and chief executive officer.

At *inCider's* request, Sculley has agreed to address Apple's philosophy regarding the II family. The opinions expressed here do not necessarily reflect those of *inCider* or IDG Communications.

many of the same SCSI peripheral devices as Macintosh users. By building bridges between Apple's two product lines, our customers can take advantage of the strength of each. Taken together, our recent II products equal significant improvement in functionality and increase the value of Apple IIs for our customers and developers.

We also understand our customers' need for continued enhancements to the product line, including improvements in the way Apple II and Macintosh computers interact on the AppleTalk network. Apple II customers, particularly primary and secondary schools, want their installed base of Apple IIs to operate in concert with newer Macintosh purchases. We are currently working on a variety of "bridges" between the Apple II and Macintosh families to make that synergy even better. During 1990 and 1991, Apple will introduce several new entry-level Macintosh computers, and at least one will have Apple II emulation capabilities so the two product lines continue to work well together.

I can reassure our Apple customers that we value the Apple II product family as an asset, which we will continue to nourish. Beyond that, I am not at liberty to disclose specific product plans.

New products aren't the entire answer, and at Apple we are constantly evaluating the changing needs of the Apple II community to ensure top-notch service. We recently established a one-year warranty for new owners of Apple II computers and we continue to offer AppleCare to all owners of Apple II computers.

As tool makers of state-of-the-art personal computers, we recognize the technological limits of the Apple II line, but at the same time these products have neither lost usefulness, nor are they obsolete. Hundreds of thousands of educators, consumers, and

small-business owners worldwide rely on the Apple IIGs, IIE, and IIC Plus and will for many years to come. For those reasons, Apple Computer is committed to continuing to enhance the IIGs's functionality, improve our support to customers, and encourage developers to push Apple II technology as far as it can go. As Apple develops new entry-level products, the Apple II family will continue to be recognized for the immense value it provides our customers and our company.

We make that commitment to *inCider/A+* readers here, and we've made that same commitment to customers both in person and in a special videotape mailed to more than 10,000 education customers this spring. In addition to a videotape, customers also received a new guide to Apple II software that cited nearly 200 new Apple II education software products to add to the already extensive library of software for the Apple II family. This fall you will see from Apple a new Apple II resource that will be a comprehensive guide covering a wide range of topics, including technical product information, telecommunications, media integration, and service and support. This new guide is another in Apple's continuing efforts not only to reward your loyalty but also to make owning and using an Apple II computer the great experience it was meant to be.

Sincerely,



John Sculley
Chairman, President, and CEO
Apple Computer Inc.

Why Sensible Grammar™ is first in its class.

Now everything you write, from a school report to a business letter, can be stronger and clearer. With *Sensible Grammar™* A professional proofreading program for Apple II that checks your punctuation, usage, phraseology and more.

Sensible Grammar scans your work for potential errors and automatically displays the sentences in which they appear. It explains what's wrong and even suggests corrections. Making changes is easy—a simple keystroke or click of the mouse, and you can do anything from replacing a phrase to rewriting it. And your formatting information remains unaffected.

Sensible Grammar compares your text against a library of over 2000 phrases to identify informal, vague, racist, sexist, and other faulty language, plus you can add phrases of your own. It catches embarrassing typographical errors like misused capitalization and repeated words, alerts you to improper punctuation, and more.

Sensible Grammar autoloads onto RAM cards, can be used with hard disks and works with most ProDOS word processors. And it costs just \$99.95.

So get *Sensible Grammar*. And write like a pro.

Also available: Sensible Speller™, the electronic spelling checker with over 80,000 words from the official Random House dictionary. Works with most ProDOS word processors (\$125).

Report Card II™, the grading system that makes compiling students' marks simpler, more accurate, and more efficient. For Apple II and IBM (\$59.95).

Bookends Extended™, a specialized database for locating information and printing bibliographies. For Apple II and IBM computers (\$149.95), and for Macintosh computers (\$99.95).

Sensible Grammar is also available in a Mac version (\$99.95).



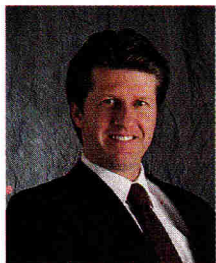
Sensible Software,® Inc.
335 East Big Beaver, Suite 207
Troy, MI 48083
(313) 528-1950

Circle 240 on Reader Service Card.

Complete Apple Solutions



What makes CDA different?



We offer complete Apple solutions.

At CDA you will find everything you need in one place — complete ready-to-run systems, add-on hardware, software and a large selection of accessories.

Every order is backed by our 30 Day Money Back Guarantee as well as our full One Year Performance Warranty.

From our knowledgeable sales staff and customer service representatives, to our

technical support team and warehouse crew, every order receives personal care — from start to finish.

Since 1980 CDA has been serving customers world wide.

Growing along with the personal computer industry has enabled us to acquire the knowledge and experience necessary to help you get what you need, when you need it, at the right price — with full support and service. *Marc Daniels, President*

The Apple IIGS Power System

- Apple IIGS CPU w/1 Mb of Memory
- AppleColor RGB Monitor
- Applied 3.5" Disk Drive
- 20Mb Vulcan Hard Drive
- ImageWriter II Printer
- All necessary cables
- Extra Black Ribbon
- Color Rainbow Ribbon
- System Dust Cover Set
- Printer Dust Cover
- 10 - 3.5" Diskettes
- Disk Storage Box
- Package of Paper
- Mouse Pad

Package #9084
CDA Price \$2569

The Affordable Apple IIGS System

Complete System Includes:

- Apple IIGS CPU w/1 Mb of Memory
- Magnavox Color RGB Monitor w/Stereo Sound
- Applied 3.5" Disk Drive
- Olympia NP-30 Printer
- 3 - Extra Black Ribbons
- System Dust Cover Set
- Printer Dust Cover
- 10 - 3.5" Diskettes
- Package of Paper
- Mouse Pad
- All necessary cables

Package #9086
CDA Price \$1699

ImageWriter II Printer Package

Package Includes:

- ImageWriter II Printer
- Printer Cable
- Extra Black Ribbon
- Color Rainbow Ribbon
- Printer Dust Cover
- Package of Paper

IIC/IIGS Pkg - \$475

IIE Pkg - \$529

Apple IIGS- Package #9071

Apple IIC- Package #9072

Apple IIE- Package #9073

(IIE pkg includes the SMT

Envoy interface card)

Olympia NP-30 Printer Package

Package includes:

- Olympia NP-30 Printer
- Printer Cable
- Printer Dust Cover
- Package of Paper
- **Bonus!** 3 - Extra Black Printer Ribbons

IIC/IIGS Pkg - \$299

IIE Pkg - \$359

Apple IIGS - Pkg #9074B

Apple IIC - Pkg #9075B

Apple IIE - Pkg #9076B

(IIE pkg includes the SMT

Envoy interface card)

Apple Computers

Apple IIGS w/1 Meg \$879
Apple IIC Plus \$520

Monitors

Apple Color Analog (IIGS) .. \$465
Color Composite IIE \$339
Color Composite IIC/IIGS \$312
Apple Monochrome \$135
Magnavox Color RGB \$299
Magnavox Amber \$99
IIGS Anti-Glare Screen \$39

Applied Engineering 3.5" Disk Drive

The AE 3.5 Drive offers all the reliability and performance of Apple's 3.5 drive but at a more affordable price. The 1.4 Mb upgrade allows for future enhancements & Mac compatibility. . \$209



Drives & More

Apple 3.5 Disk Drive \$349
Applied 3.5" Disk Drive \$209
Apple 3.5 UniDisk IIE/IIC \$319
UniDisk 3.5 Controller \$59
Apple 5.25 Disk Drive \$259
Laser 5.25 Disk Drive (IIC) \$89
Apple 5.25 Controller \$59
Apple High Speed SCSI \$109
CV Technologies RAM Fast SCSI Controller w/256K \$209
AE 5.25 Disk Drive \$118
AE Vulcan HD/20 \$519
AE Vulcan HD/40 \$659
AE Vulcan HD/100 \$1299

Scanners

ComputerEyes IIGS \$199
ThunderScan \$159
LightningScan GS \$219

Quickie Scanner by Vitesse




Editors Choice A+/InCider!

Now you can integrate crisp, clean line art, text & halftones into your newsletters, reports and flyers. The Quickie hand-held image scanner scans images at up to 400DPI within seconds! (IIGS) **\$199**

Compuserve's Electronic Mall
Free connect time all through September!
Watch for weekly specials! "Go CDA"

CDA Offers Free Freight*

AD #16-10



ProTERM by InSync
Rated #1 by A+/McCider
 ProTERM is a complete tele-communications solution with features such as Rotary Dialing List, Protocol File Transfer, Scroll-back, built-in Editor, Terminal Emulation, & Auto-Learn Macros. ProTERM is the one program that is simple enough for the novice, but powerful enough for the pro. **\$79**

Memory Upgrades

GS-RAM Ultra 256K	\$169
GS-RAM Ultra 512K	\$199
GS-RAM Ultra 1 Meg	\$259
GS-RAM Ultra 2 Meg	\$379
GS-RAM Plus 1 Meg	\$259
GS-RAM Plus 2 Meg	\$389
RamKeeper	\$169
RamKeeper Slot Mover	\$32
RamWorks - all sizes available	
RamFactor 1 Meg	\$309
RamExpress II 256K	\$149
RamExpress II 512K	\$189
RamExpress II 1 Meg	\$249
SMT 64K Ext 80 Col Card	\$39
SMT No Slot Clock	\$35

Accelerators

TransWarp GS	\$289
Zip Chip Ite, Iic (8 Mhz)	\$149
Zip Chip IIGS	\$279

IBM & Apple

TransDrive Single 360K	\$185
PC Transporter 768K	\$309
IIGS Installation Kit	\$39
Iie Installation Kit	\$32



Publish-It! 3 by Timeworks
 Produce your own newsletters, reports, ads and more! Prepare text on screen or import from AppleWorks 3.0, or any ASCII file. 200 graphic images included. **Special** - includes a free copy of Graph-It! (limited supply). **\$89**

Modems

AE DataLink 2400	\$175
DataLink Express w/cable	\$199
Supra 2400 w/cable	\$129
Prometheus 2400 w/cable	\$179

Printers & More

ImageWriter II w/cable	\$465
ImageWriter Sheet Feeder	\$189
Olympia NP-30 w/cable	\$289
Apple Super Serial Card	\$109
Orange Grappler 9 Pin	\$79
Grappler Plus	\$69
SMT Envoy Serial Card	\$54
SMT Printech II	\$39

Sound & Music

Apple MIDI Interface	\$79
Opcode 1x3 Interface	\$59
AE Sonic Blaster	\$94
AE Audio Animator	\$174
Bose Roommates (white)	\$199

Input Devices

Apple Iic Mouse	\$79
Apple Iie Mouse w/card	\$119
Mach III Joystick	\$35
Mach IV ADB Joystick (GS)	\$58



Graphic Writer III by Seven Hills

GraphicWriter III is a fast, flexible desktop publishing program that offers enormous appeal for GS users who want authentic 16-bit software. Features include 3 view modes, 30 type styles, word processor with expanded search-replace functions, spelling checker, paint features & much more. **\$75**

Input Devices

CH Flight Stick	\$47
Kensington Turbo Mouse	\$109
Koala Pad Plus w/software	\$82


Surge Protection

6 Outlet Surge Protector	\$29
Iie Heavy Duty Power Supply	\$59
GS Heavy Duty Power Supply	\$79
Kensington System Saver GS	\$69
Conservor	\$79

Software

Abracadata	
Design Your Own Train	\$35
Design Your Own Home	\$64
Accolade Blue Angels	\$34
Grand Prix Circuit	\$28
Test Drive II Bundled w/European Challenge (GS)	\$43

Software by Vitesse



Salvation Renaissance speeds up access to all your files by 'defragmenting' the files that are segmented or broken up during normal use. The result is shorter access time for programs and reduced wear & tear on your hard drive or floppy drive.
 Salvation Renaissance \$34 || Salvation Guardian | \$34 |
| Salvation Exorciser | \$28 |

Beagle Brothers

Appleworks Companion	\$28
BeagleDraw	\$54
BeagleWrite GS	\$57
Point to Point	\$65
TimeOut Graph	\$49
TimeOut MacroEase	\$28
TimeOut QuicksPELL	\$38
TimeOut SpreadTools	\$38
TimeOut SuperFonts	\$38
TimeOut TeleCom	\$38
TimeOut Thesaurus	\$32

Big Red Computer

PS Lover Utility Set 5.25 or 3.5	\$28
Britannica Gnarly Golf	\$17
Designasaurus (GS)	\$27
Jigsaw	\$26
LaserForce (GS)	\$17
Taskforce	\$26
Broderbund PrintShop GS	\$36
New PrintShop (5.25)	\$34
Down Hill Challenge (GS)	\$22
McGee	\$26
Katie's Farm	\$26
The PlayRoom (5.25 or 3.5)	\$27
Where in Time is Carmen San Diego (3.5 or 5.25)	\$27
Where in the USA is Carmen	\$27



TimeOut TextTools by Beagle Brothers
 You'll save heaps of time with all your word processing tasks when you put TimeOut TextTools to work for you. Create multiple columns, print up to 100 different files at once, print mail merge data onto pre-made forms and much more. **\$32**

Where in the USA is Carmen San Diego (IIGS) \$32 || Where in Europe is Carmen San Diego (3.5 or 5.25) | \$27 |
Where in the World is Carmen San Diego (5.25)	\$27
Claris AppleWorks GS	\$192
AppleWorks (3.5 & 5.25)	\$169
CompuTeach	
Once Upon a Time II (5.25) ...	\$27
StudyMate - The Grade Booster (5.25 or GS)	\$27
Joshua's Reading Machine Premium Pack (5.25 or GS)	\$24
Davidson AlgeBlaster Plus	\$29
Talking Math Blaster Plus	\$29
Spell it Plus (3.5 or 5.25)	\$29
Talking Reading & Me (GS) ...	\$29
Word Attack Plus	\$29

Electronic Arts

Block Out (GS) \$27 || Earl Weaver Baseball | \$27 |
Tunnels of Armageddon (GS)	\$27
ECLAT GeoGraphic Jigsaw	\$27
Fractal Explorer (GS or 5.25) ..	\$27
Intuit Quicken (3.5 & 5.25) ...	\$38
Manzanita	
BusinessWorks Bundle	\$267
BusinessWorks Payroll	\$109
MECA World Geograph (GS)	\$56

MicroRevelations

Xenocide (GS) \$29 || **Nolo Press** Will Maker (5.25) | \$35 |
Roger Wagner	
Graphic Exchange (GS)	\$32
HyperStudio (GS)	\$82
Seven Hills	
Graphic Writer III	\$75
Font Factory GS	\$23
Taito Qix (GS)	\$22

The Learning Company

Talking Reader Rabbit (GS) \$32 || Childrens Writing & Publishing Center (3.5 or 5.25) | \$32 |
Math Rabbit (3.5 or 5.25)	\$24
Virgin Mastertronic	
Risk (5.25)	\$27
Clue Master Detective (5.25)	\$27

30 Day Money Back Guarantee 1 Year Warranty



* Stock items under 15 lbs. will be shipped free to any destination in the continental US via UPS Ground Service! (order must be \$100 or more) Hawaii, Alaska, APO/FPO, foreign orders, systems & items over 15 lbs please call for rates. CODs up to \$1,000 accepted

In N J (908) 832-9004
 Fax# (908) 832-9740

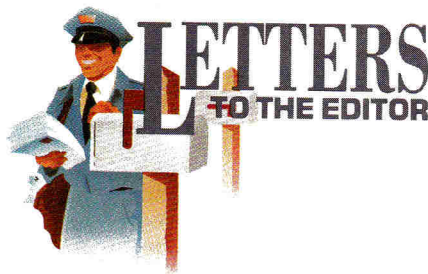
Hours: Mon-Fri 9am-10pm
 Saturday 9am-6pm EST
 1 CDA Plaza, P.O. Box 533
 Califon, New Jersey 07830

All prices subject to change without notice. CDA is not an authorized Apple dealer. Apple & the Apple logo are registered trademarks of Apple Computer, Inc.

US/Canada Call Toll Free 800-526-5313

CDA Computer Sales

Circle 9 on Reader Service Card.



IN THE DARK

I'M A PROUD IIC OWNER WHO'S finally decided it's time to purchase a hard drive. Unfortunately, the information in your July 1990 article "A Hard Drive Is Good to Find" (p. 42) isn't correct. You state, "Chinook Technologies is currently the only manufacturer that makes hard-disk drives that plug into the [IIC's] external disk-drive port."

Today that quote is wrong. Ingenuity has come out with a hard drive for the IIC that fits inside the machine and replaces the floppy drive — it even includes a kit so that you can transform the internal floppy into an external floppy. When will you give IIC owners a break? We want to know about *all* the hard-disk drives available for our machines.

Randy Burka
9006 Quebec
Houston, TX 77096

As of this writing (late July), the Ingenuity hard drive you mention is still in development and isn't available yet for retail purchase. Look for further coverage in upcoming issues. — eds.

WHAT'S IT WORTH?

BE AWARE THAT ACTIVISION'S latest version of Paintworks Gold, 1.5, won't work on a ROM 03 GS with less than 1.5 megabytess of RAM. When I purchased a copy for our school, I found that it ran without a problem on our 1.25-megabyte ROM 01 machines, but crashed on my ROM 03 GS with the same amount of memory. Activision's support personnel admitted that this new version needs an added 512K on the auxiliary card, but the company hasn't considered

rewriting its memory-allocation routines. The program's new features (save page 2 and a pattern palette) are nice, but not worth the \$70 a RAM upgrade costs.

Dennis Windrim
5112 13th Avenue
Edmonton, Alberta, Canada T6L 1Z6

LOGO TALK

I WAS DELIGHTED TO SEE YOUR coverage of programming languages in *inCider's* July 1990 issue (p. 56). I'm a Logo teacher in an elementary-school computer lab, I'd like to make your readers aware of some important differences between the earlier versions of LogoWriter and the newest GS edition.

The original versions of LogoWriter include powerful features for the 128K Apple II — including classic Logo programming, multiple turtles that can "wear" different shapes, and animation and music you can program. You can program the word processor to create interactive story trees, as well, and even mix text and Logo graphics on screen.

The newest version of LogoWriter contains all those capabilities, plus some other improvements, notably the screen's crispness — text and graphics show none of the usual Apple IIe "color bleed." The GS version also has 15 on-screen colors, which you can access easily to create colorful text. (The older versions have just five colors, which you use only for graphics.) The new GS version even lets you control the turtle's speed. There's also significantly more memory available in the GS version: While previous versions didn't access more than 128K, the amount of RAM in the GS edition depends entirely on your computer's memory. Note, however, that the 16-bit

version doesn't boot in older GSeS, because GS/OS needs ROM 01 or later. (See your dealer for a ROM upgrade.) I hope these observations are helpful to some of your Logo-programming subscribers.

Robert Scheinblum
Cutler Ridge Elementary School
Miami, FL 33189

LUKEWARM RESULTS?

I ENJOYED YOUR JULY 1990 article "A Hard Drive is Good to Find," but I'd like to clarify a figure listed in the table "Benchmark Test Results" (p. 46). When I turn on my GS, the InnerDrive icon arrives at the ProSel application selection screen much faster than the 11-second warmup time listed in the chart: When I park the head before the last shutdown it takes 6.75 seconds to warm up, and when I don't park it, it takes only 5.25 seconds. Why?

Bill Neef
4848 Wolf Lake Road
Grass Lake, MI 49240

As we noted in the article's sidebar "Testing the Drives," warmup times vary, depending on type of interface and the way the observer determines readiness; the discrepancy between your results and ours is fairly minor. More significant and more precise are the average times listed for the other benchmarks in the table. — eds.

STAYING LOYAL

I'VE BEEN WORD PROCESSING with an enhanced Apple IIe and an Epson LQ850 printer for a few years, but now I want to use a laser printer. I was told that to drive a laser printer I'd have to

APPLE IIe-IIc-IIgs-II plus OWNERS!

SAVE \$\$\$ ON YOUR PERIPHERALS!

UNIV & SCHOOL P.O.'S WELCOME!

GS RAM UPGRADES

4 MEG GS RAM BOARD. DMA compatible. Expands IIgs to 4.25 Meg. w/1 MEG.	\$129
AE GS-RAM Plus 6 MEG RAM board. DMA comp. Expands GS to 6.25 Meg. w/1 MEG	\$219
Above w/2 to 6 Megabytes	Call
256K RAM Set (8pc) 120ns 5 Yr Wty	\$29
1 MEG RAM Set (8pc) 100ns 5 Yr Wty	\$75
TRANSWARP GS by Applied Engineering	\$285

FALL SPECIALS

PBC EXTENDED 80 COLUMN CARD for Apple IIe. Expands IIe to 128K (Appleworks desktop to 56K). Super sharp 80 column display, soft switch select 40/80 columns, & Double Hi-res graphics, all built-in!	\$35
PBC 256K/80 COLUMN BOARD IIe. All above features, plus expands your Appleworks 3.0 desktop to 137K	INTRO \$79
Super Serial Board 100% replacement for Apple Super Serial Card, this versatile RS232 board can be used for all modems and serial printers. For II+/IIe/IIgs	\$48
SSB to Imagewriter I cable 10'	\$11
SSB to Imagewriter II cable 10'	\$11
SSB to Modem (Standard RS232) 10'	\$11

SOUNDSYSTEM 2 For IIgs

New 2-Way Stereo Amplified Speaker Pair! These thunder pods put the S in your GS operations, at one third the cost of Bose	\$89
---	-------------

AE RAM BOARDS

RAMWORKS III w/256K	\$129
RAMFACTOR w/256K	\$166
Above w/512K or 1 Megabyte	Call

MORE SUPER SPECIALS!

Graphic Parallel Board w/6ft cable. Text & graphic screen prints. Versatile graphics including inverse/normal, enhanced, 90 degree rotate & double size print. II+/e/gs.	\$44
Parallel Printer Board w/cable. Text print only. Used where graphics is not required.	\$35
Z80 CP/M Board Opens the CP/M world for II+/e/gs. Microsoft & Turbo Pascal Comp	\$34
Joystick III Similar to the Hayes Mach III, with large fire button on stick	\$24
5 AMP Power Supply. Drop in replacement for II+/IIe supply. Double the amp power!	\$49
TV Modulator Connects your Apple II+/IIe to any color or black/white TV	\$15
Serial/Parallel Converter. Connects your IIc to any parallel printer	\$49
AE Transwarp 3.6Mhz accelerator. II+/e	\$99
ZIPCHIP 8Mhz by Zip Tech. IIe/IIc	\$169

QUIET COOLING FANS

SUPERFAN II for II+/IIe. Kensington Style w/surge protect & twin rear AC outlets.	\$27
Super Cooler GS for your IIgs. No audio line interference. Internal Mount	\$24

PRO-KEYPAD for IIe/IIc/IIc+

Numeric data entry made simple. Includes mathematic, decimal & RETURN keys.	
PRO KEYPAD for U.S. & European IIe	\$34
PRO KEYPAD for U.S. & European IIc	\$39

APPLE II Plus OWNERS!

Run Appleworks on your II+ or Franklin Ace! Plusworks will configure you A.W. startup & program diskette to run on your computer. One time configure package. Not a preboot! (Req. 80 Columns, 64K, and Shift key Mod)	
Plusworks II (A.W. ver 1.0 thru 2.1)	\$35
Plusworks III (A.W. 3.0 only/128K req)	\$35
16K RAM BD. Expands II+ from 48K to 64K	\$34
128K RAM BD. Legend/Titan Compatible	\$64
DOS/ProDOS Emulator for above 128K BD	\$24
80 Column II+ Board Videx compatible	\$48
Shift Key Modification	\$7
Lower Case Adapter. Rev. 7 & up	\$12

NO SLOT CLOCK IIe/IIc

Fits underneath your CD or CF ROM. Appleworks compatible. Free software.	\$39
--	-------------

APPLETALK TO PHONE NET

Localtalk Replacement kit w/balanced RS422 transformer & 25 foot cable	\$25
--	-------------

COPY II PLUS

The ultimate copy program. For 5.25"-3.5"-Hard drives.	
8.4 w/5 1/4 diskette	\$15
9.0 w/5 1/4 & 3 1/2 diskettes	\$25

APPLEWORKS CLOSEOUTS!

COMPLETE PACKAGE: Startup/program diskette, tutorial diskette, sample templates, & A.W. manual.	
Appleworks Version 1.2 Package	\$59
Appleworks Version 1.3 Package	\$79

**5 YEAR NO HASSLE WARRANTY ON ALL PC BOARDS!
CALL or WRITE FOR OUR COMPLETE PRICE LIST!
ADD \$4 SHIP-C.O.D. OKAY-VISA/MC NO EXTRA FEE!**

upgrade to a GS, switch to a Mac, or buy an IBM compatible. Because of my working familiarity with Apple II computers and my extensive software collection, I want to stay with the IIe. Is there some type of interface card that lets the IIe use a laser printer?

R.E. Alexander
6402 Melody Lane #3121
Dallas, TX 75231

Apple IIe users can print with a LaserWriter via an AppleTalk network; you'll need an Apple II Workstation Card (\$249). — eds.

CORRECTIONS

Two of the program listings in July's Applesoft Adviser ("Graphics Alive!" p. 74) contain inaccuracies. To correct Listing 1, omit line 556; in Listing 3, change the expression $K = K + 34$ in line 315 to $K = K + 43$; again in Listing 3, change the final data statement's line number to 626, insert it right after line 625, and renumber the following lines.

The Nite Owl Productions phone number listed in August's "Big Adventure, Small Price" (What's New, p. 15) is incorrect; the correct number is (913) 362-9898.

UPDATES

CompuShare has moved its offices since we printed the company's address in our July What's New column ("Guide for the Perplexed," p. 14). The new location is P.O. Box 825, Mukilteo, WA 98275, (206) 348-9626.

The Seven Hills Software phone number printed in the August feature "Publish It! Pounder vs. Kid GraphicWriter" ("Product Information," p. 46) is the customer-support line. The main number is (904) 575-0566 or (800) 627-3836.

INCIDER WELCOMES READERS' COMMENTS. WE RESERVE THE RIGHT TO EDIT LETTERS FOR CLARITY, STYLE, AND SPACE. PLEASE ADDRESS YOUR CORRESPONDENCE TO LETTERS, INCIDER, 80 ELM STREET, PETERBOROUGH, NH 03458.

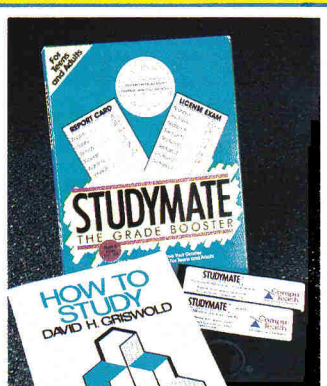


PRICE BUSTERS (619) 589-0081

4233 Spring St., Ste. 402, La Mesa, CA 92041
Monday-Friday 10 a.m.-6 p.m. Pacific Time

Circle 105 on Reader Service Card.

Programs, Peripherals



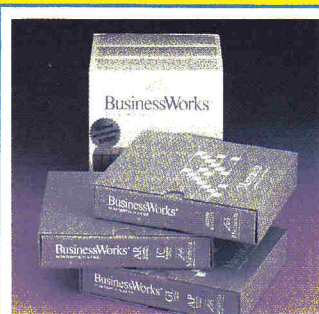
REDUCE STUDY TIME & ACE EXAMS!

Studymate by Compu-Teach gives you the edge. Use your own course materials or the power data disk included. Tests you on the exact facts you need to know. English, foreign languages, history, geography, science, law, real estate, insurance, medicine, college entrance exams, all licensing & certification exams. Suggested Retail.....\$49.95
Programs Plus Price.....\$27.

Z-Ram Ultra 2 1MG.....	325.
Z-Ram Ultra 3 1MG.....	395.
CV Technologies	
RamFast SCSI Card.....	199.
Chips	
Chips Set 256K 120 or 150 NS.....	27.
Harris Laboratories, Inc.	
GS Load 256K (3 pack).....	79.
GS Sauce 1MG.....	179.
GS Sauce 2MG.....	269.
GS Sauce 4MG.....	459.
Zip Technology	
Zip Chip 4 MHZ.....	125.
Zip Chip 8 MHZ.....	SPECIAL 159.
Zip Chip(GS).....	239.

ACCESSORIES

Advanced Gravis	
Advanced Gravis'	
JoyStick(AP & GS).....	39.
MouseStick ADB(GS).....	69.
Apple Computer	
Apple Mouse IIc.....	85.
Apple Mouse IIe (w/ Card).....	119.
Disk Controller Card.....	69.
Video Overlay.....	429.
Applied Engineering	
Audio Animator(GS).....	185.
Conserver(GS).....	79.



TOTAL ACCOUNTING PACKAGE

BusinessWorks* by Manzanita Software Systems is everything you need for a complete business accounting system. Bundle includes all modules: General Ledger, Accounts Payable, Accounts Receivable, Inventory Control. AppleWorks spreadsheet compatible. Requires: IIe, IIc or IIGS, 128K/80 column card, 2 disk drives or hard disk. Suggested Retail..... \$495.
Programs Plus Price..... \$259.

IBM Style Keyboard (For PC Transporter).....	109.
Sonic Blaster(GS).....	104.
TimeMaster II H.O.....	79.
IIGS Heavy Duty Power Supply.....	79.

CH Products

Hayes Flight Stick.....	47.
Hayes Mach III Joystick.....	33.
Roller Mouse ADB(GS).....	75.

Digital Vision

Computer Eyes(GS).....	195.
IMCS, Inc. MousePen ADB.....	75.

Kalmar

Kalmar roll top 3 1/2 (holds 45).....	14.
Kalmar roll top 3 1/2 (holds 90).....	21.
Kalmar roll top 3 1/2 (holds 135).....	35.

Kensington

AntiGlare Filter GS.....	39.
Apple IIe, IIc or GS Dust Cover or Imagerwriter II Cover.....	9.
Apple Security System.....	33.
Mouse Pocket (Reg. or ADB) or Mouseway (Mousepad).....	8.
New Turbo Mouse (Reg. or ADB)...	109.
Printer Muffler 80.....	43.
System Saver (Platinum or Beige).....	59.
System Saver GS.....	69.

Koala Technologies

Koala Pad Plus w/Graphics Exhibitor.....	82.
--	-----

Kraft

Kraft Universal 3 Button Joystick (IIe, IIc).....	34.
---	-----

Kurta

IS ADB Tablet w/stylus(GS).....	255.
---------------------------------	------

Lynn Products	
Cables (Specify).....	15.

Lynx Computer

Turbo Trackball (IIe or GS).....	59.
----------------------------------	-----

Maxell

Maxell 3 1/2 DS, DD (10).....	14.
-------------------------------	-----

Mouse Systems

A+ Mouse (IIc).....	58.
A+ ADB Mouse (GS).....	75.

MousTrak

MousePad 7" x 9".....	8.
MousePad 9" x 11".....	9.
MousePad (Low Friction).....	10.

Northgate Computer Systems

OmniMac Ultra Keyboard(IIGS).....	125.
-----------------------------------	------

Orange County Speaker

IBL Control 1 Speaker.....	205.
OCS 2-40 (Stereo Amplifier).....	145.

Practical Solutions

CORDLESS Mouse.....	95.
---------------------	-----

RC Systems

Double Talk.....	187.
------------------	------

Ribbons

Available colors: black, blue, brown, green, orange, purple, red, yellow, silver or gold	
ImageWriter Ribbon.....	4.
ImageWriter II-4 Color Ribbon.....	9.
ImageWriter Ribbon-Black (6 pack). 20.	
ImageWriter Rainbow Pack (6 colors).....	20.
Laser 190A Ribbon.....	5.
Seikosha Ribbon.....	6.

Sony

Sony 3 1/2 DS, DD (10).....	13.
-----------------------------	-----

Street Electronics

Echo II(AP & GS).....	105.
Echo IIC (IIC & IIC+).....	129.



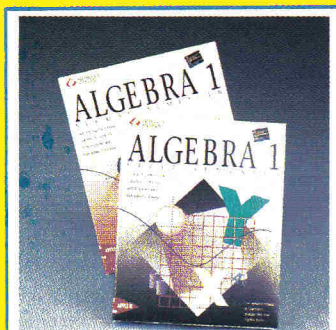
TURN IMAGEWRITER INTO SCANNER!

ThunderScan (AP & GS) by Thunderware transforms any ImageWriter I or II into an inexpensive, high quality scanner. All you need is an Apple computer to turn any printed image into a hi-resolution graphic. Compatible with most popular drawing programs. 16 gray scales. Supports all Apple II display modes. Connects via joystick port. Suggested Retail..... \$295.
Programs Plus Price..... \$159.

1-800-832-3201

ACCELERATORS /RAMCARDS

Apple Computer	
Apple //e Enhancement Kit.....	58.
Apple //e Extended 80 Col. Card.....	89.
Applied Engineering	
GS-Ram Plus 1MG.....	264.
GS-Ram Plus 2MG.....	389.
GS-Ram Plus 3MG.....	509.
GS-Ultra 512K.....	199.
GS-Ultra 1MG.....	264.
GS-Ultra 2MG.....	389.
PC Transporter (768K).....	299.
PC Transporter Installation Kit IIE.....	30.
PC Transporter Installation Kit GS.....	39.
Ram Express II 256K.....	155.
Ram Express II 512K.....	189.
Ram Express II 1MEG.....	245.
RamFactor 512K.....	229.
RamFactor 1MG.....	309.
Ramkeeper.....	165.
RamWorks III 256K.....	149.
RamWorks III 512K.....	185.
RamWorks III 1MG.....	269.
TransWarp Accelerator(Original).....	95.
TransWarp Accelerator(GS).....	299.
ViewMaster 80 (II+).....	125.
Z-Ram Ultra 2 256K.....	205.
Z-Ram Ultra 2 512K.....	245.



ALGEBRA SUCCESS MADE EASY

ALGEBRA I & II by Britannica* Software gives you added confidence because it closely matches school curriculum. Covers every topic, including ones that competitive programs miss. Instructional elements, drills and practices included. Semester I and II available. For II, + IIe, IIc, and IIGS. Requires 128K, 5.25" Drive. Suggested Retail..... \$79.
Programs Plus Price..... \$48.

Programs Plus

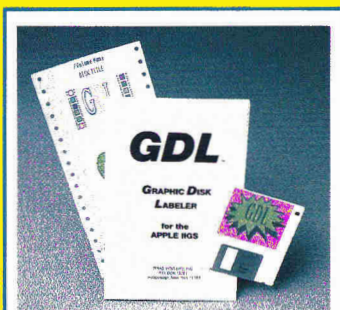
1-800-832-3201



Circle 128 on Reader Service Card.

Fax: 203-381-9043
 Inquires: 203-378-3662
 Canada: 1-800-344-7753
 75 RESEARCH DRIVE
 STRATFORD, CT 06497

& Phenomenal Prices



GRAPHIC DISK LABELER
GDL Graphic Disk Labeler by Triad Venture lets you create colorful 3.5 inch disk labels (or stickers) using system fonts, icons, pictures and Printshop GS™ Graphics. Paint tools for editing your artwork. 320 and 640 mode versions. Includes 50 blank labels as label grabber. NDA, 1 MEG required. For Image-writer II.
 Suggested Retail.....\$39.95
Programs Plus Price..... \$25.

APPLE COMPATIBLE COMPUTERS

Laser Computer, Inc.

- Laser 128 Cables (Parallel, Serial, RGB or Modem)..... 16.
- Laser 128 Mouse..... 45.
- Laser 128 Disk Drive or Laser Amber Monitor..... 99.
- Laser 128 800K 3.5" Drive w/Controller..... 215.
- Laser 190A Printer w/Serial Interface..... 235.
- Laser RGB Monitor..... 279.
- Laser 128 Computer..... 349.
- Laser 128EX Computer..... 389.
- Laser 128EX II Computer (5¼)..... 409.
- Laser 128EX II Computer (3½)..... 449.
- Laser 128 System w/ Amber Monitor & Word Processing Software..... 399.
- Laser 128 System w/ Color Monitor & Word Processing Software..... 510.

BACKUP UTILITIES

Alpha Logic

- LockSmith v6.0..... 36.

Apple

- GS/OS v5 (GS)..... 45.

Central Point

- Copy II Plus v9.0..... 25.

Glen Bredon

- Dos.Master or Pro.Cmd..... 25.
- ProSel 8 (5.25)..... 37.
- ProSel 16 (3.5)..... 54.

Vitesse, Inc.

- Deliverance(GS)..... 31.
- Exorcizer(GS)..... 29.

- Guardian(GS) or Renaissance(GS)... 31.
- Wings(GS)..... 57.

BUSINESS SOFTWARE

Abracadata

- Electronic Drawing..... 32.
- Everybody's Planner..... 69.

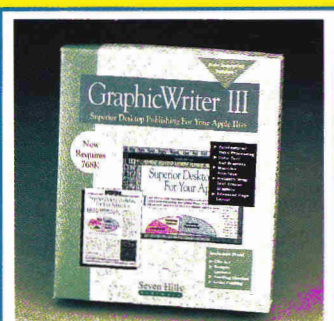
ACTAsoft Alpha Check v3.1..... 29.

Addison-Wesley

- Wordbench (AP & GS)..... 95.

Beagle Bros.

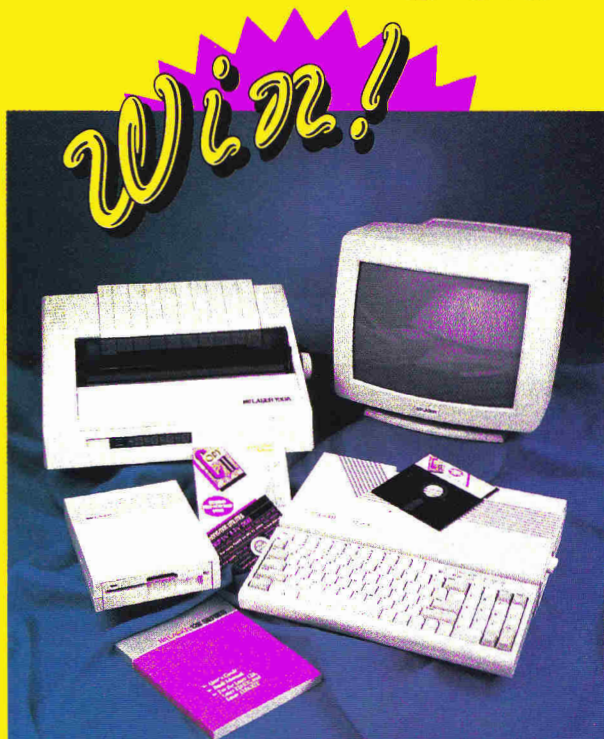
- AW v3.0 Companion or Timeout MacroEase.. **SPECIAL** 23.
- Beagle Bros. Clip Art 1(GS)..... 29.
- Beagle Bros. Desk Accessories(GS).. 34.
- Beagle Write(GS)..... 59.
- Beagle Write Desk Accessories or Font Pack 1 or 2..... 23.
- Beagle Write Picture Manager..... 23.
- GS Font Editor or Program Writer.... 29.
- Timeout Decision Pak(Graph, SpreadTools & SideSpread)..... 85.
- Timeout Graph..... 50.
- Timeout MacroTools or MacroTools II..... 19.
- Timeout Performance Pak (DeskTools I, II & PowerPack)..... 75.
- Timeout ReportWriter or Beagle Write..... 45.
- Timeout SideSpread, FileMaster, or DeskTools..... 29.
- Timeout Style Pak(SuperFonts, Thesaurus & FileMaster)..... 75.
- Timeout SuperFonts or QuickSpell... 39.



BETTER THAN EVER BEFORE!

GraphicWriter III by Seven Hills

offers superior all-in-one desktop publishing on IIGS. Requires only 768K. Includes page layout, word processing and graphics in one complete package. Font disk with 30 type styles. Hundreds of clip art images, plus built-in spell checker. Prints in color or B&W on variety of printers.
 Suggested Retail..... \$149.95
Programs Plus Price..... \$75.



WIN A COMPLETE LASER SYSTEM!

Everytime you order from Programs Plus, you're automatically entered into a fantastic drawing for LASER 128EX/2 with 5¼" floppy disk drive, 14" full-color RGB monitor and LASER 190A Printer. A \$1,369 retail value!

Rules:

- 1) No purchase necessary. 2) Automatic entry by purchasing from PP. Alternate entry: send name and address to Monitor Drawing, Programs Plus, 75 Research Drive, Stratford, CT 06497. 3) Odds of winning depend on number of entries. 4) Drawing date on or about 12/15/90. 5) Winner notified by mail. If unable to contact winner, alternate winner will be selected by random drawing. 6) Eligibility: Contest open to U.S. and foreign residents, except where prohibited by law. Employees of PP and suppliers are not eligible. Not responsible for misdirected entries. Any tax liability sole responsibility of winner. 7) PP reserves the right to substitute prize of equal or greater value. 8) Winner's list available by written request after 1/15/91.

Programs Plus

1-800-832-3201



Fax: 203-381-9043
 Inquires: 203-378-3662
 Canada: 1-800-344-7753
 75 RESEARCH DRIVE
 STRATFORD, CT 06497

Over 2500 Items in Stock



PAINT AND ANIMATION
Color+ by EL KASSIR Software lets you create animation, presentations, stories on IIGS. Change any standard 16 colors SHR to 256 colors. Transform 320 HR to 640 and vice versa.
SupergraphixII enhances AppleSoft enabling colors, music, animation. **Superpuzzle** is two games: scramble SHR and 256 color pictures, switch or slide 'em.
Color+ \$49.
Supergraphix II..... \$59.
Superpuzzle..... \$29.

Timeout TextTools..... 29.
 Timeout Thesaurus, DeskTools II or PowerPack..... 29.
 Timeout UltraMacros or SpreadTools..... 34.

Big Red Computer
 Labels, Labels, Labels..... 22.

Broderbund
 Bank Street Writer Plus (AP or C+)...50.
 On Balance..... 39.

Claris
 Apple Works v1.1(GS)..... 205.
 Apple Works v3.0..... 169.
Intuit Quicken..... 39.

Manzanita
 BusinessWorks Bundle AP & GS (Sys. Manager, G/L, A/P, A/R, Inventory)..... SPECIAL 259.

BusinessWorks Payroll (AP & GS).. 102.
MECA
 Managing Your Money v4.0 (AP & GS)..... 90.

Mecc
 Calendar Crafter School Ed.(GS)..... 59.

Micca Soft
 Invoicer w/A/R & Sales Tracking/Inventory..... 139.

Milliken Medley(GS)..... 75.

Monogram Dollars and Sense..... 75.

Nolo Press Will Maker v3.0..... 35.

Sensible Software
 Sensible Grammar ProDos (AP & GS)..... 55.

Seven Hills Software
 Disk Access..... 32.

Font Factory(GS)..... 23.

GraphicWriter III(GS)..... SPECIAL 75.

SoftSpoken
 Cross-Works v2.0..... SPECIAL 67.

Stone Edge
 DB Master Professional (AP & GS)..... 195.

Timeworks
 Art Portfolio 4 in 1..... 74.
 Graph It!..... 45.

People, Places and Things, Design Ideas, Symbols and Slogans, Education Graphics, Font Pack 1 or 2 (AP & GS)..... 27, each

Publish-It v3.0 (AP & GS)..... SPECIAL 74.

Word Perfect Corporation
 WordPerfect (AP or GS)..... 105.

24 Hour
203-381-9043
Fax

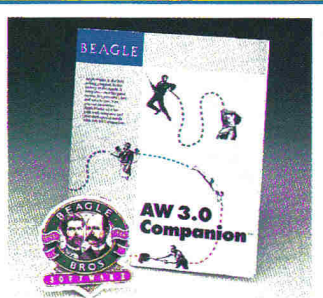
7 POINT POLICY BENEFITS YOU

1. VISA, MASTERCARD, or DISCOVER accepted. No surcharge. Your card is not charged until we ship.
2. If we send a partial order, there's no second shipment charge.
3. All shipments insured at no extra charge.
4. No sales tax charged for out of state shipments.
5. COD maximum \$1,000, cash or certified check. COD orders ship via UPS Blue Label unless UPS Ground delivers next day.
6. 120-day limited warranty on all products. Defective software replaced immediately. Defective hardware repaired or replaced at our discretion. Prices subject to change without notice. All items subject to availability.
7. Corporate purchases accepted, based on credit approval. To submit

purchase orders, call our business office at 203-378-1926, 9am-5:30pm EST. Shipping on corporate orders billed at cost.

SHIPPING

- **Continental U.S.** Add \$7.00 minimum per order to cover Federal Express Standard Overnight Service, unless UPS ground delivers next day. Some areas require an additional day. (UPS ground service available at reduced rate per customer request.)
- **Order by 5:30pm EST Monday-Friday** and all (in-stock items) will ship that evening for overnight delivery, barring system failure, etc.
- **Alaska, Hawaii, outside Continental U.S., APO and FPO:** call (203) 378-3662 or write for shipping information.
- Mail-in orders (especially from foreign countries), please furnish telephone or fax number.



STREAMLINE APPLEWORKS v3.0
AW 3.0 Companion by Beagle Bros, Inc. lets you customize AppleWorks to run efficiently. Tired of "Do you really want to do this?" - now get rid of it! Change Appleworks beep. Take full advantage of your machine's memory. Change "No" prompts to "Yes." Move the OA-Q menu anywhere. Lots more.
 Suggested Retail..... \$39.95
Programs Plus Price..... \$23.

COMMUNICATION SOFTWARE

Applied Engineering
 ReadyLink..... 59.
Beagle Bros.
 Point-to-Point..... 55.
 TimeOut TeleComm..... 45.
InSync Proterm..... 79.
Comuserve
 Comuserve Starter Kit..... 24.
L & L Productions
 GBBS..... 79.
Morgan Davis Group
 ModemWorks..... 49.
 ProLine..... 164.

DISK DRIVES & HARD DISK SUBSYSTEMS

American Micro Research (Micro Sci)
 A.5 Half Height (II+ & IIe) or A.5C Half Height (IIc)..... 135.
 A5D Half Height 5 1/4" Drive (IIGS Daisychain)..... 155.
 AMR 800K Drive Bundle..... 235
 AS800K 3.5 Ext. Drive..... 195.
 GS Partner: Quick 20 MB..... 539.
 GS Partner: Quick 40 MB..... 659.
 GS Partner: Quick 60 MB..... 719.
 Micro Sci C3 Controller..... 52.
Apple Computer
 Apple 3 1/2 Drive (GS & C+)..... 335.
 Apple 5 1/4 Drive (IIE, GS, C+)..... 269.

Applied Engineering
 AE 3.5" Drive..... SPECIAL 209.
 Controller Card for 3.5" Drive (IIC or II+)..... 64.
 Disk II Style Controller Card..... 59.
 TransDrive 360K Additional Drive (for TD single)..... 119.
 TransDrive 360K Single Drive..... 199.
 TransDrive 360K Dual Drive..... 299.
 Vulcan 20 Meg (AP or GS)..... 519.
 Vulcan 40 Meg (AP or GS)..... 649.
 Vulcan 100 Meg (AP or GS)..... 1285.

Chinook
 CT-20 Hard Drive(AP & GS)..... 409.
 CT-20c Hard Drive IIC..... 605.

CMS
 CMS 45RM A/2S..... 839.
 Cartridge..... 119.
 SCSI Rom Upgrade..... 25.
 20 MB w/ SCSI II card..... 519.
 30 MB w/ SCSI II card..... 569.
 60 MB w/ SCSI II card..... 729.

Ingenuity, Inc.
 GS Juice Plus 1MG..... 199.
 Inner Drive 20 IIE..... 486.
 Inner Drive 40 IIE..... 612.

Laser Computer, Inc.
 Laser DiskDrive(GS)..... 99.
 Laser 800KB Drive..... 189.
 Laser 800KB Drive Bundle..... 215.
 Universal Disk Controller..... 45.

EDUCATIONAL SOFTWARE

Activision
 Music Studio v2.0(GS)..... 44.

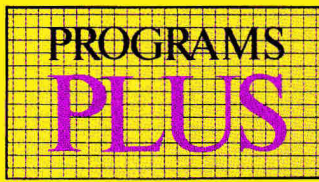


IBM-TO-APPLE CONNECTIVITY!

Cross-Works by SoftSpoken transfers and converts files. Universal cable plugs into serial ports on PC and Apple II; transfers at 19,200 baud. Converts AppleWorks to/from Microsoft Works, WordPerfect, Lotus 1-2-3, dBase III, IV. Exchanges ASCII files too. For IIC (with Super Serial card), IIC, IIC+ or IIGS, and IBM PC, XT, AT, PS/2 or compatibles.
 Suggested Retail..... \$99.95
Programs Plus Price..... \$67.

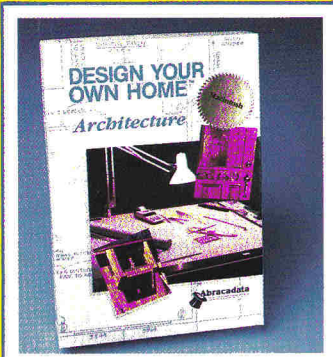
Programs Plus

1-800-832-3201



Fax: 203-381-9043
 Inquires: 203-378-3662
 Canada: 1-800-344-7753
 75 RESEARCH DRIVE
 STRATFORD, CT 06497

Prompt and courteous attention to all your Apple needs.



HOME DESIGNER DREAM PACKAGE

Design-Your-Own Home Architecture, Landscape or Interiors by Abacadata. Now you can have a designer home with a most prestigious name: yours. Draw floor plans, elevations, structural details the way you want them. Build interior and landscape designs with separate packages. All packages come with pre-drawn shapes; additional libraries are also available. GS version only. Suggested Retail.....\$89.95
Programs Plus Price.....\$59.

Advanced Idea, Inc.

Audobon Wildlife Adventures:
Grizzly Bears or Whales..... 32.
Audobon Wildlife Adventures:
Grizzly Bears or Whales(GS)..... 38.
Stars & Planets(GS)..... 28.

A.E.C.

Spanish Vocabulary
or Spanish Grammar..... *SPECIAL* 16.

Barron's

Computer SAT Revised Version..... 34.

Britannica

Algebra 1: 1st or 2nd Semester..... 29.
Algebra 1: 1st &
2nd Semester.....*SPECIAL* 48.
Designasaurus(GS)
or Revolution '76(GS)..... 27.

Broderbund

Geometry(GS)..... 55.
Playroom..... 27.
Science Tool Kit Module I or II..... 26.
Science Tool Kit Master Module..... 55.
Type!..... 19.
Where in Europe
is Carmen Sandiego?(AP or C+).. 28.
Where in Time is
Carmen Sandiego?(AP or C+)..... 28.
Where in the USA
is Carmen Sandiego?(AP)..... 28.
Where in the World
is Carmen Sandiego?(AP)..... 25.
Where in the World
is Carmen Sandiego?(GS)..... 32.

ByteWorks Ugly Duckling(GS)..... 32.

Compu-Teach

Once Upon A Time(GS)
or Once Upon A Time II(GS)..... 35.
See the U.S.A..... 30.
Studymate: The Grade
Booster..... *SPECIAL* 27.

Davidson & Associates

Alge-Blaster Plus(AP or GS)..... 34.
Math Blaster Plus(AP or GS)
or Grammar Gremlins..... 34.
Read 'N' Roll
or Word Attack Plus(AP or GS)..... 34.
Spell-It Plus(AP or GS) or
Math Blaster Mystery(AP or C+).. 34.
Talking Math & Me(GS)
or Talking Reading & Me(GS)..... 34.
Word Attack Plus Spanish or French. 34.

ECLAT

Geographic Jigsaw (AP or GS)..... 27.

First Byte/ Electronic Arts

The Rhyming Notebook..... 29.

Fischer Price

I Can Remember
or Firehouse Rescue..... 9.
Little People Bowling..... 9.

Grade Busters Corporation

Grade Busters 1, 2, 3..... 75.

Great Wave Kidstime II (GS)..... 24.

Lawrence Productions, Inc.

McGee(GS) or Katie's Farm(GS)..... 29.

Learning Company

Magic Spells(AP or GS)
or Gertrudes Secrets(GS)..... 24.
Reader Rabbit(AP)
or Math Rabbit(AP or GS)..... 24.



SUPER PRINTER EMULATION PACKAGE

Superwriter 924 by Xetec allows many 9 or 24 pin parallel printers to emulate Image-writer I, II and LQ printers. No special software or drivers needed. Cables included for Apple IIGS, IIC, IIC+, Laser 128, 128EX.
Suggested Retail..... \$119.95
Programs Plus Price..... \$44.



SUPERDRIVE PRICE BEATER
AE 3.5 Disk Drive by Applied Engineering offers you the same reliable Sony mechanism that Apple uses, but at almost half the cost. High impact plastic case stacks on same footprint as Apple drive. Read/write LEDs. Full daisy chain compatibility. 800K. Suggested Retail..... \$289.
Programs Plus Price..... \$209.

Reader Rabbit(GS)..... 33.
Think Quick(AP or GS)
or Writer Rabbit(AP or GS)..... 30.
Writing and Publishing
Center(AP or GS)..... 33.
Mindscape Crossword Magic..... 34.

Orange Cherry

GS Talking Series:

Animals, Dinosaurs, Numbers,
First Write, First Reader, School Bus,
Alpha Chimp, Colors & Shapes,
Reading Railroad, Addition &
Subtraction, ABC's, Speller,
Clock or Money..... 42. each

Pelican Software

Dinosaur Days..... 24.
Monsters & Make Believe Plus..... 29.
POW! ZAP! KER-PLUNK!..... 35.
Roger Wagner HyperStudio(GS)..... 88.

Sensible Software

Report Card II(AP & GS)..... 37.

Simon & Schuster

Typing Tutor IV Plus(AP or GS)..... 27.

Software Toolworks

Mavis Beacon Typing..... 28.

Mavis Beacon Typing(GS)..... 33.

Spinnaker

Atlas Explorer
or Kidwriter Gold(GS)..... 35.

Facemaker: Golden Edition
or Kidwriter..... 27.

Terrapin Terrapin Logo Plus..... 79.

Weekly Reader

New Talking Alphabet (3½)..... 30.

New Talking Opposites (3½)
or Sentence Fun (3½)..... 30.

New Talking Shapes (3½)
or Spelling Rules (3½)..... 30.

StickyBear Series:

Full Line Available..... CALL

**All Packing
Materials
100% Safe
For The
Environment**

*One of
The Oldest
Most
Reliable
Mail Order
Suppliers,
Programs
Plus
Offers
You The
Best
Prices,
Service
& Support.*

Programs Plus

1-800-832-3201



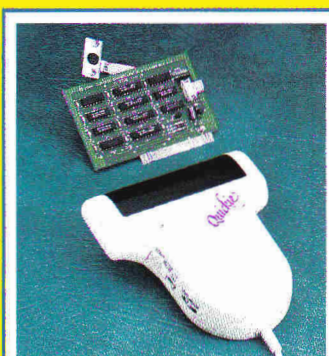
Fax: 203-381-9043
Inquires: 203-378-3662
Canada: 1-800-344-7753
75 RESEARCH DRIVE
STRATFORD, CT 06497

Programs Plus is the best value



GET BETTER SPANISH GRADES!
Spanish Grammar by American Education Computer, Inc. is an excellent supplement for Spanish language students. Covers articles, verbs, adjectives, prepositions, imperatives, interrogatives. And **Spanish Vocabulary** covers 98% of words taught in Spanish I/II. Proper punctuation, usages, sentence structure, salutations, time, dates, idioms, phone conversations, numbers, more.
 Suggested Retail.....\$24.95
Programs Plus Price.....\$16.

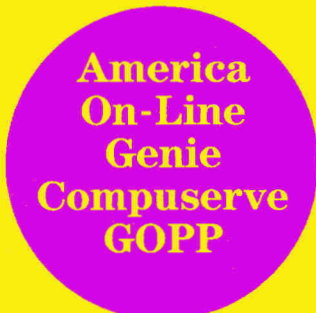
Down Hill Challenge(GS).....	22.	Quarterback(AP or GS).....	19.
The Dark Heart of Uukrul or VCR Companion.....	30.	War in Middle Earth(GS).....	30.
Wings of Fury(AP & GS) or Prince of Persia.....	23.	Micro League Sports Micro League Baseball w/ General Manager & Stat.....	24.
California Dreams Tunnels of Armageddon or Club Backgammon (Both for GS) ..	27.	Microprose F-15 Strike Eagle or Silent Service(AP or GS).....	14.
Vegas Gambler, Mancala or Triango (All for GS).....	27.	Micro Revelations Xenocide(GS).....	SPECIAL 29.
Casady & Greene, Inc. Crystal Quest(GS).....	30.	Mindscape Balance of Power 1990(GS).....	32.
Cinemaware Defender of the Crown or Sinbad (Both for GS).....	17.	Hostage(GS) or Captain Blood(GS) ..	29.
King of Chicago(GS).....	17.	New World Computing Might & Magic or Might & Magic II ..	36.
Star Saga 1(AP or GS) or Star Saga 2(GS).....	35.	Origin Systems Space Rogue, Knights of Legend or Omega(AP or GS).....	30.
Data East Batman, Heavy Barrel, or Robo Cop ..	22.	Times of Lore(AP & GS) or WindWalker.....	26.
Datasoft Hunt for Red October (AP or GS).....	22.	Ultima Trilogy(I, II & III), Ultima IV or Ultima V.....	39.
Electronic Arts Bards Tale II.....	18.	PBI Software Strategic Conquest(GS).....	35.
Bards Tale III or Madden Football ..	32.	The Tower of Myraglen(GS) or Alien Mind(GS).....	39.
Block Out (GS) or Zany Golf(GS) ..	26.	Sierra On-Line Gold Rush(AP or GS) or Black Cauldron(GS).....	26.
Cartooners(GS), Bards Tale II(GS) or Pipe Dream.....	22.	Kings Quest I, II or III (AP or GS) ..	32.



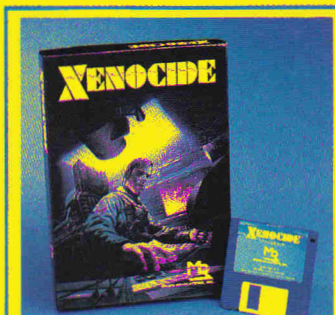
LOW COST, QUALITY SCANNER
Quickie by Vitesse, Inc.
 Hand-held image scanner to integrate crisp line art and halftones into your newsletters and brochures. 400/300/200/100 dpi, 3 dithered modes, plus simulated greys, dark/light control. Screen image during scan. Scan width 4.13." Requires Apple GS/OS v4 or higher, 1MB RAM.
 Suggested Retail..... \$299.
Programs Plus Price..... \$195.

ENTERTAINMENT SOFTWARE

Accolade Bubble Ghost(GS).....	24.
California Challenge(GS) or Supercars(GS).....	15.
European Challenge(GS) or Muscle Cars(GS).....	15.
4th & Inches(GS) or FastBreak(GS) ..	28.
Grand Prix Circuit(GS).....	28.
International Course(GS).....	15.
Jack Nicklaus Golf(GS).....	29.
Mean 18(GS) or Hardball(GS).....	28.
Test Drive.....	27.
Third Courier(GS) or Test Drive II(GS).....	31.
Activision Blackjack Academy(GS).....	17.
Sky Travel(AP & GS).....	34.
Artworx Bridge 6.0(AP or GS) or Strip Poker II(GS).....	27.
KaleidoKubes(GS).....	14.
BlueLion Ticket to Hollywood or London.....	27.
Ticket to Paris or Spain.....	27.
Ticket to Washington D. C.....	32.
Britannica Great Western Shoot-Out(GS).....	17.
JigSaw(GS) or Task Force(GS).....	24.
Laser Force(GS) or Gnarly Golf(GS) ..	17.
Broderbund Ancient Art of War.....	30.
Centauri Alliance or Jam Sessions(GS).....	32.



Instant Synthesizer(GS).....	35.
King's Bounty or Earl Weaver Baseball.....	26.
Marble Madness(GS).....	15.
Music Construction Set(GS) or Skate or Die(GS).....	15.
FTL Dungeon Master(GS).....	27.
Gametek Double Dare or Press Your Luck.....	9.
School Bus Driver or Chutes & Ladders.....	9.
Infocom Journey or ShoGun.....	34.
Leather Goddesses of Phobos.....	14.
Zork Zero or Battle Tech.....	34.
Interplay Battle Chess.....	27.
Neuromancer(GS), Battle Chess(GS) or DragonWars(AP & GS).....	32.
Leisure Genius Clue, Risk, or Scrabble.....	27.
Melbourne House Barbarian(GS).....	25.



IIGS ALERT! ALIENS MUST BE DESTROYED!
Xenocide™ by MicroRevelations comes alive with superb IIGS graphics and sound that rivals top arcade games. Your challenge: defeat the spread of aliens on 3 moons orbiting Talos IV. Be brave, before it's too late. Takes special advantage of optional stereo cards. Requires IIGS with 512K RAM, 3.5" drive, mouse.
 Suggested Retail.....\$49.95
Programs Plus Price.....\$29.

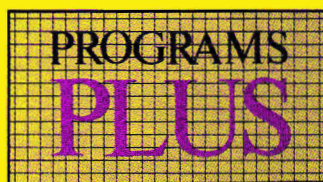
Chessmaster 2100(GS) or Life & Death(GS).....	33.
Cribbage/Gin King(GS).....	29.
Keef the Thief(GS).....	16.
So What Software Sonix(GS).....	34.
Spectrum Holobyte Solitaire Royale(GS).....	22.
Tetris(AP & GS).....	25.
Strategic Simulations AD&D Pool of Radiance.....	32.
Battle of Napoleon or Curse of the Azure Bonds(GS).....	33.
Champions Krynn.....	33.
War of Lance.....	29.
Sublogic Flight Simulator II.....	32.
Taito Arkanoid II(GS) or Rastan(GS).....	22.
Bubble Bobble(AP & GS) or Renegade(AP & GS).....	10.
Qix(AP or GS).....	10.
Three Sixty Warlock(GS) or Dark Castle(GS).....	25.
Victory Software 2088 The Cryllan Mission(GS).....	36.
Secrets of Bharas.....	CALL
Virginia Real Software Anchorman.....	29.

GRAPHICS PACKAGES

Abracadaba Architecture Library 1, 2, 3 or 4(AP or GS).....	21.
Design Your Own Home: Architecture, Interiors or Landscape.....	47.

Programs Plus

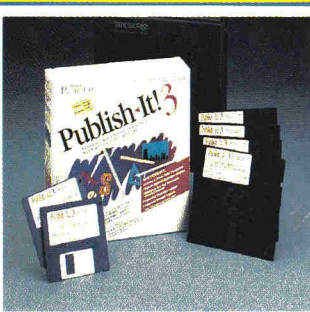
1-800-832-3201



Circle 128 on Reader Service Card.

Fax: 203-381-9043
 Inquires: 203-378-3662
 Canada: 1-800-344-7753
 75 RESEARCH DRIVE
 STRATFORD, CT 06497

for all your Apple & GS needs!



**FULL FEATURED
DESKTOP PUBLISHING**
PUBLISH IT! 3 by Timeworks is the fastest way to start producing newsletters, ads, reports, catalogs, forms, brochures. Two hundred graphic images included. Prepare text on screen or import from AppleWorks 3.0, or any ASCII file. Import graphics from popular paint packages. Supports many dot matrix, laser printers. Requires 128K.
Suggested Retail..... \$129.95
Programs Plus Price..... \$74.

Design Your Own Home:
Architecture(GS), Interiors(GS)
or Landscape(GS)..... *SPECIAL* 59.
Design Your Own Train..... 34.
Interiors Library 1, 2(AP or GS)
or Landscape Library 1..... 21.

Baudville
Award Maker Plus(AP & GS)..... 30.
816/Paint..... 49.

Beagle Bros. Beagle Draw(GS)..... 50.

Berkeley Softworks
GEOS, GEOCalc or GEOFile..... 45.
GEOPublish..... 65.

Broderbund
Dazzle Draw or Print Shop(GS)..... 37.
Print Shop(AP or C+)..... 29.
Print Shop Companion..... 25.
Print Shop Graphics Library I, II, III
or Holiday Edition..... 16.
Print Shop Graphics Library
Party Edition(GS)..... 24.
Print Shop Graphics Library
Sampler Edition(GS)..... 24.

ECLAT
Fractal Explorer(AP or GS)..... *SPECIAL* 27.

Electronic Arts
DeluxePaint III(GS)..... 35.
DeluxeWrite w/ Deluxe Paint III(GS)..... 59.

EL KASSIR Software
COLOR+(GS)..... *SPECIAL* 49.
Supergraphix II w/music(GS)..... 59.

Roger Wagner
Graphic Exchange(GS)..... 30.

So What Software Iconix(GS)..... 29.

Spinnaker
Certificate Maker or Newsroom..... 26.
Certificate Maker Library #1..... 19.

Newsroom Clip Art Collection
vol. 1, 2 or 3..... 14.

Thunderware
LightningScan(GS)..... 199.
Thunderscan(AP & GS)..... *SPECIAL* 159.

Tried Venture
GDL Graphic Disk
Labeler-GS v2.0..... *SPECIAL* 25.

Vitesse, Inc.
Quickie(AP or GS)..... *SPECIAL* 195.

MODEMS & MONITORS

Anchor Automation
2400E..... 155.

Apple Computer
Apple Color Composite Monitor..... 339.
Apple GS Color Monitor..... 465.

Applied Engineering
DataLink 2400 (Int AP & GS)..... 175.
DataLink Express (ext. 2400)..... 159.

Hayes MicroComputing
Hayes 2400 SmartModem..... 349.

Practical Peripherals
Practical Modem 2400 SA..... 179.

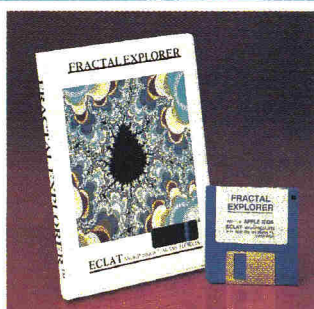
Prometheus
Pro Modem 2400A (Single Card)..... 129.

Supra Corporation
SupraModem 2400
(Hayes Compatible)..... 119.

U.S. Robotics
Courier HST 9600..... 689.

PRINTERS

Apple
ImageWriter II..... 459.



ZOOMING CREATES VISUAL FEAST

Fractal Explorer (AP or GS) by Eclat creates entertaining series of visuals by zooming billions of times. Includes a flexible slideshow with dazzling color effects. Easy to run. Uses Mandelbrot and Julia fractal sets. Includes informative and educational instruction manual. Images compatible with popular paint programs.
Suggested Retail..... \$39.95.
Programs Plus Price..... \$27.

NEED HELP?

1-800-832-3201

Technical Support 12 hours a day 9-9 est.

If you need help to decide which program or product is right for you, our Technical staff can help based on your system and application

needs. You benefit from almost a decade of experience serving more than 160,000 satisfied customers.

Brother
M-1109AP
(ImageWriter Compatible)..... 225.
Laser Computer, Inc.
Laser 190A w/ Serial Interface..... 235.
Seikosha
Seikosha SP 1000
(ImageWriter Compatible)..... 229.

Morgan Davis Group
MD-Basic..... 39.

Roger Wagner
Merlin 8/16 (AP & GS)..... 75.
SoftSwitch(GS)..... 36.

Seven Hills Software
Disk Access (GS only)..... 32.

So What Software
Call-Box(GS)..... 69.
Hyper Launch(GS) v3.0..... 35.

The Byte Works
ORCA/Disassembler(GS)..... 32.
ORCA/DeskTop(GS)..... 34.
ORCA/M Assembler(GS)..... 39.
ORCA/Design Master(GS)..... 59.
ORCA/Pascal Compiler(GS)..... 80.
ORCA/C Compiler..... 80.

TML Systems
TML Basic(GS)
or TML Pascal II(GS)..... 82.
TML Source Code Library II(GS)..... 35.
Zedcor ZBasic v4.21..... 39.

Federal Express Overnight

PRINTER INTERFACE CARDS

Apple
Apple Super Serial Card..... 119.
High Speed DMA SCSI Card..... 109.

Applied Engineering
Parallel Pro..... 73.
Serial Pro..... 106.

Orange Micro
Grappler Plus (AP & GS)..... 75.
Grappler 9 pin..... 78.

SMT
Envoy..... 54.
No Slot Clock..... 30.
Print Tech II..... 33.

Thirdware
Finger Print GSi verIII (Includes
Desktop Accessories-GS)..... 89.

Finger Print Plus (Parallel, Serial,
or ImageWriter II)..... 89.
Upgrade Kit (FingerPrint I & II)..... 30.

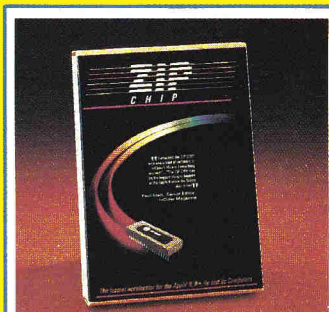
Xetec Inc.
Superwriter 924
(GS,C+,C)..... *SPECIAL* 44.

UTILITIES AND LANGUAGES

Absoft AC/BASIC(GS)..... 79.

Big Red Computer
PS Lovers' Utility Set(AP or GS)..... 27.

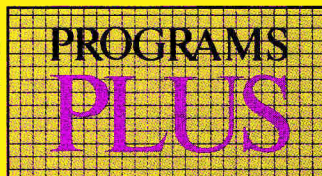
Micol Systems
Micol Advanced Basic IIE..... 59.
Micol Advanced Basic(GS) v3.0..... 89.



TURN YOUR APPLE II INTO A SPEED DEMON!

ZIP CHIP™ by ZIP Technology speeds processing by 800%. Games run faster! Graphics come alive! Number crunch spreadsheets in 1/8th the time! From the leader in acceleration technology. Simple plug-in chip. 100% compatible with Apple II, II+, IIe, IIc, Laser 128, and all major Apple II software and hardware. Suggested Retail..... \$199.
Programs Plus Price..... 159.

Programs Plus
1-800-832-3201



Fax: 203-381-9043
Inquires: 203-378-3662
Canada: 1-800-344-7753
75 RESEARCH DRIVE
STRATFORD, CT 06497

WHAT'S NEW

edited by Paul Statt



started as a joke: Look closely at the famous Beagle Bros logo, and you can read the date "Est. 1980." It was pretty funny in 1981. But in October 1990, the San Diego publisher of Apple II software turns 10 years old. Beagle Bros has survived by following three simple rules: Write good software, sell it cheap, and never copy-protect any of it.

When the early Beagle ads boasted "new unlocked Apple utility disks," it was a novel notion that a software publisher would trust the public not to steal its products. But according to Beagle Bros President Mark Simonsen, "It was an especially good idea when no one else was doing it." In those early, trusting days, Simonsen notes that Beagle Bros actually sold "listable source code" for its Apple utilities.

Another secret of Beagle's success has been its ability to change with the times. In the first half of the decade, when people who bought personal computers either decided to become programmers or traded their Apples for VCRs, Beagle concentrated on the utilities market.

Founder Bert Kersey had originally wanted to write games. That may explain why he named his company after a Walt Disney cartoon or his dog (depending on whom you ask) ten years ago. He said in a 1983 interview, "I didn't even know what a utility was in those days . . . Utilities didn't look like much fun. The only other thing I knew about utilities was that people would call up Beagle Bros and ask if we had any."

That extensive market research was the beginning of many Beagle utility programs that made writing software easier for everyone: ProntoDos by Tom Weishaar (who's now with A2-Central), DOS Boss by Jack Cassidy, and the ever-popular Utility City by Kersey himself.

Beagle's most famous product, however, was one it gave away free: the PEEKs and POKEs chart that came with every order and revealed the



BEAGLE BROS:

NO LONGER A

PUP

NOW AN

OLD DOG

mysteries of the machine to a generation of BASIC programmers. It's still available.

But Beagle Bros' greatest success was to come with AppleWorks. In 1985, Mark Simonsen, with programmer Alan Bird, left Beagle Bros to form The Software Touch and market FontWorks and AutoWorks, programs that added to AppleWorks the ability to use different typefaces and to write macro-instructions to automate repetitive tasks.

"Alan's idea for AutoWorks actually came from Program-Writer," a BASIC program editor that featured macros, recalls Simonsen.

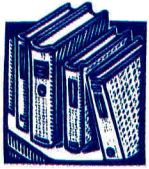
But "the most significant Beagle product ever," according to Simonsen, grew out of Alan Bird's insight: "Wouldn't it be great if FontWorks could run inside AppleWorks?" Bird developed TimeOut, the program that made it possible to add all kinds of new features to the aging AppleWorks.

Simonsen bought Beagle in 1987, at which time founder Bert Kersey left, although he still often drops in for lunch with the other Bros on Fridays. Beagle Bros' name became synonymous with AppleWorks, and in 1989 Claris Corporation, publishers of AppleWorks, introduced AppleWorks 3.0, with features added by Randy Brandt, Alan Bird, and Rob Renstrom, all Beagle Bros.

High quality and low prices helped Beagle Bros find success in a difficult market. The Beagle sense of humor has helped, too — it's almost worth buying a Beagle product just to read the manual. Beagle Bros has also changed with the times, writing games, DOS 3.3 utilities, ProDOS utilities, and finally AppleWorks utilities.

In 1990 Beagle Bros introduced its first Macintosh product: a network file sharer called Flash, which received critical acclaim. "For the future," predicts Simonsen, "Beagle Bros will be producing lots more Mac software and lots more Apple II software" — changing, as ever, with the times.

— Paul Statt



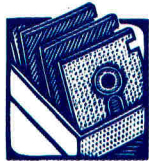
RESOURCES

SCHOLASTIC SOFTWARE CLUB

Now America's students can buy software at low prices by joining the country's first in-school software club.

"Home editions of Scholastic Software titles have been offered and bought enthusiastically through Scholastic Book Clubs for more than five years," notes Peter Kelman, publisher of Scholastic Software. "While we will continue to make many of our programs available through these clubs, the **Scholastic Software Club** will expand the range and scope of programs available from Scholastic. With our Family Software Catalog, we now provide three avenues for students and families to obtain quality software at prices they can afford."

Three times during the school year, teachers in grades 4 through 9 receive a club order kit containing an eight-page teacher's guide and take-home order brochures for students, listing more than 20 programs, at discounts of 20 to 50 percent off retail. The September brochure, for example, offers Scholastic's Slide Shop, Operation: Frog, and SuperPrint, as well as the Sesame Street Learning Library and software from other publishers. Discounted prices may be as low as \$13.95 per program; the average is around \$23. Software is also available for MS-DOS computers. Teachers can earn bonus points good for Scholastic software, subscriptions to *Microzine*, Scholastic's magazine on disk, and even items from the *Scholastic Book Club Teacher Bonus Catalog*. For details call (800) 541-4113, or write the Club at Scholastic Software, P.O. Box 7502, 2931 East McCarty Street, Jefferson City, MO 65102. Circle number 353 on the Reader Service card for more information. — P.S.



TESTING, TESTING

SOFTWARE Aside from keeping a gradebook, writing and scoring tests are probably the least satisfying among a teacher's chores. **ASK*IT**, a new teaching tool from True Basic Software, reduces the time it takes to create tests.

Ask*It organizes questions, answers, responses, and reading references into question files, called **Ask*It Packs**. You can create as many **Ask*It Packs** as you like — perhaps one for each course — or buy **Packs** from True Basic. You can even sell your testing materials to other educators through True Basic. (Call for details about "Ask*It Source" magazine and royalties.) The **Ask*It** package has three parts: the authoring program for creating and modifying the questions and answers that go into the tests; the tutoring program that converts your **Ask*It** question files into interactive tutorials, with which students teach themselves on the computer; and the reporting program that records students' performance in the tutorials.

The suggested retail price of the Apple II version of **Ask*It** is \$99.95. It's also available for IBM (MS-DOS) and Macintosh at the same price. For details, call or write True Basic, 21 Technology Drive, West Lebanon, NH 03784, (800) 872-3742. Circle number 351 on the Reader Service card for more information. — P.S.



APPLE BITS

Three Beagle Bros — Alan Bird, John Oberrick, and Rob Renstrom — have joined together in a new company called **WestCode**. Their first product is **INWORDS**, a neat optical character-reading program that works with any scanner to create AppleWorks or text files from printed words. (See the story "In Others' Words" on page 23 for details.)

It's not your imagination — Apple insiders have admitted to us that the **High-Speed SCSI Card** requires 768K to work with GS/OS v. 5.02.

Steve Wozniak, cofounder of Apple Computer, has joined Lotus Development founder **Mitch Kapor** in establishing the **Electronic Frontier Foundation**, dedicated to the defense of the civil rights of hackers, according to "The Wall Street Journal."

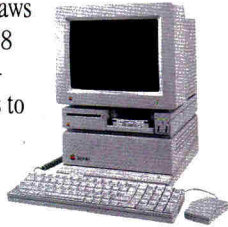
The folks at **CirTech**, the Scottish hardware geniuses who brought us the InSyder internal hard-disk drive, claim to have built a **coprocessor card** with software that allows a GS to emulate a Mac. The **Duet** "outperforms the Mac IIcx1," they say.



Beat the heat

Heat. The computer user's most insidious enemy. Peripheral cards unavoidably produce heat inside your cpu. Heat that can devastate your whole system. Conserver™ effectively cools your IIGS while it protects against power surges and helps organize your workspace.

A quiet but powerful cooling fan draws air from the top of the IIGS at a rate of 18 cubic feet per minute, lowering the temperature inside by more than 20 degrees to offset the heat produced by expansion cards. The difference can be critical to the life of your computer.



Power surges also invisibly threaten your computer's well-being. They occur when voltage spikes surge through your wiring seeking a place to dissipate. If that place is inside your computer, you'll very quickly gain a greater understanding of the laws of electricity. It's not a pretty sight.

Special line conditioning filters and dual surge suppression circuitry protect against surges, reduce noise and provide "clean" power. Six switched AC power outlets line the rear of Conserver to accommodate your computer, monitor and four other peripherals. Thus protecting your computer and your peripherals from surges. The outlets are conveniently controlled by three front-mounted LED switches.

For beauty, we gave Conserver the same sleek lines of the IIGS and a perfectly matched platinum color. To reduce desktop clutter, the unit was cleverly designed to house two 3.5" disk drives, or one drive and the special diskette holder we include.

Conserver \$99

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.



Applied Engineering®
The Apple enhancement experts.

A Division of AE Research Corporation

(214) 241-6060

P. O. Box 5100
Carrollton, TX 75011



© 1990. AE Research, Inc. All rights reserved. Prices subject to change without notice. Brand and product names are registered trademarks of their respective holders

WHAT'S
NEW



SOFTWARE

DELTA DRAWING TODAY

A new educational-software publisher, Power Industries of Newton, Massachusetts, has acquired the rights to Delta Drawing, a program for teaching children aged 3 to 10. Since Spinnaker Software first published Delta Drawing in 1982, more than 70,000 copies have been sold around the world. Power Industries thinks Delta Drawing was ahead of its time, and expects even wider distribution of its updated product, **Delta Drawing Today**. It's effective all across the elementary curriculum: It helps young learners develop the concepts of letters, shapes, numbers, and drawings, as it encourages them to explore and take risks.

Power Industries employed Jock Gill, one of the developers of the original program, to enhance Delta Drawing Today. Teachers are important consultants to Power Industries; Gill stresses that "hundreds of teachers are still using [the older version of] Delta Drawing out there. That's our most important resource, and we hope to hear from them." To support working teachers, Power will also make available new lesson plans, activity cards, posters, and other related materials.

If you're using Delta Drawing or are interested in trying it, call or write Power Industries, Two Newton Place, Newton, MA 02158, (800) 395-5009 or (617) 964-6200. Circle number 350 on the Reader Service card for more information. — P.S.



SOFTWARE

IN OTHERS' WORDS

You say you're sick and tired of retyping someone else's copy into your organization's newsletter? You're fed up with re-entering that parts list into your database? Well, your data-entry days may be over.

Thanks to INWORDS from WestCode, a company that looks a lot like a Beagle to anyone familiar with the Apple II market, you can use your Quickie (Vitesse) or LightningScan

(Thunderware) to scan text into your favorite Apple II word processor, database manager, or spreadsheet.

INWORDS is an optical character-recognition (OCR) program for the Apple IIe and IIGs that lets you scan up to 3000 characters per minute — a lot faster than anyone can type. INWORDS lets you input text as an AppleWorks word-processor file or as an ASCII text file. You can select whether you want to add returns after each line or only after paragraphs. And you can insert tabs between columns of text, making it easy to create database files.

While there's no official connection between WestCode and Beagle Bros, the unofficial ties are numerous. One of the

▲ TELECOMMUNICATIONS ▲
FOR STUDENTS & TEACHERS

▲ **E**ven if computer telecommunications were as simple as using the telephone — and it's not — its high cost would prohibit its wide acceptance in schools. Now the new **AT&T Learning Network** cuts the cost of telecommunications as only a major long-distance supplier can, providing unlimited, toll-free computer connections throughout the United States, enabling schools to send and receive messages when they want.

The AT&T Learning Network links teachers and students from elementary and secondary schools across the country. Each school joins five to eight others in a Learning Circle. Member schools in a Learning Circle work together in curricula such as Energy Works, which gets students thinking about how to best use natural resources, or Mind Works, which encourages

students' creativity by sharing their written essays, reports, stories, and poems. Six different Learning Circle curricula are available; all depend on communication among members. If your school has an Apple II, Macintosh, or MS-DOS computer handy, plus a Hayes-compatible modem, a phone line, and \$645, it can connect to an AT&T Learning Circle for a full school year (October 29 – May 17; rates for a half year are less).

If you've been looking for a low-cost way to encourage students to communicate, the AT&T Learning Network can help. Write the AT&T Learning Network, P.O. Box 4012, Bridgewater, NJ 08807-4012, or call (800) 367-7225, extension 4158 (in the USA), or (800) 387-6100 (in Canada). For more information, circle number 352 on the Reader Service card. — P.S.

principal developers of INWORDS is Alan Bird, creator of Beagle Bros' TimeOut AppleWorks-enhancement technology and programs such as QuickSpell, Thesaurus, Beagle Compiler, and Program Writer. Bird was also one the programmers responsible for Claris Corporation's AppleWorks 3.0 upgrade.

Cofounders of WestCode are Rob Renstrom (who also worked on the AppleWorks 3.0 upgrade) and John Oberrick, who has participated in several Beagle Bros projects.

With so much Apple II blood running through the company, it's not surprising that WestCode choose the Apple II as its first platform for INWORDS. "INWORDS represents our continuing commitment to provide innovative technology in high-

quality dependable software to the loyal Apple II users," Renstrom says.

According to Oberrick, WestCode has "established the feasibility of OCR technology in both the 8-bit and 16-bit environments of the Apple II."

Not only does WestCode expect to sell a lot of software, Oberrick adds, it also expects to "greatly enhance the appeal of handheld scanners to a much broader segment of users."

At press time (late July), WestCode said that it expected INWORDS to be available in September for \$129. For more information, contact WestCode, 11835 Carmel Mountain Road, Suite 1304-311, San Diego, CA 92128, (619) 679-9200, or circle number 360 on the Reader Service card. — Dan Muse



Power to spare

With today's advanced peripherals and applications Apple didn't dream of a few years ago, it's easy to overload the standard Apple power supply. That's why Applied Engineering now offers a heavy duty power supply for the IIGs, IIE and II+. AE's Heavy Duty Power Supply more than doubles your Apple's power output.

Expansion cards, disk drives, accelerators, clock cards, modems, printer interfaces and the base computer itself all compete for the same power output. Expect to crank all of them up at once, and you can find yourself on the short end of the stick.

Apple's standard power supply provides only 2.5 amps, compared to our 6 amp output. AE's input voltage is 90 to 135 VAC/60 Hz or switchable to 180 to 270 VAC/50 Hz. Output is: +5V @ 6A, +12V @ 2A, -5V @ 5A, -12V @ 5A. Ripple is: 10mV typ. and full load operating temperature is: 32° to 122°F (0° to 50°C).

The AE Power Supply installs in minutes using the same four mounting holes and occupying the same space as Apple's power supply. Comes complete with a full one year warranty.

IIGs Power Supply\$99

IIE, II+ Power Supply\$79

Order today! To order or for more information, see your dealer or call (214) 241-6060 today, 9 am to 7 pm, 7 days. Or send check or money order to Applied Engineering. MasterCard, VISA and C.O.D. welcome. Texas residents add 7 1/4% sales tax. Add \$10 outside U.S.A.

AE Applied Engineering®
The enhancement experts.

A Division of AE Research Corporation

(214) 241-6060

P.O. Box 5100
Carrollton, TX 75011

Made
IN THE
USA

©1990. AE Research, Inc. All rights reserved. Prices subject to change without notice. Brand and product names are registered trademarks of their respective holders.

Hard Disk Subsystem (plug & play)

• **Half Shell-compact 1.4"x5.5"x7.5"**

same drive as the Mac portable

20MB \$509 40MB \$609

• **A-Hive-hard disk-expandable**

Completes w/Apple High Speed SCSI Card

and latest GS/OS 5.02 system software

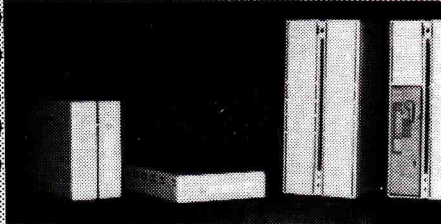
32MB--\$539

48MB--\$589

65MB--\$635

85MB--\$679

100MB--\$899



• **Cartridge Drive --44MB per cartridge \$779**

• **Hermit Crab--portable 20MB\$509 40MB\$609**

Tape Subsystem w/ backup software

155MB--\$629

60MB--\$549

A-Hive •• a disk enclosure

40watts -- \$119

65watts -- \$169

Subsystems are Mac & PC compatible

TULIN CORPORATION

2156H O'Toole Avenue

Tel: 408-432-9025

San Jose, CA 95131

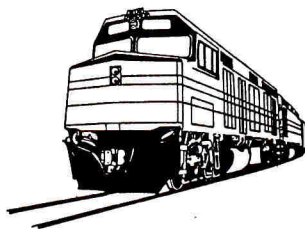
Fax: 408-943-0782

Apple is a registered trademark of Apple Computer, Inc

Circle 231 on Reader Service Card.

IBM
Apple II
Macintosh

DESIGN YOUR OWN TRAIN!



Build your own train, subway, bus or trolley system without taking up space in your house.

PHONE ORDERS
1-800-451-4871

Design Your Own Train

Build and test model layout simulations before laying track. Run four trains at once and record automatic sequences. 26 operating switches, various layout speeds. Use colors, drawing tools and pre-drawn scenery. All from the top view. Design custom locos. Prints everything.

Apple II - Iie. Iie. Iie. IIGS.

Laser 128 (64K) \$49.95

IBM Compatibles

(512K. CGA. EGA VGA) \$59.95

Run Your Own Train

The "flight simulator" for down-to-earth people. Puts you in the engineer's seat. Lay out your track and then run the train from the cab. Compatible with *Design Your Own Train* layouts.

Apple II - Iie. Iie. Iie. IIGS.

Laser 128 (64K) \$34.95

MacInooga Choo Choo

Build elaborate train sets on screen. Includes layered track, fancy curves and switches, tunnels, multiple screen layouts. Run at night! Use MacPaint to create all the scenery you need.

Macintosh (512K)

\$49.95

Train Library

A dozen beautiful ready-to-run layouts that work with *Design Your Own Train* and *Run Your Own Train*. Specify Computer (IBM, MAC, or Apple II)

\$29.95

Order by mail: Add \$5.00 shipping first program plus \$1 each additional. Send VISA MasterCard number with expiration date.



Abracadata

the source of plan-making software

P.O. Box 2440, Dept. D
Eugene, OR 97402
(503) 342-3030

WHAT'S NEW



AppleWorks Notes

From the AppleWorks Programmers Association

Users and Programmers Sharing
the Power to Create

🍏 **AW tip:** Add flexibility and ease preparation of your AppleWorks database reports by printing from the word processor. Skip the standard setup procedure in the database report format except to print the default report to "The clipboard (for Mail Merge)." Then leave the database and start a word-processor file. Go to the "Printer Options" screen (Open apple-O) and select "MM." A list of your database categories will appear on screen. Choose as many as you like, one after the other; you may select a single item more than once. Escape from the "Printer Options" menu. You'll find all database items at the top of your word-processor file. Move them anywhere within the file; add text or printer options as desired. For special effects, add fonts or pictures to your report with Beagle Bros' TimeOut SuperFonts. You may also print to an ASCII (text) file for transmission by modem or create a regular AppleWorks word-processor file. Save the files for future use. Try this method a couple of times, and you may never care to print directly from the database again.

🍏 **AW enhancement:** Outline 3.0, by Randy Brandt, is the latest AppleWorks enhancement from JEM Software (P.O. Box 20920, El Cajon, CA 92021). Outline isn't a TimeOut application, but is integrated directly into AppleWorks with a simple installation procedure. Once installed, accessing or exiting from Outline 3.0 is accomplished simply by a command within an AppleWorks word-processor file. Enter your first topic, then press Return to add another topic at the same level. Another simple command creates a subtopic. Outline offers six levels of topics, plus body text you can display or hide as desired. Labeling options include "Harvard," "Legal," "Symbol," "None," and "Custom." Outline 3.0 comes with a printed manual. Help is available via an AppleWorks-style "Help" screen listing the commands available. This exciting new product will be of special interest to writers, planners, and students who organize thoughts by outlining.

🍏 **AW personality:** A.P.A. member Beverly Cadieux lives amid the tall pine forests of East Texas and enjoys a lifestyle that includes barbecues, rose gardening, classical music, and

As Little As \$3.33 per Disk (See Special Below)

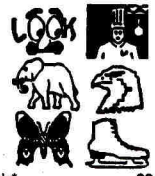
Software Plus Support At Affordable Prices!

- ★ FREE 800 Order Line ★ 24 HOUR Turnaround ★ FREE Technical Support Service
- ★ Largest and Most Up-to-Date Libraries of Apple II/IIgs Software in the World!
- ★ 100's of New Software Selections Offered Every Quarter!
- ★ Most Complete, well-indexed public domain/shareware directories in the World!

APPLE IIgs 3 1/2" DISKS

Print Shop™ IIgs Graphics – PDE Exclusives!

- GS155 100 color pictures of sports, hobbies, games* \$9
- GS156 100 color pictures of people, faces, clothing* \$9
- GS157 100 color pictures of animals of every kind!* \$9
- GS158 100 color pictures of symbols, emblems, & logos* \$9
- GS177 100 educational pictures, history, science, geog, flags* \$9
- GS178 100 pictures of fonts and color borders* \$9
- NEW GS196 100+ color pictures, Holidays and Religion* \$9
- NEW GS197 100+ color pictures of business and computer symbols* \$9



- *Requires Print Shop™ IIgs to use.
- ### Graphics/Graphic Utilities
- GS63 Cheap Paint—full-featured color painting program (768K REQ.) (SHAREWARE) \$9
 - GS131,GS132 84 fonts (typestyles) for desktop publishing, (2 DISK SET) \$18
 - GS133,134,135 60 color hi-res pics: Blast,Off, Seascape, Earthshine (3 DISK SET) \$27
 - GS141,142,143 75 stunning color hi-res graphics with display utility (3 DISK SET) \$27
 - NEW GS194 Long Voyage: marvel at the wonders of our world—slide show \$9

- ### Adult Graphics
- GS136,GS137 Adults-only slide show of 44 beautiful ladies (2 DISK SET) \$18
 - GS154 Treasures In The Sand—adults-only, 24 lovely poses \$9
 - NEW GS187,188: 50 more beautiful women to dazzle and delight you, (2 DISK SET) \$18

- ### Education/Business
- NEW GS184 Metrics Primer: learn about metrics, algebra, trigonometry, more ... \$9
 - GS185,186 Hyperstudio™ Stacks: learn about past presidents, solar system, (2 DISK SET) \$18
 - NEW GS189 DB Master: Powerful database program—easy to use, w/100 page doc (SWT) \$9

- ### Games
- GS86 Solitaire plus Wheel: Vanna's game on the IIgs! ★ Best Seller \$9
 - GS117 Flight Simulator, Pinball, Galaxy, plus more games (SHAREWARE) \$9
 - NEW GS180 Worm Hole: arcade, Carlus Primus card games, more (SWT) \$9
 - NEW GS182 Criminal 10 Pin: arcade game like Swartzenegger's "Running Man" \$9
 - NEW GS183 Sheepshead—German bridge game, Fourplay, Death Hunt (SWT) \$9
 - NEW GS193 Twilight Zone: travel through time on this journey to TV shows . \$9

- ### Utilities
- NEW GS191 Power Users Tool Set: collection of best utilities ever available (SWT) \$9
 - ANY 10 DISKS FOR ONLY \$59.95

APPLE II 5 1/4" DISKS

Apple II Print Shop™ Graphics

- 937 70+ b/w pictures of sports, hobbies, games* \$5
- 938 70+ b/w pictures of people, faces, clothing* . \$5
- 939 70+ b/w pictures of animals of every kind! . \$5
- 940 70+ b/w pictures of symbols, emblems, & logos* \$5
- 941 70+ b/w educational pics, geog, sci, history, flags* \$5
- 942 70+ b/w pictures of fonts and borders* \$5
- NEW 963 70+ b/w pics of Holidays and Religion* \$5
- NEW 964 70+ b/w pictures of business symbols* \$5

*Requires Print Shop™ to use.

- ### Business
- NEW 948,949,950,951 DB Master: Powerful database that's easy to use w/100 pg of doc (4 DISK SET) (SWT) \$20

- ### Education
- 954,955 Learn about algebra+trig. (2 DISK SET) (H) \$10

- ### Games
- 127 Defender—defend the astronauts from aliens \$5
 - 813 Four pinball games including Superblast! . . . \$5
 - 814 Monopoly: The popular board game \$5
 - 947 Sneakers arcade game like Missile Command \$5
 - NEW 957 Lifelike: a new version of Life (sw t) . . \$5

- ### Graphics
- 921,922,923 Stunning graphics Old TV shows (3 DISKS) \$15
 - 958,959 Star Destroyer, 12 spectacular graphics (2 DISKS) \$10

- ### Passion
- 190,800 X-Rated graphics for adults only (2 DISK SET) \$10
 - 961,962 Beach Girl, more lovely ladies to dazzle you! (2 DISK SET) \$10

† The author requests a specified donation if you decide to use the program.

Add \$4 US & Canada (\$14 foreign) shipping/handling for orders. CA orders add sales tax.

If ordering a 6 disk Special, please check 1 box: Apple II Membership Apple IIgs Membership

Enclosed \$ _____ by Check VISA MC

Card # _____ Exp. _____

Name _____ Address _____ City _____ State _____ Zip _____

2078-C Walsh Ave., #786 Santa Clara, CA 95050 DEALER INQUIRIES INVITED

TO ORDER: 800-331-8125

Circle 269 on Reader Service Card.

Astros baseball at the 'Dome. Bev previously studied languages and medical technology at the University of Massachusetts. She makes her home in Kingwood, Texas, with her husband and son, who is attending Baylor University. Winston, a beloved blond cocker spaniel, rounds out the family. Before establishing the Kingwood Micro Software company (3103 Lake Stream Drive, Kingwood, TX 77339), Bev gained broad experience in accounting and financial applications in the banking and travel industries. She's an avid Apple IIc user with considerable experience in using AppleWorks. She's written many macro routines of value to the community and shares much of her experience freely with members of her Houston Area Apple User Group, on various on-line services, and through her published articles. Bev is a prime source of information on GS fonts and distributes major font collections. She recently released Ultimate Fonts, a macro program that makes short work of accessing the "extra characters" in GS fonts for use in SuperFonts documents.

AW macros: Here's one that will clear duplicate records from an AppleWorks database file using the data in two fields as criteria. Change your multiple-record layout temporarily so that the two subject fields are next to each other. After compiling the macro, place the cursor in the first criterion field and start the macro with Solid apple-C (Option-C). The macro will stop when the operation is complete. (Uses Time-Out UltraMacros version 3.1.)

```
<:C:<adb OA-L rtn esc rtn OA-9 OA-C rtn>1<rtn OA-9 :DB
OA-Y>ZZZ<rtn OA-A rtn rtn begin : $1 = cell tab $2 = cell
:HF OA-tab if $1 = "ZZZ" then OA-D rtn OA-1 endmacro
endif down :DB $3 = cell tab $4 = cell OA-tab if $3 = $1 and
$4 = $2 then : OA-D rtn up endif rpt>!
```

A.P.A. news: In the year since the association was formed, the A.P.A. has established a popular AppleWorks-specific public bulletin-board system networked throughout the United States and beyond. Each quarter the association mails a report on 3.5-inch disk, consisting of data files, patches, and programs of interest, to members. Members share information through the Pro-APA BBS, the quarterly report disk, and personal contact. Members participate in beta testing, share information and talent, and maintain communication with others in the computing community. The A.P.A.'s primary purpose is to promote the use of "classic" AppleWorks and its many enhancements at every opportunity.

Members contributing to this month's notes include Steve Beville, Dave Gair, and Doug Phasey. For details on membership and other information, contact the AppleWorks Programmers Association at 6531 Lexington Avenue, Los Angeles, CA 90038-1451, modem (apa@pro-apa.cts.com) (213) 463-9289, voice (213) 469-9916. The A.P.A. is an Apple user group registered with the Apple User Group Connection.

SPECIAL!

Any **6** disks

(IIgs disks may be included)

plus 1 Yr. Membership

Only \$39⁹⁵

(plus \$4 s/h)

One Yr Membership (\$20 value):

- Complete fully-indexed directories of software
- Apple directory describing over 5000 programs, OR
- Apple IIgs directory describing 1000 programs
- 36 pg qtrly Magazines w/100's of new software selections
- Members-only discounts!
- Plus 6 Disks of your choice (ONLY \$3.33 each!—only as part of this special)

HAVE YOU TRIED ORDERING FROM ROGER COATS?

You Haven't?

Then you don't know about our renowned customer service, our commitment to give you the best price possible, our technical support line or our Barney Bucks bonus program.

GIVE US A TRY. Call us Today!

and oh, Please help us find Barney!

THE PASSWORD



The Case Kidnapped

APPLIED ENGINEERING

- Timemaster II HO \$67
- Z-RAM Ultra 2, 256K \$176
- GS-RAM Ultra, 256K \$149
- GS-RAM Ultra, 1 Meg \$199
- GS-RAM PLUS, 1 Meg \$189 (limited quantity)
- RamWorks Basic, 256K \$117
- RamWorks III, 256K \$133
- RamWorks Expander 256K \$95
- 512K \$119
- 1 Meg \$135
- 2 Meg \$199
- Color Link RGB Option \$94
- Ram Factor, 256K \$165
- Ramcharger \$129
- Phasor (II+, //e Stereo Card) \$109
- DataLink 2400 (Internal Modem) \$174
- DataLink Express (2400 Bd Ext Modem) \$159
- DataLink Express w/MNP-5 (2400 Bd Ext Modem) \$189
- GS RamKeeper (GS Battery B/U) \$159
- Slot Mover Option for RamKeeper \$31
- Ram Express 2, 256K + Clock //(c+) \$144
- Sonic Blaster (GS Stereo Card) \$94
- Audio Animator (GS MIDI Interface) \$174
- Parallel Pro (Parallel Card w/Cable) \$74
- Buffer Pro, 32K (for Parallel Pro) \$81
- Transwarp GS (GS Accelerator) \$285

WE CARRY OVER 550 ITEMS NOT LISTED PLEASE CALL FOR COMPLETE CATALOG

NEW

APPLIED ENGINEERING

- PC Transporter (640/768K) \$289
- PC Transporter GS installation kit \$37
- PC Transporter //e installation kit \$29
- IBM Style Keyboard \$101
- TransDrive:
 - 5.25 Single \$189
 - 5.25 Dual \$286
 - 5.25 Add-On \$109
- Vulcan 20 Meg Int HD \$499 (specify computer)
- Vulcan 40 Meg Int HD \$649 (specify computer)
- Vulcan 100 Meg Int HD \$1279 (specify computer)
- ReadyLink Terminal Software \$57
- Conserver (GS Surge Protector & Fan) \$74
- Fastmath (Math co-processor) \$129
- Serial Pro (Serial Card w/Clock) \$101
- Power Supply //(+, //e) \$58
- Ext. 80 col card //(e) \$54
- AE 3.5 Disk Drive //e, c+, GS, Mac) \$199 **NEW**

LASER

- Laser 128 Computer \$349
- Laser 128EX Computer \$389
- Laser 128EX/2 Computer (5.25 Drive) \$409
- Laser 128EX/2 Computer (3.5 Drive) \$449
- Laser 190 A Printer \$189
- Laser Monitor (Specify Green or Amber) \$89
- Laser RGB Color Monitor \$219

WOOF!

BEAGLE BROS

- TIMEOUT SERIES:**
 - Macro Tools \$29
 - Macro Tools II \$18
- AppleWorks 3.0 Companion \$27
- MacroEase \$27
- Desktools \$27
- Desktools II \$27
- Filemaster \$27
- GS Font Editor \$27
- Power Pack \$27
- Program Writer \$27
- SideSpread \$27
- Thesaurus \$27
- Text Tools \$27
- SuperFonts Activity Guide \$34
- Ultra Macros \$27
- Spread Tools \$39
- Quickspell \$27
- Superfonts \$27
- Telecomm \$46
- Beagle Compiler \$49
- Report Writer \$27
- BeagleWrite //(e, c) \$54
- Graph \$59
- BeagleWrite GS \$69



GLEN BREDON

- Prosel 8 //(e, c Program Selector) \$37
- Prosel 16 (GS Program Selector) \$54

Laser 128 Color System

The infamous laser 128 with color monitor and all cables. Run thousands of apple titles at half the cost of an apple system.

List \$729
NOW \$499

*Agent Matt F.B.I.**

HOT GAMES

- ACCOLADE**
 - Test Drive II (GS) \$29
 - The 3rd Courier \$31
 - Grand Prix Circuit (GS) \$27
- CALIFORNIA DREAMS**
 - Tunnels of Armageddon \$27
- MEDIAGENIC**
 - Battlechess \$31
- MICRO REVELATIONS**
 - Xenocide (GS) \$29
- VICTORY SOFTWARE**
 - 2088 The Cryllan Mission \$34

Catch what's on:

THE BALANCE OF POWER by Accolade list \$39.95

Avoid Nuclear war with your political enemy **NOW \$31**

AGENT SEAN F.B.I.*

DISKETTES

- SONY 3.5 Diskettes Pack of 10 \$12

CHIPS

All Memory Chips Carry a Lifetime Warranty! (User Installed)

- CHIPS:**
 - (set of 8) 256K, 120ns, for 256K memory boards like GS RAM & Apple Memory Card \$27
 - (set of 8) 1 Meg, 120ns or faster for 1 Meg memory boards like GS RAM plus & RAM Pro //GS \$69
 - (set of 2) 256K X 4, 120ns or faster for memory boards like GS RAM Ultra \$20

ORDERS ONLY:
1-800-438-2883
FAX: 1-619-274-2440
15% (\$15/min.) restocking fee on refunded items only

Authorized Applied Engineering Dealer

Roger Coats

P.O. BOX 171466
 SAN DIEGO, CA 92117

Circle 90 on Reader Service Card.



•••RANSOM NOTES•••

with every \$100 (in product) ordered, you'll receive ONE RANSOM NOTE redeemable for valuable merchandise.

Get even more! \$300 orders receive FIVE RANSOM NOTES; \$500 orders receive NINE RANSOM NOTES. Find Barney Immediately!

Details available with every order.

WE ACCEPT: VISA and MasterCard • Bank Wires • School Purchase Orders • Certified Checks • Money Orders • NO PERSONAL or COMPANY CHECKS
 • Sorry, no shipping, handling, or insurance refunds • Not responsible for product compatibility • Prices subject to change without notice • NO C.O.D.s

IS . . . DEALS

of the Canine: Part V



**SUSPECT #4:
VULCAN**

when questioned about
Barney's disappearance
answered:

"I am the 'Master
of Evil Genius'
but what would I
do with your
mangy mutt?"

SOFTWARE

ADDITIONAL TITLES IN STOCK
(Sorry, no software refunds)

ABRACADTA

Design Your Own Home Series:
Architecture
Interiors
Landscape
\$47 ea (//+, e, c)
\$59 ea (GS)

Design Your Own Train
\$34

ACTASOFT

Alphacheck v3.0
\$29

APPLE COMPUTER GS/OS v5.02
\$39 (in stock)

BRODERBUND

Printshop GS \$36
VCR Companion \$30
Carmen San Diego:
Where in Europe (//e)
Where in Time (//e)
Where in the USA (//e or GS)
Where in the World (//e or GS)
\$28 ea. (//e)
\$30 ea. (GS)
Wings of Fury \$23

CENTRAL POINT SOFTWARE

Copy II Plus \$24

CLARIS

AppleWorks 3.0 \$169
AppleWorks GS \$194

CHECKMATE TECHNOLOGIES
Proterm v2.2 \$79

INTUIT Quicken (//e, c, GS)
\$37

JEM SOFTWARE MiniPaint-GS

Paint Program, VERY Powerful
\$19

MANZANITA

Business Works Bundle \$259
Business Works Payroll \$99

MEDIAGENIC

PaintWorks Gold (GS) \$44
Music Studio (GS) \$44

Q LABS

RamUp (RAM Disk Utility) \$29
RepairWorks (Repair AW Files) \$29
Easy Drive (Program Selector) \$39
Talk is Cheap \$39

PYGRAPHICS (specify computer)

Music Writer (Limited Edition) \$79
Music Writer (Special Edition) \$199
Music Writer (Professional) \$399

SOFTWARE

ROGER WAGNER

Graphics Exchange \$29
Hyperstudio \$84
Macromate \$29
Merlin 8/16 \$77
SoftSwitch \$34

SEVEN HILLS

Disk Access (GS) \$27
Font Factory (GS) \$22
GraphicWriter III (GS) \$77

SOFTSPOKEN

Cross-Works (Xter Apple & IBM Files)
\$67

TIMEWORKS

Graph It! \$44
Publish It! 3
(II Desktop Publishing) \$74

VITESSE

SALVATION

Guardian (GS Backup Utility)
Renaissance (GS Optimizer)
\$29

Exorcizer (GS Virus Utility)
\$24

Wings (GS Program Selector)
\$49

Quickie (//e, GS Hand
Held Scanner) \$193

KENSINGTON

GS Anti-Glare Filter
\$34

Kensington System Saver GS
\$69

Turbo Mouse ADB (GS, SE, II)
\$109

APRICORN

Apricord //c (Parallel
Interface)
\$49

Apricord 8
(Parallel Interface
//c+, Mac, GS)
\$59

No Slot Clock Pro
\$37

RamPro GS 1 Meg
(Lifetime
Warranty!)
\$134

AMR

GS Partner 20 Meg HD w/SCSI
\$519

GS Partner 40 Meg HD w/SCSI
\$619

GS Partner 60 Meg HD w/SCSI
\$699

GS Partner 80 Meg HD w/SCSI
\$799

GS Partner 100 Meg HD w/SCSI
\$979

AMR 3.5 Drive (//e, c+, GS, Mac,
PC Transporter)
\$169 FREE SHIPPING

AMR C3 3.5 Disk Controller Card
\$44

AMR 45 Meg Removable Media
w/SCSI (//e, GS)
\$849

45 Meg Removable Cartridge
\$99

HARDWARE

Supra 2400 Baud External Modem
\$99

Numeric Keypad (//e)
\$29

Numeric Keypad (//c, //c+)
\$99

Meiji 5.25 1/2 Height Drive (//+, //e)
\$80

Meiji 5.25 1/2 Height Drive (//c, GS)
\$95

**ROGER'S
SUPER
SLEUTH
DEAL**

*Vulcan
in all his evil forms
(//e and GS)*

20 Meg List \$699 NOW \$499
40 Meg List \$899 NOW \$699
100 Meg List \$1795 NOW \$1279

HARDWARE

Meiji 5.25 1/2 Height Drive (//c, GS)
Daisy Chainable
\$119

Zip Chip 8 Mhz Accelerator (//e, c) **NEW**
\$149

Thunderscan (e, c, GS Scanner)
\$149

AB Switchbox (Ser/Par)
\$19

ABCD Switchbox (Ser/Par)
\$24

AB Switchbox (19-pin w/Cables)
\$79

AB Switchbox (Mini 8)
\$24

ABCD Switchbox (Mini 8)
\$29

//e Fan and Surge Protector
\$29

GS Sound System
2 Speakers & 15 watt amp
\$119

Prairie Pwr System, Battery
Pack (8 HR, UPS) & Case
\$119

Apple //e Enhancement Kit
\$58

Cables (all types, 10 ft)
\$12

CH Mach III Joystick
\$31

CH FlightStick
\$47

ImageWriter II Printer
\$459

FingerPrint GSi VII
\$84

Computer Eyes Color
\$189

RamFast/SCSI (//e-GS SCSI Controller)
\$199

Kurta ADB Graphics Tablet
\$249

**IF
YOU
DON'T
SEE IT,
CALL
US!**

**FOR A
COMPLETE
PRICE LIST
OF OUR
PRODUCTS,
FILL OUT
THE READER
SERVICE
CARD IN
THIS
MAGAZINE**

Stay tuned next
month for Part VI of:
The Case of the
Kidnapped Canine.

**Be an F.B.I.
Special Agent
Anytime!**

We are now open 24 hours a day/
7 days a week for orders. And
there are no modems or online
services required! So now you
can be a special agent on the
Find Barney Immediately case by
placing your order at anytime.



**Roger
Coats**

P.O. BOX 171466
SAN DIEGO, CA 92117

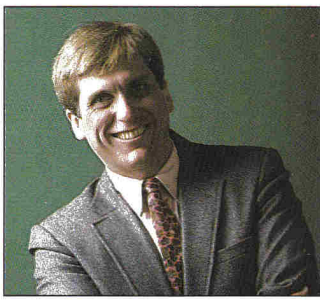


**PRICE QUOTES &
TECHNICAL SUPPORT**
1-619-274-1253
8am - 5pm PST
Monday-Friday

Committed to value since 1985

**WE ACCEPT
SCHOOL PURCHASE ORDERS**





**STATUS
REPORT**

PERCEPTION AND REALITY

By **PAUL STATT** * SENIOR EDITOR

People and profits are less agreeable to deletion and doubling than are spreadsheet cells.

A BUSINESS THAT RELIES ON SPREADSHEET software to plan its future may sacrifice the company's health for a fast profit, says Jeffrey Kottemann, an assistant professor of computer information systems at the University of Michigan, in the June 1, 1990, *Wall Street Journal*. What's worse, the company may think it's healthy as it's being sacrificed, he adds.

Kottemann staged a mock battle between two mock manufacturers. One side, played by business students, was armed with spreadsheets for evaluating alternative strategies. The second squad of students had to decide what, when, and how much to produce by "intuition and experience," not by numbers. It was economic warfare, and the computer lost. In three separate experiments, the *Journal* reports, "with the computer aids . . . people appear to have sought short-term results by understaffing and overproducing. But those decisions, over time, meant lost sales and extra costs."

Understaffing and overproducing? You'd better hope that the person who controls your job knows about this study. It could be your boss, sitting at the computer, worrying late one night. He's working on a spreadsheet. "What if we had one fewer employee?" he asks, typing Open apple-D for "delete." "And made twice as many widgets?" As simple as B14*2. But people and profits are less agreeable to deletion and doubling than are spreadsheet cells.

Perhaps the news surprises your boss: that using a computer as a crutch may someday slow the company's progress to a walk. It probably doesn't shock you. You've watched the TV weather forecaster proudly display the computer's projection of sunny skies — while you're looking out the window at the rain. The payroll computer wrote you a \$1000 check one week — and deducted \$1500. Try letting your grammar-checking software loose on Lincoln's *Gettysburg Address*. You know that computers make mistakes.

But Kottemann's students didn't. The group

that had the help of computers was surer of its decisions than the other team: "They were significantly more confident in their performance than the unaided group," the *Journal* reports. Blinded by their computers, those students couldn't see that the machines not only weren't helping, but were actually hurting, their performance.

Apple's done some research on actual versus perceived performance: It seems that when people who are accustomed to command-driven software, such as most MS-DOS programs, use Apple software for the first time, they report that the mouse and pull-down menus slow them down. But the truth — measured with a stopwatch — is that the mouse is faster. I don't believe I can use AppleWorks GS faster than I can use AppleWorks 3.0, but that just proves Apple's point.

My point is that a computer can help without necessarily accelerating your pace or bringing in more money. My writing has changed since I started using a word processor, for instance: I don't claim that I write any faster or more clearly, but the pages are neat. Spreadsheets can make recordkeeping quicker and forecasting cleaner, but they can't replace sound business sense. If you lean too hard on your crutch, you fall down. Should we unplug the computers in our businesses, schools, and homes? Of course not. The trick is to use them intelligently, not to trust them implicitly, and not to assume we're any smarter than those poor people who don't own computers.

Computer advertising wants you to think that the computer owner — the owner of a particular brand of computer, that is — is smarter, or works smarter, than the fool who won't buy a computer or buys the wrong kind. It isn't true. Ask the grad students who played manufacturers in Jeffrey Kottemann's simulation. They must chuckle whenever they see an Apple advertisement that promises the struggling business "the power to be your best." □



The Ultimate 3.5 Drive

Introducing the new AE 3.5 Drive — setting a new standard for basic Apple II storage. All the reliability and performance of Apple's 3.5 drive at a price approaching that of the cheapest import. Our design incorporates the same top-quality Sony mechanism that Apple uses, but instead of Apple's \$429, our drive is \$279.

Just to make your decision easier, we added a couple of performance features like upgradeability to 1.4 MEG of capacity or higher — an upgrade we'll make available in the future.

High density capacity means you can stop playing diskette roulette. Simply store your large 2-disk application programs on one high-density disk and forget about fumbling for clumsy "sets" of disks. And storing files just became twice as easy too, because you'll only need half the previous number of disks.

Our exclusive 2-way LED indicator shows green for reading, red for writing. Now you can monitor the drive's progress and know that a disk is actually being copied, instead of being confronted with an ambiguous "on" light.

We're even making available a low-cost optional controller card for the IIe. The card

(not required for IIGS), allows the IIe to accept data from the 3.5 format. The AE drive is also Macintosh compatible and you will be able to separately upgrade to 1.44 MEG in the Macintosh format.

Aesthetically, the AE Drive is every bit as handsome as the Apple Drive. We designed a thick, high-impact plastic case to stack with and exactly match the footprint of Apple's drive. Naturally, the AE Drive is Conserver compatible, snuggling neatly inside the drive port.

We also added features like auto eject, complete daisy-chain capacity (from AE to another drive or vice versa) and a full one-year warranty.

Features

- 800K, upgradeable to 1.4 MEG or higher
- 2-way LED indicator, green for read, red for write
- Auto eject
- Daisy chain port — works both ways, connect a drive to it, or connect it to another drive
- 1 year warranty
- Apple compatible, works with IIe, IIc Plus, IIGS, Mac and PC Transporter

- Stack and footprint compatible with Apple Drive
- Conserver compatible
- FDHD compatible (upgrade to 1.4 MEG or higher on Apple II)
- FDHD SuperDrive compatible (upgrade to 1.44 MEG on Macintosh)

AE 3.5 Drive \$279

Order today!

To order or for more information, see your local 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.


Applied Engineering®
The Apple enhancement experts.
A Division of AE Research Corporation

(214) 241-6060

P. O. Box 5100
Carrollton, TX 75011



©1990. AE Research, Inc. All rights reserved. Prices subject to change without notice. Brand and product names are registered trademarks of their respective holders



CAUGHT IN THE MIDDLE

Bridge the gap between the MS-DOS and ProDOS worlds — a PC Transporter may be the link you're looking for.

By **CECIL FRETWELL**

TRANSPORTER TRANSLATIONS

IN 1985, I PURCHASED A 128K IIE with an 80-column card. After I spent two years working with it, I was transferred to a new job where I learned to use IBM-based systems. I'd like to upgrade my IIE to run MS-DOS programs, so that I can finish my office work at home.

Also, I want to add 512K and a color monitor to my system. Although my friends recommend I purchase an IBM-based system, I won't part with my Apple. I've read about Applied Engineering's PC Transporter, and I think it may solve my problem.

How does the program switch from ProDOS to MS-DOS? Will 768K be available for both? What color monitor do you recommend? What hardware do I need to hook up the PC Transporter? Can I buy this setup for under \$700?

Donald W. Crownover
Anniston, AL

If you want to bridge the gap between the MS-DOS and ProDOS worlds, Applied Engineering's PC Transporter (P.O. Box 5100, Carrollton, TX 75011, 214-241-6060, \$379) may be the link you're looking for. (See the June 1988 feature "PC Transporter: The Best of

Both Worlds," p. 77, for more information.)

First, the program switches from MS-DOS to ProDOS via a ProDOS boot disk; if you're in ProDOS mode, a software control-panel item switches you to MS-DOS. Second, although PC Transporter comes with 768K, buying this product isn't a memory expansion for your system. If you want an additional 512K, you need a memory-expansion card. In fact, with Applied Engineering's RamWorks memory-expansion card (\$349), you'll have 752K of additional memory that AppleWorks 1.3 and later versions will recognize. If you own a IIGs, this memory (the GS Ultra or GS Plus cards, \$339 each) is available as a 752K RAM disk. Third, I suggest you purchase a standard IBM digital CGA display, which costs about \$200.

The expense and difficulty of hooking up a PC Transporter depends on your system. For the CPU, you need only to plug the Transporter into the designated slot. If you work with a 3.5-inch (720K) drive, you'll almost certainly need a 5.25-inch (360K) drive, too. New MS-DOS software is available on 3.5-inch disks, but if you want to bring work home from the office you'll need 5.25-inch capability. While PC Transporter can use an Apple 3.5-inch drive as a 720K MS-DOS drive, turning a single-sided 143K 5.25-inch Apple drive into a double-sided 360K unit is beyond its powers. Unless all your MS-DOS system, program, and data disks are in 720K format, you'll have to buy a 360K 5.25-inch drive from Applied

Engineering (\$259 for one, \$399 for two).

Instead of encouraging you to spend money on drives, however, I recommend you buy a hard disk — it'll cost you about \$600 for 20 megabytes. But, even without the hard drive, the cost of this project exceeds your \$700 limit. (My thanks to Tom Milks, AE's sales manager, for his help in answering these questions.)

EXPAND YOUR MEMORY

IHAVE AN ORIGINAL IIGs WITH A 1-megabyte Apple memory-expansion card, which I'd like to enhance with another 1 or 2 megabytes. Are there any memory-expansion cards (third-party) that don't use the IIGs' slots? If I fill another slot, I won't be able to use my Apple card.

Jack Muskiewicz
Hudson, NH

In the IIGs you must access any additional memory via the special memory slot on the motherboard. I suggest you plug both the existing board, and a card such as Applied Engineering's GS Ultra (\$339) or GS Plus (\$339) into Applied's Ramkeeper (\$219). Then you'll have additional memory as well as a battery-protected disk on which to store ProDOS and so forth, so that your programs boot quickly.

IS THERE A LINK?

IWORK IN A SCHOOL OFFICE that has a IIE, a IIGs, and a Macintosh SE with a high-density floppy drive and a 40-megabyte hard disk. I use AppleWorks almost exclusively to keep records and write correspondence. I want to network these computers and, if possible, attach either a LaserWriter or an ink-jet

printer to the network. What additional hardware and software do I need? How much will it cost?

Barry Peterson
Chattanooga, TN

I forwarded your letter to Bob Consorti, co-author of the July 1990 feature "A Hard Drive Is Good To Find" (p. 42) and president of On Three, a hardware and software development company. Here's his reply.

There are a few options to consider when networking Apple IIs and Macs. If you simply want to share a LaserWriter among all the computers, the process is reasonably simple. The Apple IIGS has a built-in AppleTalk port that lets you connect to the LaserWriter exactly as you connect to the Macintosh. While the Apple IIe doesn't have such a built-in port, Apple Computer produces an Apple II Workstation card (20525 Mariani Avenue, MS 33-G, Cupertino, CA 95014-6299, 800-282-2732, \$249) that lets you connect the Apple IIe to the network and share the LaserWriter. (In fact, you can connect any number of computers to the network, so that they share the LaserWriter.)

One caveat: Your IIGS is similar to the IIe because it can print to the LaserWriter from AppleWorks, or almost any other ProDOS 8 application. These applications' type styles, however, are simple Courier monospaced. If you want to use a wider selection of styles or typefaces, convert the AppleWorks files to AppleWorks GS. (It has a built-in translator.) Then you can print your documents from AppleWorks GS with all the fancy fonts you desire. With the Apple II Workstation card, a LocalTalk connector (\$75), your IIGS system disk, and some cabling, you'll be printing in no time.

The second method is more involved and expensive, but it lets you share files as well as printers. By using the standard AppleTalk network capabilities of the Apple II and the Macintosh, you can set up a dedicated Macintosh as a file server, and share files among your systems. Then on all your computers the Finder will display the dedicated Mac's hard drive. To transfer files, simply drag the file from your disk to the Mac's, then drag the file to another computer's disk.

Apple Computer's next version of the Macintosh operating system (and possibly the Apple IIGS) won't require the dedicated Mac to act as a file server. With Personal AppleShare, you'll tell the Finder that everyone on your network can share a certain subdirectory on your hard disk. With this program you'll simply drag the file you want to see on the Mac (or vice versa) into the shared subdirectory for the other com-

puters to access. Apple should release this product for the Mac in the fall of 1990, and the GS version shortly thereafter. Because the IIe has memory constraints, even with the Workstation card, it can't accomplish the same feats as the IIGS. By the end of 1990, however, your IIGS and Mac should be able to share data files with only two AppleTalk connectors.

MYRIAD COLORS

WHAT'S THE HIGHEST RESOLUTION an Apple screen can display? How many colors can I use at one time? What's the maximum number of colors a screen can display at one time? What's the resolution necessary for this operation?

Scott Pennington
Pomfret, MD

According to the Apple IIGS Toolbox Reference, Volumes 1 and 2 (Addison-Wesley, Route 128, Reading, MA 01867, 617-944-3700), the IIGS screen displays a maximum of 640 pixels by 200 pixels. Although only four "pure" colors are available for each pixel in 640 mode, when you place small pixels of different colors next to each other on the screen, their colors blend. If you display one or more colors with adjacent pixels, you create the illusion of another color. When you use this method, called dithering, you can have 640-mode resolution for text and still display 16 or more colors.

QUADRAM QUANDARY

IHAVE AN OLD 64K APPLE IIe WITH a Quadram 80-column board. Will the new 256x8 RAM chips expand my memory to 320K if I use them to replace the older chips on the Quadram 80?

Joe Quilici
Vacaville, CA

Sorry, but I can't say "out with the old, in with the new" on this one. The new chips require more active pins than the 64K chips.

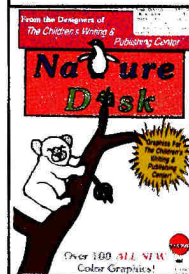
APPLE CLINIC IS A FORUM FOR ANSWERING YOUR QUESTIONS ABOUT APPLE II HARDWARE AND SOFTWARE. ADDRESS YOUR CORRESPONDENCE TO APPLE CLINIC, INCI DER, 80 ELM STREET, PETERBOROUGH, NH 03458. BECAUSE OF THE VOLUME OF LETTERS, MOST WON'T APPEAR IN PRINT, BUT WE'LL TRY TO RESPOND IF YOU ENCLOSE A SELF-ADDRESSED, STAMPED ENVELOPE.

Expand The Graphics Capabilities of

The Children's Writing & Publishing Center™

With These
HOT NEW PRODUCTS!

- Over 100 color graphics
- For grades 2nd & up
- Includes a handbook with lesson ideas, a user's guide and picture reference pages
- Retail \$29.95
- For Apple and IIGS compatible computers



NATURE DISK

True-to-life graphics representing many aspects of nature including dinosaurs, penguins, planets, waterfalls, bugs, dolphins and more!



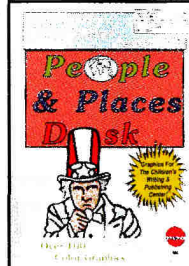
HOLIDAY DISK

Over 25 different holidays represented including Mother's Day, Father's Day, Independence Day, Christmas, Halloween and more!



PEOPLE & PLACES DISK

Your favorite people & places are represented: historical figures, fashion, maps, famous landmarks, careers and more!



COMBO PACK

The Nature, Holiday and People & Places Disks are included. (Retail \$74.95)

COMBO PACK School Edition - Includes the Nature, Holiday and People & Places Disk.

E.S.L. School Edition - 200 specially selected graphics for E.S.L. (English as a second language) and a template disk.

Features include:

- Retail \$89.95
- Backup disks
- Picture reference pages
- Ready-to-use lesson plans with black-line masters

All in a 8½" x 11" 3-ring binder!

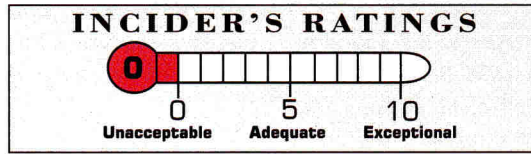


Creative Pursuits

12151 LaCasa Lane
Los Angeles, CA 90049
213-472-1179

Circle 37 on Reader Service Card.

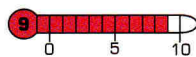
REVIEWS



SUPERPRINT II: THE NEXT GENERATION

SCHOLASTIC, INC., 730 BROADWAY, NEW YORK, NY 10003, (212) 505-3000

Graphics-printing program;
128K Apple II; color printer recommended,
mouse optional; no copy protection; \$69.95



Though not as heralded as Broderbund's deservedly popular Print Shop, SuperPrint and now SuperPrint II from Scholastic Software are both top-flight contenders for the graphics-printing crown. In many ways, SuperPrint

II is The Print Shop's equal, and in some ways even surpasses it.

SuperPrint II is an exceptionally versatile program with which you can produce the standard array of posters, signs, calendars, cards, and banners. What separates Super-

Print II from other programs of its kind, however, is its ability to create all those items in sizes ranging from a quarter of a page to six and a half feet tall — that's two and a half feet larger than the material you could produce with the original version.

SIZING IT UP

You can select any of eight different sizes when designing posters, signs, or calendars, and three different sizes when designing banners and borders. Greeting cards come in just one size. With multiply sized printouts at your disposal, SuperPrint II becomes much more versatile when compared to similar products.

If you make a sign announcing a school activity, for instance, and print it in a standard size, it makes an excellent one-page handout. You can then print the same sign in *Tall* or *Large* mode and place it in the halls or on doors as a reminder of the upcoming event. The same sign printed again in *Super* or *Mega* mode could serve as the ultimate final announcement.

Like its predecessor, SuperPrint II is exceptionally easy and intuitive to use despite its sophistication. A series of layered menus make the creation process a simple matter of selecting options. Once you've mastered the nuances of one activity, you've effectively learned them all, because the steps are almost identical whether you're creating a sign, a poster, or a banner.

SuperPrint II's editing capabilities have also improved. The original SuperPrint offered little or no flexibility in the placement of clip art or graphics. With SuperPrint II, you can position graphics almost anywhere, then flip them, invert them, or add special effects.

The ability to edit your work completely makes the program's *Preview* option even

EDUCATIONAL

SAVE UP TO 50% EVERYDAY!

CALL FOR A
FREE CATALOG!



YOUR SINGLE SOURCE SUPPLIER FOR COMPUTER SOFTWARE ■ DISKETTES ■ ACCESSORIES

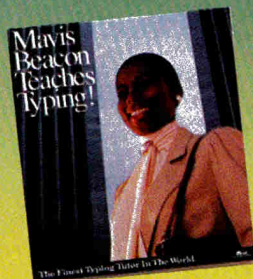
RESOURCES

USA ■ Canada Tollfree
1-800-624-2926

In Illinois Call
708-888-8300



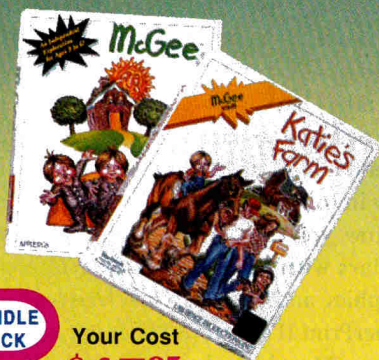
Your Cost
\$23⁹⁵ \$25⁹⁵
APL IBM/MAC
APLSchool Version **\$33.95**
APL Lab Pack **\$74.95**



Your Cost
\$26⁹⁵ \$32⁹⁵
APL IIGS/IBM/MAC
Lab Pack APL **\$109.95**
Lab Pack IIGS/IBM/MAC **\$127.95**



Your Cost
\$27⁹⁵
APL /IBM
School Version **\$41.95**



BUNDLE PACK
Your Cost
\$47⁹⁵
IIGS/MAC
Sold Separately **\$26.95** each

LOWEST RIBBON & ACCESSORY PRICES



(Quantities of 6)	Imagewriter I & II*	\$ 2.50	Epson LX 80/90*	\$ 2.50
	Imagewriter II 4 Color Ribbons.....	5.75	Epson MX 100.....	4.00
	Imagewriter II 4 Color Heat Trans.....	16.00	IBM Pro Printer.....	4.75
	Panasonic KX-P 1090,1091,1092*.....	3.25	Okidata 182/192/193*.....	2.99
	Epson MX/FX/RX 70,80*	2.50		

* For quantities less than six or for colors (red, green, blue, purple or yellow) - Add \$1.00 Each.

DISKETTES/PAPER

Diskettes - 5 1/4", DS/DD (multiples of 50)	\$.35
Diskettes - 3 1/2", DS/DD (multiples of 10)	.69
Color Diskettes (10 Pk., Asst.) 5-1/4"	6.95
Color Diskettes (10 Pk., Asst.) 3-1/2"	14.50
Color Paper, Asst., 250 Sheets.....	10.95

Computer Eyes, B/W Ite/Ilc.....	\$102.95
Computer Eyes, Color, IIGs.....	199.95
Thunderscan APL.....	159.95
Vulcan 40 Meg Hard Drive APL/IIGS	649.95
PC Viewer 200S APL/IBM.....	627.00

ACCESSORIES

Touch Window APL w/adaptor cable...	\$282.24
System Saver IIGs.....	68.95
Transwarp IIGS.....	289.95
Pioneer Laser Disk V2200 Player.....	749.95
Quickie Hand Scanner APL/IIGS.....	199.00

64K/80 COLUMN CARD
\$19⁹⁵

Allows you to use all the new 128K programs at a price you can't afford to miss!

BEAGLE BROS.

APL/IIGS Compatible Products!

BeagleWrite.....	\$43.95	Timeout Text Tools.....	\$27.95
BeagleWrite IIGS Only.....	54.95	Timeout ReportWriter.....	43.95
BeagleDraw IIGS Only.....	49.95	Timeout Graph.....	54.95
Timeout Macro Ease.....	21.95	Timeout Thesaurus.....	27.95

Compatible With Appleworks 2.0 & 3.0!

NEW

HYPERSTUDIO 2.1

\$86⁹⁵ IIGS 1.25 meg

- Includes sound digitizer & microphone
- Built-in paint program, text editor & sound recording.

NEW BUNDLE PACK!

Children's Writing & Publishing Center & Both Graphics Disks For Only:

\$84⁹⁵ SCHOOL VERSION (Incl. backup & teacher aids)

\$131⁹⁵ LAB PACK (Includes 6 disks)

\$62⁹⁵ HOME VERSION

APL/IIGS Compatible (3.5" or 5.25" disk)

Holiday & Nature Disk Children's Writing & Publishing Center

Your Choice

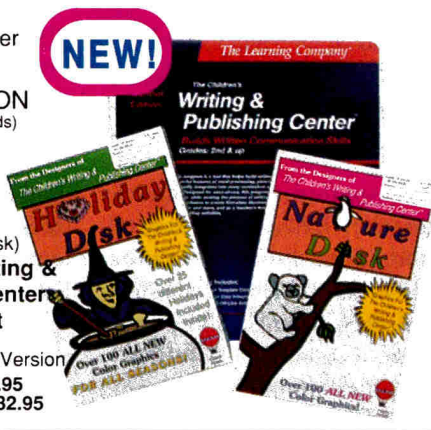
Your Cost

\$19⁹⁵ each

\$55⁹⁵ School Version

APL/IIGS Compatible (3.5" or 5.25" disk)

Lab Pack **\$97.95**
Home Version **\$32.95**
APL/IIGS



LASER SYSTEM

Computer/190A Printer/Monochrome Monitor Includes Free Copy II Plus!

\$649⁹⁵

- Laser EX-add \$30.00
- Laser EX2 3.5"- add \$140.00
- Laser EX2 5.25"-add \$95.00
- Color Monitor-add \$160.00
- Printer Cable-add \$19.95
- Monitor Stand-add \$24.95

Call for lowest component pricing!



MAIL SCHOOL P.O.'S TO: **EDUCATIONAL RESOURCES**



1550 EXECUTIVE DRIVE
ELGIN, IL 60123

TERMS

Checks and School P.O.'s welcome. Add 5% shipping with a \$3.00 minimum.
\$25 minimum on charge cards. Free shipping over \$300.00 (Continental U.S. only)
Canada add 10% with a \$5.00 minimum.

more worthwhile. In the original SuperPrint, you could preview before printing, but you couldn't do anything about it — short of starting over — if you didn't like what you saw. Now with version II you can go back through and make changes at virtually any point in your creation.

SOMETHING FOR EVERYONE

Perhaps SuperPrint II's most impressive feature is the way its sophistication works hand in hand with its versatility. Creating calendars is a case in point. Ostensibly, you can design only two types — a single-date calendar and the monthly variety (which is new in this edition of SuperPrint).

Now, you can embellish single-date calendars with text, clip art, background graphics, and original artwork created with SuperPrint II's powerful built-in paint program. (Monthly calendars aren't quite as versatile — they accommodate only text.) That feature is nice, but not remarkable — at least not until you add the fact that you can print a single-date calendar in any of eight different sizes. This ability, found only in SuperPrint II, once again opens up a wide range of options.

You can create standard-sized, single-date calendars for each holiday, decorate them with appropriate clip art and your own drawings, and use them as flash cards, for example. Print the cards again in one of the larger formats and you've got a ready-made bulletin board; print them in miniature and bind them together for a coloring book of holiday dates.

HIDDEN COSTS?

Of course, there's a price to pay when using SuperPrint II's ability to create giant printouts — and that price is both figurative and literal.

Figuratively, you'll pay in time — the larger your creation, the more costly it is in terms of minutes. Literally, you can expect to go through ribbons fast if you plan to produce a lot of six-foot banners and life-sized dinosaur door hangings.

NEW AND IMPROVED

SuperPrint II offers all the features of the original SuperPrint — multitudes of clip art, the ability to print in reverse to make iron-on transfers for T-shirts (using a special heat-transfer ribbon you can pur-

chase separately), a wide variety of fonts and styles, a built-in paint program, and numerous theme-oriented *Graphic Packs*.

The paint program is quite complete and is the most obvious difference between SuperPrint II and its earlier rendition. It boasts all the tools you'd expect — such as various brush sizes, a magnifying feature for detailed work, fill commands, and so on. In addition, the editing menu lets you invert images, flip them vertically or horizontally, copy, cut, paste, and undo. SuperPrint II now offers complete mouse support as well. You'll appreciate that most when working in the paint program.

SuperPrint II offers features you won't find in any other program of its type. If you're looking for graphics-production software that is almost as unlimited as your imagination, SuperPrint II could be the answer to all your creative needs.

Jim Trunzo
Leechburg, PA

THE PLAYROOM

BRODERBUND SOFTWARE,
17 PAUL DRIVE, SAN RAFAEL, CA 94903-2101,
(415) 492-3200

Early-learning skill builder;
128K Apple II; 3.5- or 5.25-inch disk;
copy protection; \$39.95 (retail edition),
\$49.95 (school edition)



The Playroom is a fun-filled early-learning adventure for the young and the young-at-heart. It provides a variety of amusing educational activities to stimulate a child's natural curiosity, with an emphasis on exploration and some fundamental skills.

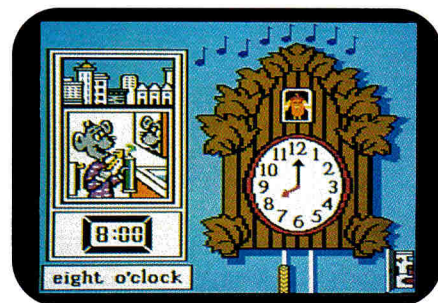
HOME SWEET HOME

A friendly animated mouse named Pepper invites your child (aged 3 to 6) to practice counting from 1 to 12, recognizing upper- and lowercase letters, working on keyboard literacy, adding, subtracting, and telling time.

Colorful graphics, animation, sound, digitized speech, and musical clips reinforce the concepts Pepper presents. The program succeeds because it provides many opportunities for open-ended investigation and creativity.

The Playroom makes children feel comfortable at the computer. The setting is a beautifully rendered full-screen drawing of a child's bedroom. At first glance, the room appears quite ordinary. It's filled with toys, stuffed animals, and pets. There's a radio on the nightstand, a clock on the wall, a bookshelf, and a computer on a kid-sized table.

If youngsters watch the screen for any length of time, however, strange things



Playtime becomes an adventure.

begin to happen. Pictures talk, clothes in the toybox wiggle, Pepper the mouse plays peek-a-boo behind the window, a teddy bear waves hello, and a mysterious pair of eyes peer out from within the mousehole.

The unusual events occurring on screen encourage children to investigate further. The Playroom offers neither on-screen instructions nor on-line help, yet the program's operation is so intuitive those options are unnecessary.

It won't take kids long to discover how to drive the program: They simply move the pointer and select items of interest. With the keyboard, they use the arrows and press Return. With a joystick or mouse, they just point and click. The mouse is the simplest and most elegant way to go. The keyboard is just as easy, but it's a bit slower. A joystick, however, requires a degree of manual dexterity that even adults will find difficult to master. Younger Playroom visitors should use the keyboard if they don't have a mouse available.

Most of the objects in The Playroom respond with audiovisual rewards when a child selects them. This reinforcement prompts children to explore the room in minute detail. The bluebird chirps; the green creature with the strange nose flashes and rolls its eye; the pink triceratops winks and beats its tail; and the



“Elegant, innovative, flexible and in all aspects the leader of the field.” — Incider Magazine

Accolades continue to pour in. Vulcan hard drives were recently awarded FIVE stars by Incider Magazine, a rating reserved for products judged “excellent and remarkable”. Incider went on to say, “*The Vulcan sets a new performance standard for hard drives . . . Applied Engineering has done it again.*”

Hard drives tremendously boost your productivity. The Apple II’s operating system, hardware and memory-gobbling software take on a new agility and finesse with the addition of a hard drive.

Speed? The IIGS Buyer’s Guide put it this way, “*Everything this drive does is fast. TimeOut modules, installed in AppleWorks and configured as disk-based, came up as fast as if they were memory-based. Graphics load almost immediately. Even that damnable lie, ‘One Moment Please’ suddenly delivers its promise. We recommend the Vulcan wholeheartedly.*”

And Incider said, “*The Vulcan walks all over the competition. Twelve seconds to the GS Finder; 10 seconds to AppleWorks GS. Sounds good doesn’t it? It is. That sizzling speed is achieved thanks to a high-quality internal tracking unit.*” Vulcan incorporates an ultra-fast 16-bit data bus controller, not the less expensive 8-bit others use.

Features? As Nibble Magazine said, “*AE drives support more operating systems and have more features in the supporting software.*” And Incider added, “*Applied Engineering has put together the most complete set of utilities to date for an internal hard drive that leads the market.*” And since Vulcan’s made by Applied Engineering, you’re assured of full compatibility with current and future AE products.

Power? Vulcan’s high-efficiency power supply is rated in excess of 70 watts, *nearly double* the capacity of other hard drives. The power supply components are heatsinked to the aluminum case for cool operation and long life. To harness all that power, Vulcan incorporates an ultra-quiet, flush mounted cooling fan, keeping the temperature inside the Vulcan, and inside your Apple lower than before.

Flexibility? Choose a Vulcan from 20, 40, 100 — all the way to 200 MEGs. Upgradeable Vulcan grows as your needs grow. And we don’t mean by daisy-chaining additional hard drives. When you upgrade Vulcan, you pop one out and *replace* it with another.

Only Vulcan lets you use virtually any operating system: GS/OS (v5.0 is included), ProDOS 8, DOS 3.3, CP/AM or Pascal 1.3. Vulcan supports them all with sixteen partitions

(access four simultaneously). Choose slot 1, 2, 4, 5, 6 or 7. Even pseudo-slot to slot 7 from elsewhere. Vulcan works on 110/220 VAC, even European 115/230 VAC at 50-60 Hz.

Ease of Use? Incider says, “*The true test of a hard drive lies in its ease of use and maintenance. In that respect, the Vulcan brings together a more complete package that any of its current competitors.*” Vulcan simply pops in; replacing the Apple power supply under your computer’s hood. Our built-in firmware automatically installs itself as a Desk Accessory for write protection and partitioning. The software we provide lets you easily park heads, back up and reformat.

Order today! To order or for more information, see your dealer or call (214) 241-6060 today, 9 am to 11 pm, 7 days.

AE Applied Engineering®

The Apple enhancement experts.

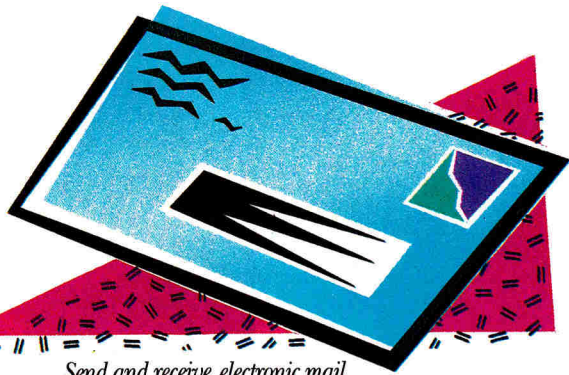
A Division of AE Research Corporation.

(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.

Now \$4.95 Stops The Clock



Send and receive electronic mail

Learn from
our online encyclopedia



Get top news
and weather reports



Enjoy lively sports talk

Play single
player games



Laugh at
the latest jokes



Exchange leisure time tips



Cover
legal topics

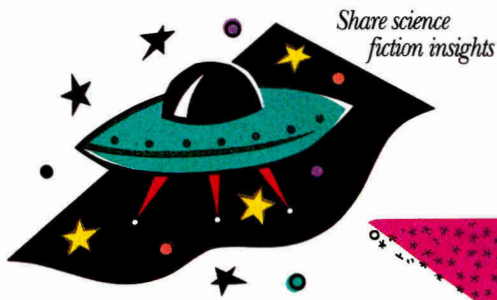
For the first time ever, enjoy unlimited non-prime time* usage of many popular GENieSM Service features. For just \$4.95 a month. Choose from over 100 valuable services including everything from electronic mail and stock closings to exciting games and bulletin boards. Nobody else gives you so much for so little.

JUST \$4.95

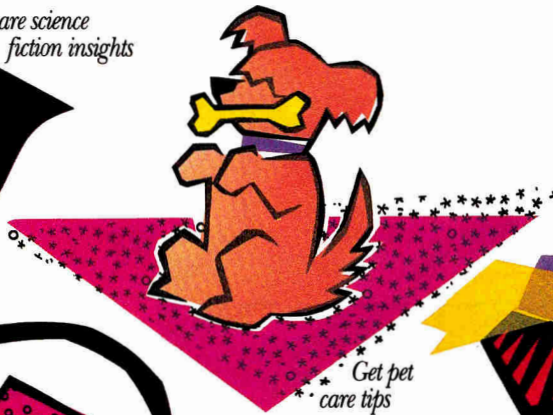
Moneyback guarantee
Sign up now. If you're not satisfied after using GENie for one month, we'll refund your \$4.95.

You can also enjoy access to a wide variety of features like software libraries, computer bulletin boards, multi-player games, Newsbytes, and the Computer Assisted Learning Center (CALC) for just \$6 per non-prime hour for all baud rates including 2400. That's less than half of what some other services charge. Plus with GENie

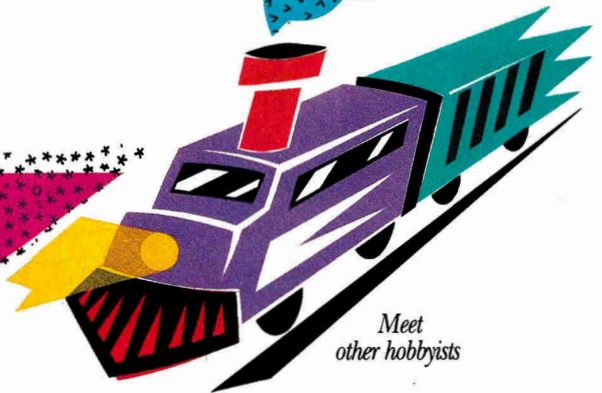
On Over 100 GENie Services.



Share science fiction insights



Get pet care tips



Meet other hobbyists



Shop over 25 popular stores



Check current stock closings



Discuss medical issues

Book flights with EAAasy Sabre



Catch movie news and reviews

there's no sign-up fee.

Now GENie not only gives you the information and fun you're looking for. But the time to enjoy them, too.

Sign up today.

Follow these simple steps.

1. Set your modem for half duplex (local echo), at 300, 1200 or 2400 baud.

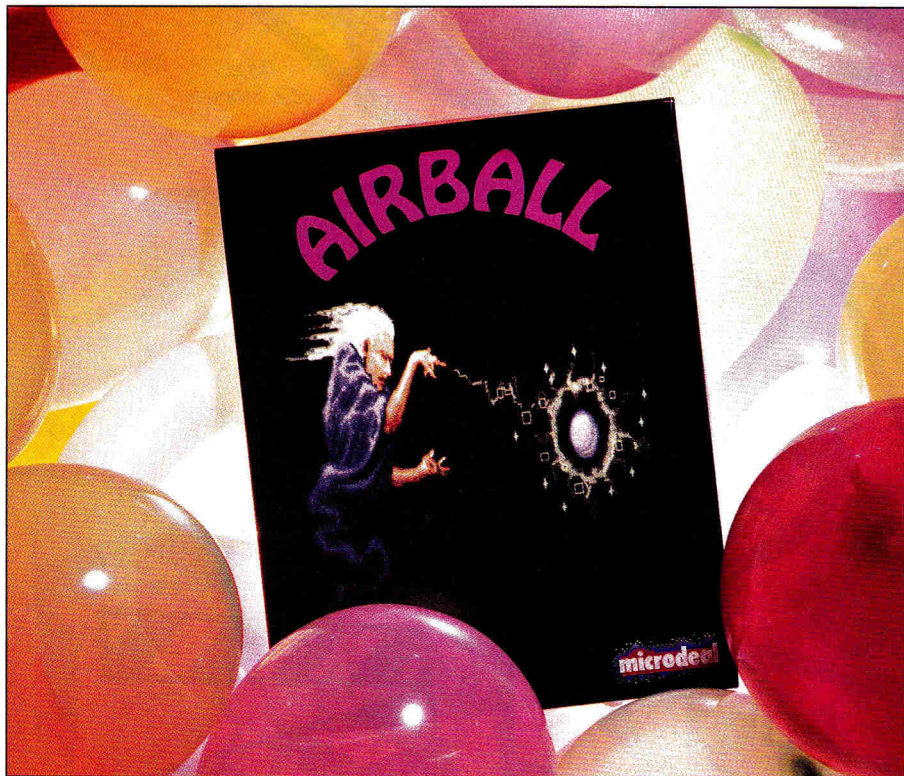
2. Dial toll free 1-800-638-8369. Upon connection, enter HHH.
3. At the U#=prompt, enter XTX99505,GENIE then press RETURN.
4. Have a major credit card or your checking account number ready.

For more information in the U.S. or Canada, call 1-800-638-9636.



We bring good things to life.

GAME ROOM

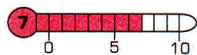


AIRBALL

MICRODEAL,

576 SOUTH TELEGRAPH, PONTIAC, MI 48053, (313) 377-8898

Arcade action; 768K Apple IIs, 3.5-inch disk drive; joystick optional; copy protection; \$39.95



Along with all those bits of age-old wisdom you learn when you're a kid — such as “Don't take any wooden nickels” and “Look both ways before you cross the street” — should be “Don't anger any evil wizards.” For if you do, you may end up as an airball. That's what you've done in *Airball* — angered the evil wizard by trespassing in his castle. In your new

form, you have to roam through his domain in search of clues and the spellbook that will help you turn yourself back into a human being.

You start off on top of a pump as you're filled up with air, but don't stay there too long or you'll burst. All the while, your air is leaking out, so don't waste too much time before you find another pump. The

yellow bar at the bottom of the screen shows you how much air you have left until you have to get a refill. The phrase “getting some air” has never been more important to your survival.

Some of the wizard's 250 rooms are simply tiny corners you can breeze through in an instant; others have convoluted stairways and dropoffs, while still others are bristling with spikes and various similar hazards that can immediately let the air out of your journey. Watch the “killer pads” on the floor, too. If you run into one of them, you'll burst and end up flailing across the room like an untied balloon. You do have a few lives to play with, but not that many considering how far you have to go — so exercise some caution.

The action is similar to that in *Accolade's* *Bubble Ghost* — but instead of assuming the persona of a ghost blowing a bubble



One wrong move and — poof!

through a maze, you *are* the bubble.

It's a lame pun, but I have to say it — *Airball* is a ball, and the graphics images are spectacular and detailed. (Hey, I could have said bumping into one of the spikes is a blast.) You'll be spending some serious time bouncing around looking for that magic spellbook.

Lafe Low
inCider staff

"It's a dynamite little modem. Now there is no excuse not to go to 2400 bps." *PC Magazine* 6/28/88

"Real bargains ... operated at least as well as higher priced competitors, and throughput ... proved identical." *CompuServe Magazine* 1/90

"DYNAMITE LITTLE MODEM."

JOHN C. DVORAK
PC MAGAZINE
6/28/88

"Get one!" *MacInTalk* 6/89

"It performed as well as a much more expensive modem." *AmigaWorld* 10/89

"It's inexpensive, Hayes™-compatible, and works fine." *Macworld* 11/88

"I can highly recommend the Supra 2400 modem as providing excellent value for the price." *ST Informer* 2/88

"The SupraModem 2400™ has the multiple benefits of Hayes compatibility, reliability, affordability, and compact physical size." *A+ Magazine* 7/88

"The SupraModem 2400 remains the best buy among the low-cost modems examined here." *inCider, The Apple II Magazine* 1/89

"The notably small package, virtually indestructible case, front panel switch, and clear speaker combined with a very attractive price ... make this modem a keeper here." *Denver PC Boardwatch* 7/88

"The SupraModem is a fantastic deal." *ST-Log* 7/88



SupraModem 2400™

SupraModem 2400™ \$149.95
external for virtually all computers

NEW! SupraModem 2400 Plus™ \$199.95
external with MNP 5 & V.42bis
for virtually all computers

SupraModem 2400i™ \$119.95
internal with software
for IBM™ PC & compatibles

SupraModem 2400zi™ \$179.95
internal for the Amiga® 2000

Available from your local dealer, or call:

 **Supra Corporation**
1-800-727-8772

Circle 104 on Reader Service Card.

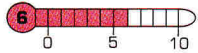
1133 Commercial Way, Albany, OR 97321, Fax: 503-926-9370, Phone: 503-967-9075

SupraModem 2400, SupraModem 2400i, SupraModem 2400zi, and SupraModem 2400 Plus are trademarks of Supra Corporation. Hayes is a trademark of Hayes Microcomputer Products, Inc. IBM is a trademark of International Business Machines Corp. Amiga is a registered trademark of Commodore-Amiga, Inc.

QIX GS

TAITO,
267 WEST ESPLANADE, NORTH VANCOUVER,
BRITISH COLUMBIA, CANADA V7M 1A5

Arcade strategy;
1-megabyte Apple IIGS; joystick optional;
copy protection: \$14.95



Qix is a more enjoyable game on the GS than it is on the 8-bit IIe or IIc. The keyboard interface is easier, colors are brighter, and Qix GS will play music in stereo if your machine has an appropriate card. The joystick interface is the same.

The point is to wall off as much space on screen as you can. All the while you're under attack from Spritzes and Sparxes, which look like the firecrackers they sound like. The Qix, the deadly computer virus that looks like a bunch of moving sticks, is also out to get you. Moving the joystick fast enough to get away from the Spritzes and Sparxes, reacting adroitly to the Qix's moves, and keeping a steady hand on the fire button and a sharp eye on the screen aren't enough to win. You'll also need a strategy — a flexible one, because the Qix

will learn from your mistakes as you play.

Arcade fanatics may be disappointed that they'll need to look away from the screen for a moment, stop murdering those aliens, and actually think about what they're doing. True strategists — chess players, for instance — may be put off by the need to coordinate hand and eye well enough to negotiate Qix's dangerous domain. True Qix aficionados will be arcade fanatics who also like a bit of strategy, and



The thinking person's
arcade-action game.

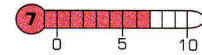
chess-playing strategists who also like to exercise their reflexes from time to time.

Paul Statt
inCider staff

SOLITAIRE: VOLUME II

COMPUTREK,
DISTRIBUTED BY GOLEM COMPUTERS,
P.O. Box 6698, WESTLAKE VILLAGE, CA 91360,
(800) 248-0363

Card play;
512K Apple IIGS; mouse, 3.5-inch drive;
no copy protection; \$34.95



When you play a game on your computer, the machine usually takes on the dual role of controlling the game environment and acting as an opponent. Any lawyer would agree that that's a conflict of interest of Congressional proportions. If you're tired of living and dying by an arbitrary pixel width or playing Admiral Lord Nelson against an omniscient Napoleon, what you need is a good game of solitaire.

Solitaire: Volume II is the follow-up to CompuTrek's Solitaire/Cribbage. While they look and feel similar, this is a whole new card game. Eight options include Klondike — one-card Vegas style (\$52 for



Strategy, stats, and plenty of variety
for serious solitaire buffs.

a new deck, with each foundation card paying \$5) or three-card Tournament style — plus variations that range from games of chance, like Patience, to complex strategy games such as Calculator, in which you build each foundation in a different order.

Volume II offers both solo play and tournament mode, in which up to four people can play using the same deck order, plus games-played and -won statistics so that you can wow your buddies or keep tabs on extended competition. Bonuses include an alarm clock, a quick redeal button, and a game summary for confused players.

No-frills graphics images are a minor frustration, but overall, Volume II is an enjoyable package — intriguing games in a sensible, unobtrusive environment. □

Cameron Crotty
inCider staff

COD's 665 West Jackson Street, Woodstock, IL 60098 Mon - Fri, 9-6 CST Orders: (800) 869-9152	Apple LRO Computer Sales AMEX Discover Inquiries: (815) 338-8685	School PO's Sat 12-5 CST FAX: (815) 338-8597
Hard Drives Stor-Mate 60 40ms HD \$ 489 Stor-Mate 80 26ms HD \$ 459 Stor-Mate 80 22ms ProDrive \$ 599 Stor-Mate 100 19ms ProDrive \$ 699 Stor-Mate 200 16ms ProDrive \$1279 Stor-Mate 330 18ms ProDrive \$1479 Chinook CT100 19ms Hard Drive \$ 799 CMS 60 Meg 40ms Hard Drive \$ 599 AE Vulcan 20 \$ 489 AE Vulcan 40 \$ 624 AE Vulcan 100 \$219	Product Spotlight InnerExpress: Speeds up Inner/OverDrives and Falcons 200%-300% \$84 Enhanced VisionPlus: Real time video digitizer (Visionary) \$249 Emerald Visions: Full-screen 16, 256, 3200 color paint program \$79 Quickie HandScanner II+/IIe/IIGS \$197 Salvation Series Guardian \$ 29 Renaissance \$ 29 Exorciser \$ 24 Wings \$ 57	Memory and Expansion NCS-GS RAM Expansion Board: 0k \$ 79 1 Meg \$129 2 Meg \$190 4 Meg \$319 GS-4 Memory Expansion Board: 0k \$ 54 1 Meg \$104 Add \$65 per additional meg Chinook RAM-4000: 0k \$ 79 Add \$64 per add'l Meg AE GS RAM+: 1 Meg \$185 2 Meg \$250 Add \$64 per additional meg OctoRAM- GS SIMM Expansion Board: 0k \$119 Add \$65 per add'l Meg GS-Sauce SIMM Exp Board from Harris Labs: 0k \$ 84 1Meg \$160 2 Meg \$229 4Meg \$355 Ram Express II w/ 256k (IIc+) \$180 Add \$20 per 256k bank RamWorks III w/ 256k (IIe) \$121 Add \$20 per 256k bank 1 Meg 80ms Apple IIGS Exp. Kits \$64.50 1 Meg 80ms SIMM Module for GS-Sauce or OctoRAM \$ 69 256k 100/120ms Apple Exp. Kits \$ 19 256k X 4 100ms GS-RAM \$17.50 Ultra Kits
Hardware ThunderScan IIe/IIGS \$149 Apple MIDI interface \$ 89 AE Audio Animator \$179 AE Sonic Blaster \$ 92 AE RAM Keeper \$159 AE Transwarp GS \$278 Zip IIe 8 MHz/Zip GS 8MHz \$154/\$259 AE PC Transporter with 768k \$289 GS Installation kit/IIe Inst. kit \$ 39/\$ 29 8087 Math Co-Processor \$189 AE Converter GS Fan/Surge Protector \$78 AE IIe/II+ Power Supply/IIGS \$ 64/\$ 79 Trackstar for your IBM or PC compatible. Allows running Apple (8 bit) programs \$379	GS Numerics: full-feature math program \$104 RamFast: DMA SCSI with 256k \$187 Modems Cardinal 2400bps DSP modem \$109 Zoom 2400bps External \$115 US Robotics Courier IIST 14.400bps \$589 US Robotics Courier IIST/V.32 DS 14.400bps \$989 IIGS Systems Apple IIGS: 1 meg CPU, keyboard, and mouse \$859 Apple IIGS RGB Color Monitor \$469 Apple IIGS 3.5" Drive \$323 Apple ImageWriter II with 32k buffer \$459 HP DeskJet+ Call for best price Tech support: (815) 338-8685	All RAM is new and backed by 5 year warranty. Don't be confused by speeds. The smaller the speed value, the faster the chip!
No surcharge for Visa/MasterCard. Add 4% for American Express. COD charges \$3.75. IL residents add 6.5% Sales Tax. Free upgrade to UPS Blue Air service with faxed order. We'll match any advertised price or ship UPS Blue at no cost!		

Circle 44 on Reader Service Card.

INCLUDES A MONEY BACK GUARANTEE

NEW! VERSION 3!

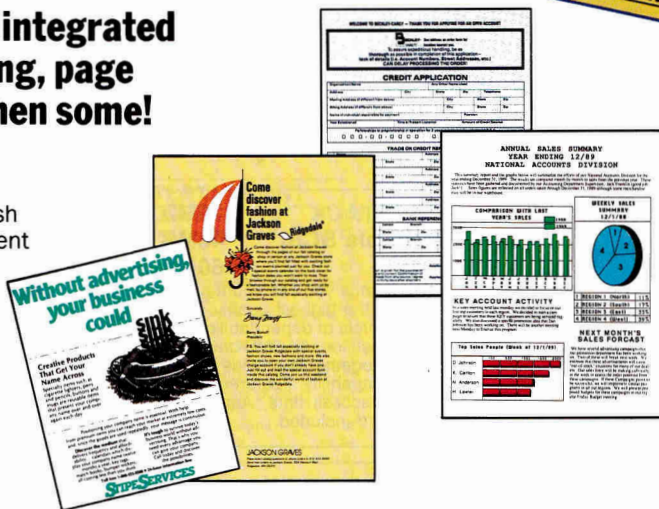
"★★★★★"
InCider
"The Star Performer"
Nibble

Publish-It! 3

"Excellent!" Home
Office Computing
"A Real Winner!"
Personal Publishing

PUBLISH IT! 3—A full-featured, fully integrated desktop publisher with word processing, page layout, typesetting, graphics—and then some!

For all its state-of-the-art ability, *PUBLISH IT! 3* is incredibly easy to learn. *PUBLISH IT! 3* combines the familiar Macintosh User Interface, our Quick-Start Mini-Manual, a full complement of Help Screens, and the practical **WYSIWYG (What-You-See-Is-What-You-Get)** display—all designed to get you up and running in less than one hour!



New Version 3.0 Features:

- **Creates & Prints Color Documents:** Add a color ribbon to your Image-Writer—or any other printer with color capability—and your documents now print out in color!
- **Improved Operation:** Faster keyboard response time; a GOTO page command; improved graphics importing capability; enhanced layout tools.
- **Expanded PostScript Support:** Allows you to work with PostScript commands and print PostScript files to disk.
- **AppleWorks 3.0 Compatibility**
- **Imports Super Hi-Resolution Graphics** from popular drawing programs.
- **PrintShop IIGS Graphics Support**
- **Cut, Copy & Paste Groups:** Automatically moves or copies groups of objects within your document.
- **Custom Guides** make it even easier to position text & graphics.

- **Built-in Fonts:** Choose from over 1280 possible type-style combinations! Opt for bold, white, italic, underlined, outlined, shadow, & superscript or subscript characters. Type sizes range from 9 to 72 point.
- **Premium Quality Printouts:** *PUBLISH IT! 3* uses a special high density (72 x 120) printout format that gives you superior quality printouts on your dot matrix printer.
- **Built-in Word Processor:** All the features necessary for everyday word processing, plus most of the sophisticated ones found in more expensive programs.
- **Text Importing:** Load documents from APPLEWORKS, BANK STREET WRITER* or any other program with an ASCII format.

- **Built-in Graphic Toolbox:** Draw lines, boxes, circles, rules and more. Plus, choose from a wide variety of built-in line and fill patterns, or create your own.
- **Graphics Importing:** Directly import and resize graphics and illustrations from any standard Apple double-high-resolution drawing and graphics programs—including PRINTSHOP and DAZZLE DRAW.* Then crop and size them to fit.
- **Kerning and Leading**
- **Automatic Text Flow and Word Wrap:** Flows text from column to column, or page to page.

- **Includes over 200 Professionally Drawn Graphics & Illustrations**

For Apple IIe (enhanced), IIc, IIc Plus, IIGS, and Laser Computers.
Suggested Retail Price... **\$149.95**
Update from *PUBLISH IT! 2*... **\$29.95**
(For current *PUBLISH IT!* owners only!)

Additional Features:

- **Macintosh User Interface:** Pull-down menus, icons, scroll bars and dialogue boxes help you learn and use the program quickly. Your display screen shows you exactly what your final product will look like when you print—**What-You-See-Is-What-You-Get**.
- **Flexible Page Layout:** With your mouse or joystick, and keyboard, you can overlap, reposition, resize, and reshape the text, columns & graphics. Change your layout or experiment—almost effortlessly!

For Apple IIe (enhanced), IIc, IIc Plus, IIGS, and Laser Computers. Also supports Apple IIGS fonts.

At your dealer, or order from Timeworks. Send in this coupon, or call Customer Service:
1-708-948-9202 FAX: 1-708-948-7626

YES! Send me PUBLISH IT! 3.
I've enclosed \$129.95 + \$4.70
(postage and handling). Total: \$134.65

Update me from PUBLISH IT! 2 to PUBLISH IT! 3. I've enclosed the **TITLE PAGE FROM MY MANUAL, and \$29.95 + \$4.70 (postage and handling). Total: \$34.65**

Update me from PUBLISH IT! 1 to PUBLISH IT! 3. I've enclosed the **TITLE PAGE FROM MY MANUAL, and \$34.95 + \$4.70 (postage and handling). Total: \$39.65**
Illinois residents, please add 6.5% sales tax.

Disk Size: 5¼" 3½"
Payment: Check Visa
 MC Amex

Card Number _____

Signature _____

Exp. Date _____

Name _____

Address _____

City/State/Zip _____

Mail to:

TIMEWORKS

Customer Service Dept.

444 Lake Cook Rd., Deerfield, IL 60015-4919

1-708-948-9200

*Reg. Trademarks of their respective companies. ©1988 Timeworks, Inc. All Rights Reserved.

GOLEM COMPUTERS

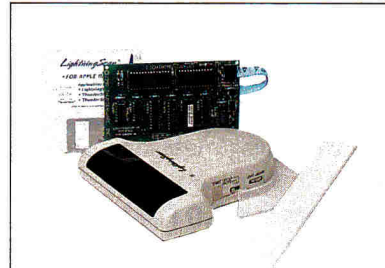
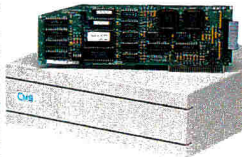
PRESENTS

Hot Deals!

WE WON'T BE UNDERSOLD!
BEST BUYS FOR
BACK TO SCHOOL

MACSTACK 20MB \$460.
w/ Apple SCSI 40MB \$575.
CMS 60MB \$680.

Performance you can count on. CMS drives use only the highest quality components to deliver levels of dependability unequaled by the competition. All CMS drives can be daisy chained together to provide almost unlimited storage capability. Features auto park, 32ms average access time, Apple's High speed SCSI Card included.



LIGHTNINGSCAN GS \$199.
THUNDERWARE

LightningScan GS can open the door to a whole new dimension of creativity with your Apple IIGS. LightningScan turns any printed image into a high-resolution graphic. It's as easy to use as a mouse. Can scan any flat surface instantly.

TELINK
GOLEM

\$149.

Telink is a reliable, easy-to-use, low-cost 2400 baud Hayes-compatible modem. compare the Telink to any other modem on the market. You won't find a better value at any price. We've taken the best technology, and rolled it all into a neat package, with every AT Command, every Hayes Dial Command and S-Register support. Also includes on board non-volatile memory.



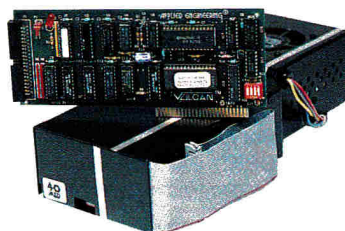
VULCAN

20MB \$499.

40MB \$649.

APPLIED ENGINEERING

Vulcan high-speed internal hard disks for the IIGS, IIe, II+ and II, combine a wide range of upgradeable sizes with the speed and power lacking in other systems. The result? A quantum leap forward into the Apple II future. A reliable and affordable way to store massive files while speeding up booting time.



SOLITAIRE II \$35.
SOLITAIRE/CRIBBAGE \$35.

COMPUTREK

Eight new and exciting games of solitaire. Super fast loading, pull down menus, help screens, instant replay button, re-deal with same hand, and much more.

MEMORY & INTERFACE

APPLE SCSI Card	109
APPLIED ENGINEERING Transwarp GS	289
Audio Animator	178
Ram Works III 512K (Ile)	159
Ram Works III 1MB (Ile)	207
GS-Ram PLUS 1MB	220
GS-Ram PLUS 2MB	310
GS-Ram Ultra 1MB	229
Z Ram Ultra 2 - 512K (Ile)	219
Ram Express II 512KB (Ile+)	147
Ram Express II 1MB (Ile+)	240
PC Transporter 768K	289
Installation Kit (IIGS)	37
Installation Kit (Ile)	31
RamKeeper	161
Sonic Blaster	95
CHINOOK Ram 4000GS 1MB	149
Ram 4000GS 2MB	219
Ram 4000GS 4MB	359
DIGITAL VISION Computer Eyes (IIGS)	195
Computer Eyes (Ile)	116
MEMORY Dram	Call
THIRDWARE Fingerprint GSI (IIGS)	90
Lightning Scan (IIGS)	199

HARD/FLOPPY DISK DRIVES

AMERICAN MICRO	
3 1/2 Drive (Daisychain IIGS, IIc+)	187.

5 1/4 Drive (Daisychain IIGS, IIc+)	145.
GS Partner 45MB w/SCSI	620.
GS Partner 60MB w/SCSI	740.
GS Partner 80MB w/SCSI	799.
Removable 45MB Hard Drive	845.
45MB Cartridge	99.
APPLIED ENGINEERING	
Vulcan Hard Drive 20MB	499.
Vulcan Hard Drive 40MB	649.
5 1/4 Drive (Ile/Ile, IIGS)	111.
3 1/2 Daisychainable Drive (Ile/IIGS/IIc+)	205.
Trans Drive Dual	286.
Trans Drive Single	195.
LASER COMPUTER	
External Disk Drive (5 1/4" Laser)	90.
External Drive (5 1/4" IIc/Ile)	95.
External Disk Drive (3 1/2" Laser)	185.
Universal Disk Controller	45.
External Disk Drive (5 1/4 Daisy, IIGS)	125.

MODEMS

APPLIED ENGINEERING Datalink 2400	170.
Datalink Express Ext. w/soft	183.
MNP Option (For Datalink Exp.)	66.
GOLEM Telink 2400 Ext.	99.
Telink 2400 w/ soft & cable	149.

COMPUTERS

LASER COMPUTER Laser 128E	349.
Laser 128EX	389.

Laser 128EX/2 (5 1/4" Drive)	419.
Laser 128EX/2 (3 1/2" Drive)	449.

MONITORS

LASER COMPUTER	
Amber, Green Monitor	ea. 99.
MAGNAVOX	
RGB/Composit (CM8762)	285.

ACCESSORIES

APPLIED ENGINEERING Converter	73.
GS Power Supply	75.
BLANK MEDIA (Bulk)	
CH PRODUCTS Flight Stick	50.
Mach III w/fire Button (Ile/Ic, IIGS)	ea. 34.
KENNINGTON System Saver (IIGS)	69.
Turbo Mouse ADB (IIGS)	115.
Anti-Glare Filter (IIGS)	34.
KURTA IS/GS Tablet w/Stylus	258.
LASER COMPUTER Mouse	45.
Expansion Box	55.
Cables - Parallel, Serial, RGB, Modem	ea. 16.
ORANGE COUNTY SPEAKERS	
Stereo Computer Amplifier	130.
Stereo Computer Amp/JBL Cont.1 speaker	299.
PASSPORT DESIGN MIDI Interface IIGS	92.
RIBBONS Imagewriter II, (4 Colors)	8.
Imagewriter (Black, Red, Brown, etc.)	ea. 5.
VITESSE Quickie (IIGS, Ile)	199.

PRINTERS

APPLE Imagewriter II	459.
LASER COMPUTER	
190A (ImageWriter I Compatible, Serial)	235.
PANASONIC KX P1124 (80cps/24pin)	325.
KX P1180 (192 CPS/38 cps NLQ)	195.

EDUCATION

BARRON'S Study Program For SAT V2.0	32.
BRITANNICA Jigsaw (IIGS)	25.
Algebra 1, 1st Sem., 2nd Sem.	ea. 32.
BRODERBUND Science Tool Kit	49.
Science Tool Kit Module 1, 2, 3	ea. 26.
VCR Companion	33.
Where in Europe, Where in USA	ea. 27.
Where in World (IIGS), Where in time	ea. 29.
Where in the World	24.
Geometry (IIGS)	57.
The Play Room (Ile, 3 1/2)	23.
Where in USA (IIGS)	30.
DAVIDSON & ASSOCIATES	
Read & Roll, Word Attack Plus	ea. 32.
Word Attack Plus - Spanish, French	ea. 32.
Math & Me (IIGS), Reading & Me (IIGS)	ea. 32.
Spell It Plus, Grammar Gremlins	ea. 32.
Math Blaster Mystery	ea. 32.
Math Blaster Plus, Alge Blaster Plus	ea. 32.
DESIGNWARE The Body Transparent	25.

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!
RAM 4000GS 2MB
CHINOOK
\$219.

- Designasaurus (IIGS), Revolution 76 (IIGS) ea. 32
- ECLAT Geographic Jigsaw 27.
- ELECTRONIC ARTS**
- Mavis Beacon Teaches Typing (IIGS) 32.
- Mavis Beacon Teaches Typing (Ile/Ilc) 25.
- FIRST BYTE** (for IIGS) (768K Req.)
- Mailtalk, First Shapes, Kidtalk ea. 27.
- Speller Bee, Smoothtalker ea. 27.
- Mailtalk Fractions, First Letter & Words ea. 27.
- HARCOURT, BRACE, JOVANOVICH**
- Computer Prep for the SAT 26.
- LAWRENCE PRODUCTIONS**
- McGee (IIGS), Kates Farm ea. 27.
- MECC** World Geograph (IIGS) 56.
- U.S. Geograph (IIGS) 56.
- Oregon Trail 27.
- PYWARE** Music Writer Level 1 (IIGS) 80.
- Music Writer Level 2 (IIGS) 200.
- Music Writer Level 3 (IIGS) 400.
- STUDYWARE**
- Computer Preparation SAT, GRE, ACT ea. 33.
- Principles of Biology, Calculus ea. 33.
- Principles of Chemistry, Physics ea. 33.
- Principles of Economics, Statistics ea. 33.
- THE LEARNING COMPANY**
- Reader Rabbit (IIGS) 36.
- Writer Rabbit, Think Quick ea. 30.
- Math Rabbit, Reader Rabbit ea. 20.
- Children's Writing Publishing Center ea. 36.
- WEEKLY READER** Sticky Bears - ABC's, Basketbunch, Bop, Math, Math II, Numbers, Shapes, Opposites, Reading ea. 24.
- Sticky Bears - Basics, Drawing, Music, Music Library, Parts of Speech, Printer, Reading Comprehension, Spellgrabber, Town Builder, Typing, Word Problems ea. 30.
- Car Builder, Codes & Hyphens, Exploring Tables & Graphs-Level I, II, Map Skills, Math Word Problems, Punctuation Rules, Reading Comprehension, Vocabulary Devel. ea. 30.
- Shapes (Talking, IIGS) 30.
- Opposites (Talking, IIGS) 30.
- ABC's (Talking, IIGS) 30.

UTILITY/LANGUAGE

- APPLIED ENGINEERING** Ready Link 71.
- BEAGLE BROS.** Timeout Graph 52.
- Designworks Accessories (IIGS) 35.
- Timeout-Supertonts, Telecom ea. 45.
- GS Font Editor 31.
- Performance Pack 73.
- Style Pack 86.
- Decision Pack 99.
- BIG RED COMPUTER** PS Lovers 27.
- Labels, Labels, Labels 27.
- BYTE WORKS** ORCA/C, Pascal (IIGS) ea. 80.
- ORCA/Desktop (IIGS), ORCA/AM 1.1 39.
- Design Master 59.
- CENTRAL POINT** Copy Two Plus 25.
- DATASMITH** Nexus (IIGS) 80.
- GLEN BREDDON** ProSel 16 54.
- ProSel 8 37.
- INSYNC** Proterm 82.
- Q LABS** Easy Drive 39.
- Repair Works, SuperPatch, Ramup ea. 30.
- ROGER WAGNER** Hyper Studio (IIGS) 89.
- SEVEN HILLS** Font Factory GS 27.
- VITASSE** Exorciser (IIGS) 27.
- Renaissance (IIGS), Guardian (IIGS) ea. 32.
- Wings (IIGS) 53.

HOME/PERSONAL

ABRACADATA Design Your Own Home

- Architecture (IIGS), Interior (IIGS) ea. 59.
- Landscape (IIGS) 59.
- Libraries ea. 22.
- ACTASOFT** Alpha Check 32.
- BEAGLE BROS.** Beagle Draw GS 53.
- Beagle Draw GS Clip Art 31.
- BRODERBUND** The New Print Shop 31.
- The Print Shop (IIGS) 40.
- The Print Shop Library (IIGS)- Sampler, Party ea. 23.
- The Print Shop Library 1, 2, 3 ea. 15.
- ELECTRONIC ARTS** Instant Synth. (IIGS) 56.
- Delux Paint II/Delux Write II (IIGS Combo) 57.
- INTUIT** Quicken 39.
- MECA** Managing Your Money 33.
- MECC** Calendar Crafter 33.

BUSINESS

- BEAGLE BROS.** BeagleWrite GS 62.
- BeagleWrite Font Library GS 25.
- AppleWorks 3.0 Companion 27.
- BRODERBUND** Bank Street Writer Plus 47.
- CLARIS** Appleworks GS V1.1 195.
- Appleworks V3.0 170.
- MANZANITA** Payroll 109.
- Business Works (ProDos) 267.
- SENSIBLE SOFTWARE** Sensible Speller 68.
- Sensible Grammar Checker 55.
- SEVEN HILLS** Graphics Writer III GS. 85.
- TIMEWORKS** Graph It 74.
- Publish It 3 47.
- Font Pack I, II, Symbols & Slogans, People, Places & Things ea. 27.
- 4 in 1 Portfolio 80.
- Design Ideas, Education ea. 27.
- WORDPERFECT** Wordperfect (IIGS) 110.

ENTERTAINMENT

- ACCOLADE** Grand Prix Circuit (IIGS) 30.
- Blue Angels (IIGS), Fast Break (IIGS) ea. 32.
- The Third Courier (IIGS) 32.
- Jack Nicklaus Golf (IIGS) 32.
- Test Drive II (IIGS), Hardball (IIGS) ea. 30.
- California Challenge (IIGS) 16.
- The Super Cars (IIGS), Muscle Cars (IIGS) ea. 16.
- European Challenge (IIGS) 30.
- 4th & Inches, Serve & Volley (IIGS) ea. 27.
- ARTWORX** Strip Poker (IIGS) 27.
- BRITANNICA** Task Force (IIGS) 57.
- Gnarley Golf (IIGS), Laser Force (IIGS) ea. 20.
- Great Western Shoot-Out (IIGS) 32.
- BRODERBUND** Dark Hart of Uukrul Wings of Fury, Prince of Persia Ancient Land of YS (IIGS) 30.
- Ancient Art of War at Sea Centauri Alliance (5 1/4") Downhill Challenge (IIGS) 27.
- CALIFORNIA DREAMS** Blockout (IIGS) 27.
- Vegas Gambler (IIGS) 47.
- Tunnels of Armageddon (IIGS) 195.
- CASADY & GREENE** Crystal Quest (IIGS) 109.
- CINEMAWARE**
- Defender of the Crown (IIGS) 267.
- COMPUTREK** Solitaire Vol. II (IIGS) 68.
- Solitaire/Cribbage (IIGS) 55.
- Solitaire, Gin Rummy (Ile) 85.
- ECLAT** Fractal Explorer 74.
- ELECTRONIC ARTS** Bard's Tale (IIGS) 27.
- Reach for the Stars (IIGS), Zany Golf (IIGS) ea. 27.
- Bard's Tale II (IIGS) 80.
- Bard's Tale II, III ea. 27.
- Hunt for Red October (IIGS) (Ile,Ilc) 110.
- John Madden Football (Ile/Ilc) 110.

- Keef the Thief (IIGS) 17.
- Halls of Montezuma (IIGS) 30.
- Chessmaster 2100 (Ile/Ilc, IIGS) ea. 32.
- Life & Death (IIGS) 32.
- Star Saga I, II, (Ile, IIGS) ea. 33.
- F.T.L. Dungeon Master (IIGS) 27.
- MEDIAGENIC/ACTIVISION**
- Neuromancer (IIGS), Battlechess (IIGS) ea. 30.
- MICRO REVELATIONS** Xenocide (IIGS) 30.
- MINDSCAPE** Balance of Power (IIGS) 32.
- Captain Blood (IIGS), Hostage (IIGS) ea. 30.
- ORIGIN** Omega (IIGS), Space Rogue ea. 32.
- PELICAN** Pow! Zap! Kerplunk! 29.
- SIERRA** ON-LINE King's Quest I, II, III, IV ea. 31.
- Gold Rush (IIGS), Black Cauldron (IIGS) ea. 27.
- Thexder (Ile/Ilc, IIGS) ea. 24.
- King Quest I, II, III, IV (IIGS) ea. 32.
- Space Quest I,II (IIGS) ea. 32.
- Police Quest (IIGS), Manhunter NY (IIGS) ea. 32.
- SPECTRUM** Tetris (Ile, IIGS) ea. 25.
- SSI**
- Adv. D & D - Pool of Radiance (IIGS) 32.
- Adv. D & D - Pool of Radiance (Ile/Ilc) 30.
- Adv. D & D - Curse of Azure Bonds (Ile/Ilc) 30.
- Adv. D & D - War of the Lance (Ile/Ilc) 30.
- Adv. D & D - Dungeon Master Asst. I, II ea. 30.
- Adv. D & D Champion of Krynn 32.
- SUBLOGIC** Flight Simulator II 30.
- TAITO** Arkanoid II (IIGS) 24.
- Qix (IIGS), Rastan (IIGS) ea. 24.
- THREE-SIXTY SOFTWARE**
- Dark Castle (IIGS) 30.
- Warlock (IIGS) 28.
- VICTORY SOFTWARE**
- 2088: The Crylan Mission (IIGS) 34.
- VIRGIN MASTERTRONICS** Clue, Risk ea. 27.
- War in Middle Earth (IIGS) 32.

n e x u s

NEXUS ("noun, a linked list") is revolutionary new software from the folks at dataSmith. It lets you quickly link your standard text and graphics files **WITHOUT CHANGING** those files! Click on a word, then click on the file you want it linked to. Now when you click on the word again, NEXUS displays the linked file automatically! Linking graphic files is just as simple.

Use NEXUS to link text and graphics created with your word processor and paint program. You never need to re-enter data, add fields, define buttons, or learn complex programming languages; just click and go! Since NEXUS **NEVER** changes your original files, you can edit them to your heart's content!


Editor's Choice
Aug. 1990
—A+ /Incider

\$80.

"...incredible power"
"Better than Apple's Hypercard..."

THE NEXT GENERATION OF HYPERMEDIA

Link, Text, Graphics & Sound



FOR CUSTOMER SERVICE AND INQUIRIES 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, American Express and C.O.D. welcome. Personal and company checks, allow 10 working days to clear. Specify computer type, if to back order or to send refund. California residents add 6.25% 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: Continental U.S. - Software: add \$5.00. 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).

INTERNATIONAL ORDERS WELCOME **ORDERS ONLY 800-248-0363 FAX (805) 498-7689**
ALL ITEMS SUBJECT TO AVAILABILITY. PRICES AND STIPULATIONS SUBJECT TO CHANGE WITHOUT NOTICE. SCHOOL PO's WELCOME
Mon.-Fri. 7am-6pm / Sat. 9am-4pm Pacific Time 1111 Rancho Conejo Blvd., #407 • Newbury Park, CA 91320

TAKING CARE OF BUSINESS

Hang out your shingle and put that *Open* sign on the door — with an Apple II on staff your small business will be ringing up profits in no time.

SUBSTITUTING A COMPUTER FOR THE clutter of a small-business office's typewriter and adding machine has helped many an entrepreneur balance the books, compile mailing lists, and write letters. Although some "tunnel visionaries" claim that the Macintosh or the IBM PC is the only way to go, the six Apple II users profiled here by Contributing Editor Cynthia E. Field prove otherwise.

The Mac and MS-DOS crowd would have you believe that we Apple II buffs are still saving programs on cassette tape or fighting the 48K memory barrier. In reality, however, an impressive number of Apple II folks have succeeded in running a wide variety of public and private

businesses with assorted Apple II hardware enhancements and software products. In fact, some people make their Apple IIs an integral part of *what* they do, as well as *how* they do it.

Three of the businesspeople interviewed for this article use 16-bit IIGses — after all, the machine has super-hi-res and full-color capabilities, a graphics-based user interface, digitized sound generation, and laser-printer support. The others use the 8-bit IIE or II Plus, older models with hundreds of software packages available in all areas of productivity (as well as entertainment and education, for those after-5 pursuits).

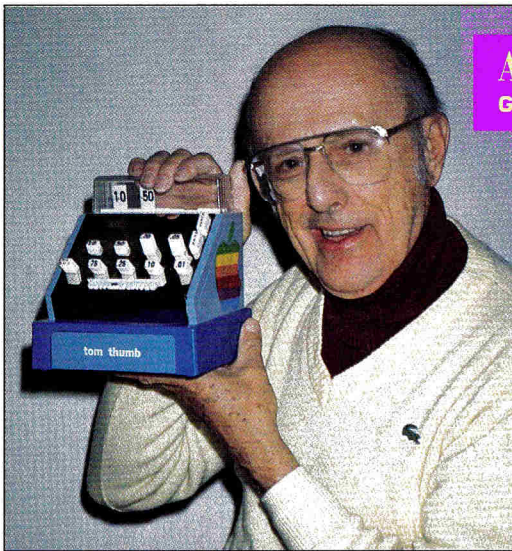
Don't forget that the Apple II's roots are deep in the small-business community — VisiCalc, the

Continued on p. 48

By the inCider staff

AUTHOR, AUTHOR

George and Kurt Herman, ComMedia Inc., Portland, Oregon



"IT'S KEPT MY KIDS IN SHOES," laughs playwright George Herman, who together with his son Kurt runs ComMedia Inc., a theatrical publishing company. Schools and colleges pay them royalties to put on plays — such as "Fraidy Cat," based on a Grimm's fairy tale.

The elder Herman, a college professor for 12 years and a retired

Hawaii State Department of Education administrator, ran the ComMedia Repertory Theater on the islands. Now, some of his plays are distributed by the Samuel French Publishing Company, but many are self-published by ComMedia.

"Like father, like son," both George and Kurt have Apple IIcses. George uses **AppleWorks GS** word processor to write plays; Kurt, a theater technician by trade, desktop-publishes the plays with the program's page-layout module. The Hermans create

artwork with **Paintworks Gold** and illustrate each script before producing laser-printed masters. Final versions are copied and pack-

aged in a plastic-comb binder.

"I also write music on the GS," George Herman adds. "With a keyboard, I can compose directly on computer with **Pyware Music Writer**. The program supports more than 15 staves, so I can do



some degree of orchestration."

With the Apple IIcs at their fingertips, this father-and-son team is a tough act to follow.

A NEW PERSPECTIVE

Ann Robinson, Ann's Transcription Service, Magalia, California

FOR BUSINESSWOMAN ANN Robinson, being successful and being self-sufficient are equally important. Robinson, who's been visually impaired since her teens, works with area medical facilities as a self-employed medical transcriptionist. Each workday when the hospital calls, Robinson picks up the dictation tapes and transcribes them in her home.

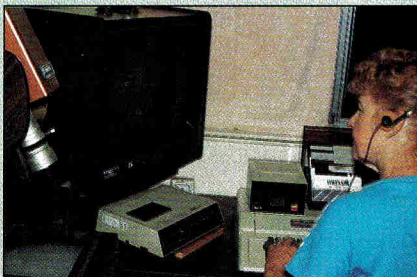
Her husband, Bill, a program-

ming consultant and owner of Paradise Custom Programs for Computer, designed the assistive hardware system that Robinson calls her "new pair of eyes." Using Telesensory's **Large Print Display Processor** and focusing a closed-circuit TV camera with a magnifying lens on an Apple II Plus monitor, Robinson sees each character 15 times larger than usual. Then she views and edits her work on a second monitor displaying 2-inch-high words. The system also requires a word processor whose cursor stays at the center of the computer screen, within the focus field of the camera: **Magic Window** fills the bill.

Robinson types a day's work, edits it, then runs it



through **Sensible Speller's** spell checker. At the end of the day, she prints everything on her Qume letter-quality printer. We're not surprised that the hospital turned this temporary assignment into a full-time proposition — giving birth to yet another Apple II-based business.



ALL IN ONE

John B. Wilson, Monsanto Chemical Co., St. Louis, Missouri

THE NEXT TIME YOU HEAR THE Pillsbury doughboy giggle in a TV commercial, think of John Wilson and his souped-up Apple II Plus. Wilson's job as production planning supervisor for the detergent and phosphates division of Monsanto Chemical Co. (which among other

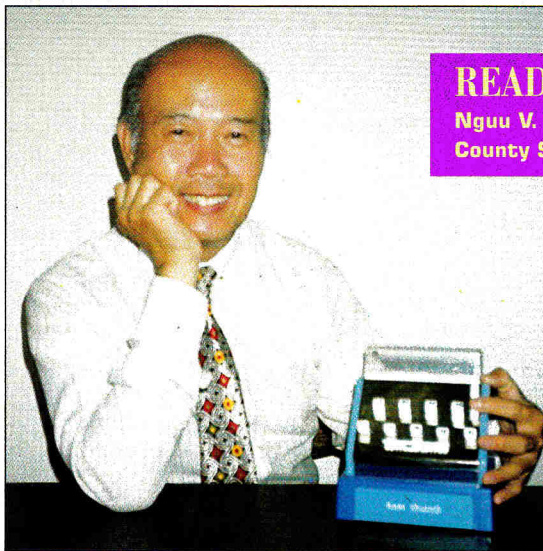
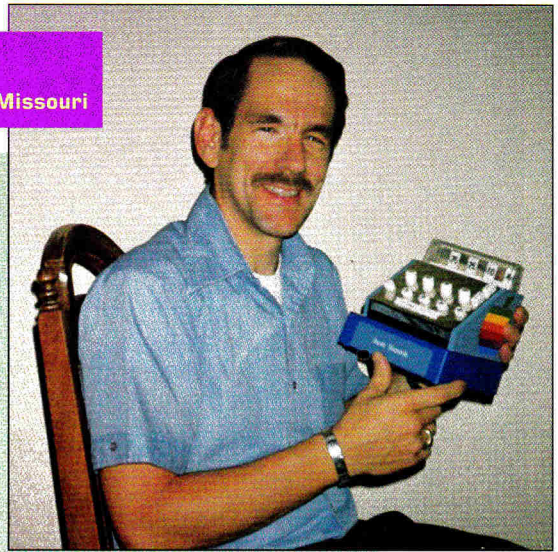
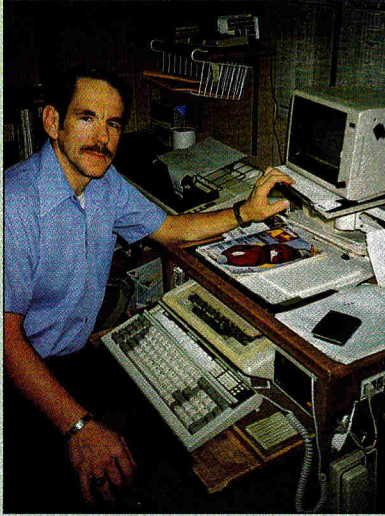
products makes leavening agents for baked goods) often means taking work overloads home, where he can write memos, build spreadsheets, answer E-mail, or design his presentation graphics in relative peace and quiet.

Wilson's everyday tool is **AppleWorks 1.2**. And, thanks to **PlusWorks** and expanded RAM, Wilson enjoys a 136K AppleWorks desktop, about twice as large as the desktop many Apple II fans use. Another workhorse in Wilson's home office is the telecommunications program **Softterm II**.

According to Wilson, "Softterm II emulates the Hewlett-Packard 26/22 terminal, so everything I can do at the office, I can send to my [Epson MX-100] printer or to a disk at home. If I'm on vacation or sick, I can just go down [to the basement office] and submit

jobs, send reports to the plant, or write memos."

Wilson purchased his Apple II Plus in 1979. More than a decade later, he's still finding ways to enhance and expand his system. "I just haven't been able to outstrip it in terms of the tasks I use it for. The GS opens up a whole new area of pursuit, but I don't see giving up the II Plus!"



READY FOR ANYTHING

Nguu V. Tran, Emergency Services Coordinator, Alameda County Sheriff's Department, San Leandro, California

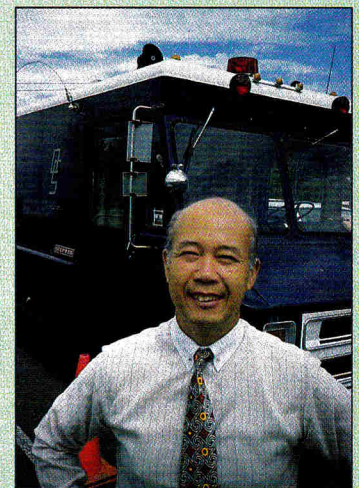
WHEN THE BAY-AREA EARTHQUAKE stunned the San Francisco region last October, Nguu V. Tran, emergency services coordinator for the Alameda County Sheriff's Department, flew into high gear.

"We received reports from all the cities in our county, and put

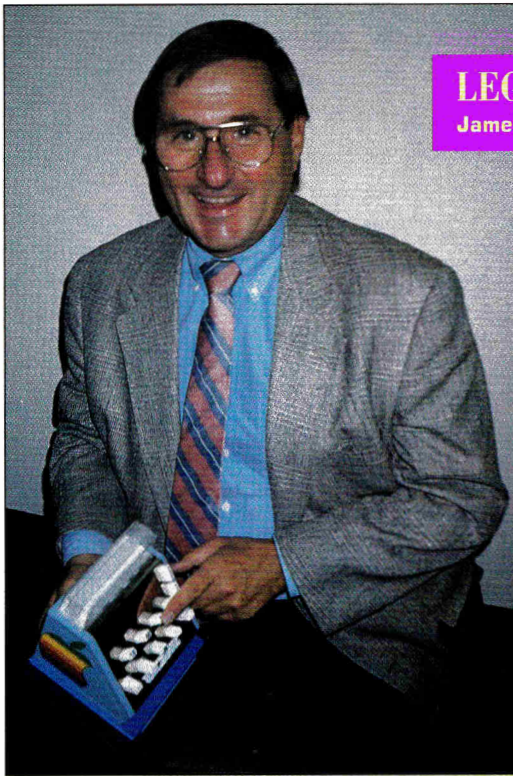
the information into two **AppleWorks** databases. One covered displaced people; the other assessed property damage." Tran's office, along with others in the Sheriff's Department, coordinates efforts among city, county, regional, state, and federal agencies.

On a daily basis, Tran builds and maintains AppleWorks spreadsheets to handle departmental accounting needs. The database helps him track the availability of resources, while the word processor serves as "a substitute for the typewriter to create internal reports and correspondence."

According to Tran, "We're an underground facility that's ready for all kinds of emergencies, not



just earthquakes." Until now, perhaps few people realized that "we" includes Tran's Apple IIe!



LEGAL AID

James P. Hilliard, Attorney at Law, Chicago, Illinois

IF YOU TALK WITH ATTORNEY James P. Hilliard, you'll never tell another lawyer joke. Like most of his colleagues, Hilliard bills clients for each increment of an hour he works in their behalf. Although his hourly rates (up to \$275) may seem steep, Hilliard squeezes so

much productivity into each minute that his services begin to look like bargains.

A solo practitioner, Hilliard shares a suite of offices with other attorneys. But unlike his colleagues, Hilliard doesn't employ secretaries; instead, he has two Apple IIcses, one at the office and one at home.

Point-to-Point, a communications program, and **AppleWorks Classic**, a standard in any Apple II software library, are Hilliard's tireless assistants. He has even equipped his home-based GS with a modem for accessing the Westlaw legal database.

Not only does Hilliard use the AppleWorks database to keep track of important engagements such as appointments and court dates (and Notre Dame football games, too), he also uses it to generate bills for his clients.

"I recently finished a 3-year-old divorce case and sent a seven-page bill for \$8000, itemized to the tenth of an hour," Hilliard

explains. "Also, the first of the month I sent 65 bills, representing about \$55,000. It took four minutes of my time and 40 minutes printing time."

A series of AppleWorks spreadsheet files provides Hilliard with up-to-the-minute checkbook balances, and even helps him manage his clients' child-support payments. A host of word-processing templates, such as wills, powers of attorney, notices of motions, corporate minutes, and divorce forms, simplify many of his tasks. In addition to filling out legal forms — which he prints on a Diablo 620 daisywheel printer — Hilliard writes about 13 letters per day.

Although the files and features of AppleWorks Classic are an integral part of Hilliard's business, he scoffs good-naturedly at the mention of graphics-based programs such as AppleWorks GS: "What's the Appellate Court going to say to me — nice fonts? Lawyers don't use a lot of graphics — we just underline stuff."

PRODUCT INFORMATION

AppleWorks 3.0, \$249
AppleWorks GS, \$299
 Claris Corporation
 5201 Patrick Henry Drive
 P.O. Box 58168
 Santa Clara, CA
 95052-8168
 (408) 727-8227

DP-10 Large Print Display Processor
 Telesensory
 1735 West Crans Avenue
 Gardena, CA 90249
 (213) 452-5966
 (800) 826-2935
 \$26.95

The Print Shop GS
 Broderbund Software
 17 Paul Drive
 San Rafael, CA
 94903-2101
 (415) 492-3200
 \$59.95

HyperStudio
 Roger Wagner Publishing
 1050 Pioneer Way, Suite P
 El Cajon, CA 92020
 (619) 442-0524
 \$149.95

LightningScan
 Thunderware
 21 Orinda Way
 Orinda, CA 94563
 (415) 245-6581
 \$295

Magic Window
 ArtSci, Inc.
 P.O. Box 1848
 Burbank, CA 91505
 (818) 985-2922
 \$99.95 GS version
 \$49.95 Ite version

Paintworks Gold
 Mediagenic
 discontinued, but may be available through mail-order sources

PC Transporter
 Applied Engineering
 P.O. Box 5100
 Carrollton, TX 75011
 (214) 241-6060
 \$399

PlusWorks III
 Norwich Data Services
 P.O. Box 356
 East Norwich, NY 11732
 (201) 679-0594
 (800) 221-3826
 \$49.95

Point-to-Point
 Beagle Bros, Inc.
 6215 Ferris Square
 Suite 100
 San Diego, CA 92121
 (619) 452-5500
 \$99.95

Pyware Music Writer
 Pygraphics
 P.O. Box 639
 Grapevine, TX 76051
 (817) 481-7536
 \$119 for 3 staves
 \$295 for 6 staves
 \$595 for 32 staves

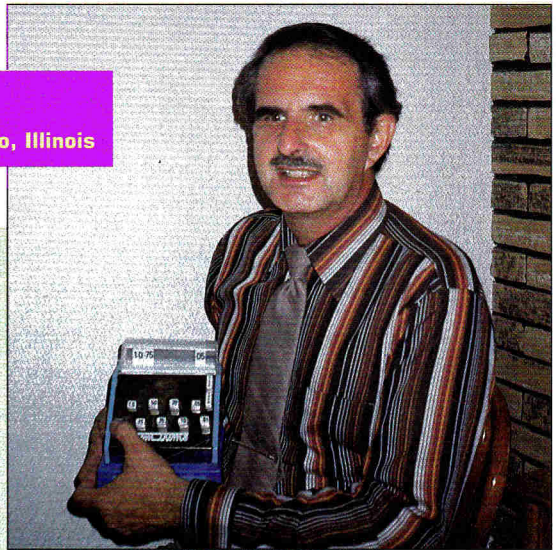
Quickie
 Vitesse, Inc.
 13909 Amar Road
 Suite 2A
 La Puente, CA 91744-1669
 (818) 813-1270
 \$299

Sensible Speller
 Sensible Software, Inc.
 335 East Big Beaver
 Suite 207
 Troy, MI 48083
 (313) 528-1950
 \$125

Softerm II
 Softronics
 5085 List Drive
 Colorado Springs, CO
 80920
 (800) 225-8590
 (303) 593-9540
 \$195

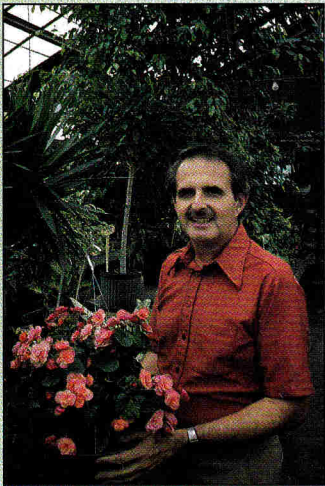
CROSS-CULTURAL EXCHANGE

Thomas E. Ihle, Ihle Florists & Greenhouses, Murphysboro, Illinois



"IF I CAN'T DO SOMETHING RIGHT, I don't want to do it at all," says Thomas Ihle, a fourth-generation grower and florist whose great-grandfather served as landscape gardener for Kaiser Wilhelm in turn-of-the-century Germany.

Make no mistake: Ihle's resolve isn't limited to his six greenhouses, or to the retail shop he runs with nine part- and full-time employees. He demands particular quality from his computer system — a 3-megabyte Apple IIgs with a 40-megabyte Ehman hard drive, an Ehman expanded keyboard,



assorted disk drives, and a **PC Transporter**. "My general dislike for MS-DOS isn't exactly a secret," says Ihle, the co-editor of "AppleWords," the official newsletter of the Little Egypt Apple Users Group.

"Unfortunately, all business software specific to the florist and greenhouse business is available only for MS-DOS," Ihle adds, "so I recently installed a PC Transporter in my IIgs."

Although dumping the GS and buying an IBM may have been simpler, Ihle refused to do it. Besides citing his already substantial software and hardware investments, he remarks, "The Apple's interface is so easy and comfortable to use, I never want to leave it."

With **The Print Shop GS** Ihle creates promotional banners and signs, and with **AppleWorks GS** he develops information files on his plants. From poinsettias to geraniums to spring bedding varieties, he's got them all organized.

"My memory isn't what it used to be," Ihle explains, "so when I encounter a problem with a crop, I go back to my computerized notes and see if I've experienced the same problem before. If not,

I go to the growers' manuals."

Among other GS enhancements on his wish list, Ihle wants **HyperStudio** — so that he can develop information-filled stacks his customers can peruse to find the plant varieties they're interested in — and a **LightningScan** or **Quickie** hand-held scanner to help catalog and identify plant diseases and pests, such as the California thrip that's sweeping the country and threatening to decimate tomatoes, impatiens, and chrysanthemums, among others.

With his PC Transporter and the Apple IIgs, Ihle may represent the first wave of a newly emerging trend — small-business computer users who are bridging the gap between seemingly disparate computing worlds.

Continued from p. 44

revolutionary spreadsheet program that was introduced in the early 1980s, turned the Apple II from an arcane machine for hobbyist programmers into an easy-to-use, accessible tool for businesspeople who needed to crunch those numbers fast.

And when AppleWorks came along a few years later, its triple integration (word processor/spreadsheet/database manager) and simple file-card menu interface made that program the most popular piece of software ever written.

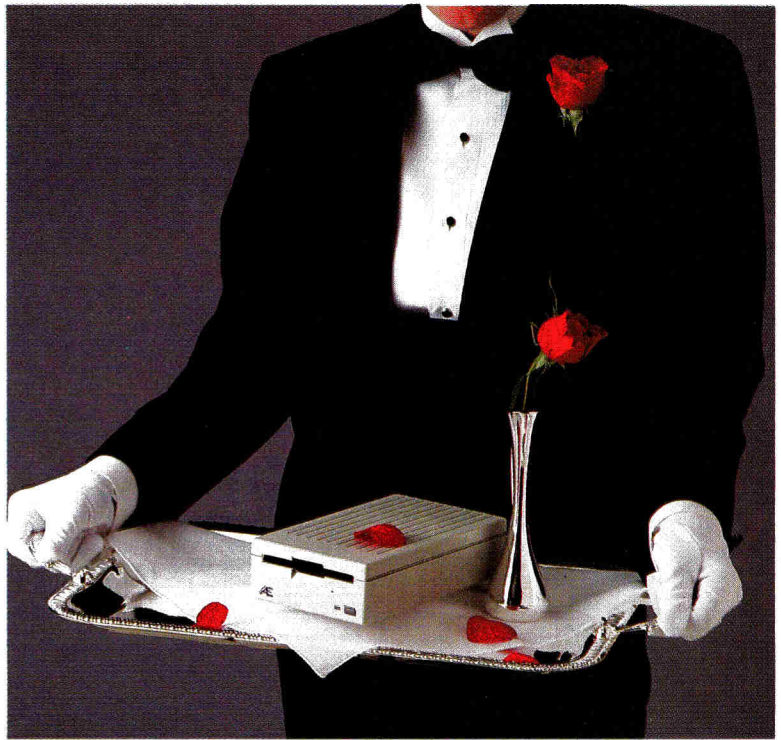
These days, scores of add-on products mean that AppleWorks' power continues to grow and that it continues to meet small-business needs in innovative, unique ways. (See "AppleWorks

with the Works," p. 51 in this issue, for details.)

Whatever the software you choose, whatever the system you're most comfortable with, whatever the setting — from the hectic atmosphere of a lawyer's office to the serenity of an author's study as he turns fantasy into the pages of a children's play — today's Apple II can play any number of different roles as it helps people get down to business. □

CONTRIBUTING EDITOR CYNTHIA E. FIELD IS A FREE-LANCE JOURNALIST SPECIALIZING IN COMPUTER-RELATED TOPICS AND IS THE AUTHOR OF *INCIDER'S* MONTHLY PRESS ROOM 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.

Silver Platter Service



Memory Expansion

Applied Engineering

GS-Ram 256k (IIGS)	\$124
GS-Ram 1 Meg (IIGS)	\$233
GS-Ram Plus or Ultra 1 Meg (IIGS)	\$248
GS-Ram Plus or Ultra 2 Meg (IIGS)	\$365
RamWorks III 256k (Ile)	\$146
RamWorks III 1 Meg (Ile)	\$255
RamFactor 256k (IIGS, Ile, II+)	\$182
RamFactor 1 Meg (IIGS, Ile, II+)	\$292
NEW Ram Express II (IIC/IIC+)	\$Call
Z-Ram Ultra Series (IIC)	\$Call

Co-Processors/Accelerators

TransWarp GS (7 mbz for IIGS)	\$284
TransWarp (Ile, II+)	\$99
FastMath (IIGS, Ile, II+)	\$131
PC Transporter 768k (IIGS, Ile, II+)	\$239
MS-DOS v4.01 (5.25")	\$85
IBM Keyboard w/cable (PCT)	\$101
Combo TransDrive (5.25 & 3.5)	\$279
3.5" - 720k Add-on drive (PCT)	\$95

Hard Drives & Floppy Drives

Applied Engineering

Vulcan 20 Meg (specify machine)	\$519
Vulcan 40 Meg (specify machine)	\$659
3.5" 800k drive (IIGS, Ile, IIC+)	\$205
Æ 3.5" Controller Card	\$59
5.25" Disk Drive	\$119

AMR

A5.D 5.25" drive (IIGS, Ile)	\$139
Apple High Speed SCSI card	\$109

Accessories

Applied Engineering

TimeMaster H.O. (IIGS, Ile, II+)	\$72
Serial Pro (IIGS, Ile, II+)	\$98
Parallel Pro (IIGS, Ile, II+)	\$69
Sonic Blaster (IIGS)	\$91
Audio Animator (IIGS)	\$175
ViewMaster 80 (II+)	\$124
Conserver (IIGS)	\$69
Heavy Duty Power Supply (Ile)	\$69

Preferred Computing is known industry wide for our friendly, knowledgeable technical support & customer service. This Silver Platter service is offered before, during and after the sale.

- Memory cards have all **factory installed and tested RAM chips.**
- We're nice guys that want to help. We want our business to grow because of repeat customers & word of mouth.
- We handle only the industry's best.
- 15 day money back guarantee on all hardware. If the hardware doesn't meet your needs, we'll refund the purchase price. No hassles.

CH Products

MACH III joystick (specify machine)	\$39
MACH IV Plus (specify machine)	\$69

Digital Vision

Computer Eyes GS (color)	\$199
Computer Eyes (B&W)	\$108

Kensington System Saver (Ile)

Street Electronics Echo IIC

ThunderWare

ThunderScan

Communications

Applied Engineering

DataLink 1200 bps (int.)	\$105
DataLink 2400 bps (int.)	\$175

DL Express 2400 w/MNP-5 (ext.)	\$209
DL Express 2400 bps (ext.)	\$175
MNP-5 option (for DL Express)	\$65

Beagle Bros

Point-to-Point (128k)

Morgan Davis Group

ModemWorks (BBS construction kit)	\$49
ProLine BBS (Best Apple II BBS)	\$175

Apple II Software

Beagle Bros

AW Companion (128k)	\$34
TimeOut Series (req. AW 2.0 or later)	
PowerPack (128k)	\$35
ReportWriter (128k)	\$49
SpreadTools (128k)	\$44
Pricing on other Beagle Bros	\$Call

Brøderbund

Print Shop (64k)	\$35
Print Shop GS (768k)	\$45
Carmen Sandiego Series	\$Call

Central Point

Copy II+ (128k)

Claris

AppleWorks v3.0 (128k)	\$199
AppleWorks GS (IIGS)	\$219

Roger Wagner

HyperStudio (IIGS)

StoneEdge

DB Master Professional (128k)

TimeWorks

Graph It! (128k)	\$53
Publish It! 3 (128k)	\$77

VIP

VIP Professional (256k Apple II)

FREE Copy of VIP with \$300.00 purchase!

Preferred Computing

P.O. Box 815828 Dallas, Tx 75381

We accept VISA, MasterCard and C.O.D. orders. Tx residents add 7.25% tax. School and Government Purchase Orders are welcome. Prices and Specifications are subject to change without notice. Ad #10/90

Orders Only, Call Toll-Free
800-327-7234

Questions & Customer Service Call
1-214/484-5464

There's nothing new about having everything you need in one place.

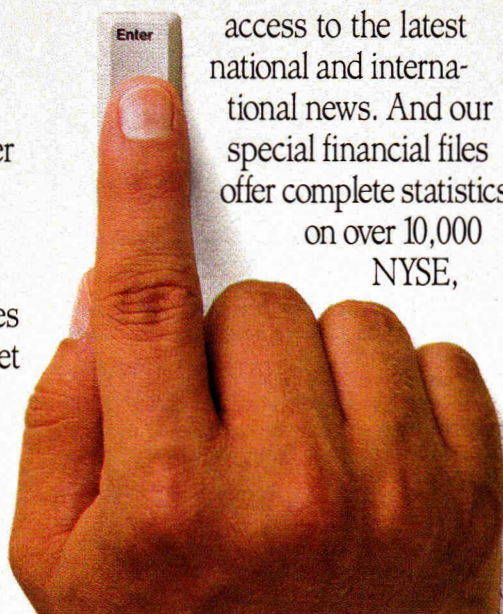


With CompuServe, it's all at your fingertips.

When you become a member of CompuServe, you join a vital, active community of over 500,000 friends and neighbors from all over the world.

Small-town friendly. We keep in touch with electronic mail and faxes, and by posting messages on our bulletin boards. We even meet in forums to discuss everything from science fiction to sharing software, and to get invaluable personal computer software and hardware support. And that's one of the best things about small towns: people helping people.

Big-city opportunities. But we can also shop coast-to-coast at hundreds of nationally known stores, and take advantage of a world-class library. We have



access to the latest national and international news. And our special financial files offer complete statistics on over 10,000 NYSE,

AMEX, and OTC securities.

We can even trade online with our local discount brokers.

And, just for fun . . . We've also got games — everything from trivia to TV-style game shows with

live entertainment to interactive space and fantasy adventures.

We've got airline schedules, so you can check out the bargains and book your own flights online. We even have listings from over 35,000 hotels.

It's not hard to get here. To get to CompuServe, all you need is a computer and a modem. We'll send you everything else, including a \$25.00 Usage Credit. In most places you'll be able to go online with a local phone call.

To buy a CompuServe Membership Kit, see your nearest computer dealer. To receive our informative brochure or to order direct, call 800 848-8199.

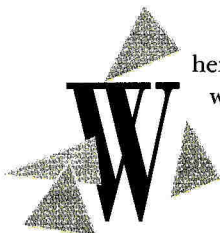
CompuServe®

By MARC APFELSTADT

APPLEWORKS WITH THE WORKS



***inCider's* recipe for SuperWorks: topping off plain-vanilla 3.0
with an assortment of patches, utilities, and macros
for enhanced power and unlimited productivity.**



When you want powerful, fast, versatile software for the Apple II, there's no better choice than **AppleWorks 3.0** — this classic integrated program *could* be all the software you ever need.

But it doesn't *have* to be. While you probably can't do much to improve on a classic car or a classic book or movie, AppleWorks 3.0 is one classic you *can* enhance.

THREE ROADS TO APPLEWORKS POWER

Claris Corporation didn't hold back in its recent AppleWorks upgrade, version 3.0. First of all, it hired the people who — next to Robert Lissner, AppleWorks' original developer — know AppleWorks better than anyone: Alan Bird, Randy Brandt, and Rob Renstrom, Beagle Bros all. By now, many of the enhancements in version 3.0 are old news.

For the \$79 upgrade price, existing AppleWorks got a spelling checker, support for "true tabbing," the ability to print mailing labels in three- and four-across formats, more spreadsheet functions, horizontal scrolling in the database manager, and, in general, easier formatting and file handling, plus better integration among the spreadsheet, database manager, and word processor.

Still, if one phrase could describe AppleWorks users, it would be "power hungry." No one upgrade could possibly handle the insatiable hankerings of the AppleWorks community. Fortunately, Beagle Bros and other third-party software developers offer a smorgasbord of patches, applications, and macros to feed even the healthiest of appetites.

You can enhance the features and power of AppleWorks 3.0 in three ways: with patches, with Beagle Bros' TimeOut applications, and with macros. A *patch* changes AppleWorks' program code in some small way. The *TimeOut* series uses a ↻

method devised by Alan Bird to halt the operation of AppleWorks (using the open-apple and escape keys) and run another program that can use AppleWorks desktop files. Macro programs, such as TimeOut UltraMacros, let you write a "program" that uses AppleWorks' functions in any way you choose: Instead of typing the same series of commands each time you want to perform a certain operation, you just type a one- or two-stroke sequence to tell AppleWorks to execute some function. One simple macro, for example, sets up a command to add your return address to a letter.

PATCH IT UP

SuperPatch 6.1, distributed by Quality Computers, and **AppleWorks 3.0 Companion**, from Beagle Bros, let you customize items within AppleWorks. Each utility offers unique options, so you might want to view a complete list of these programs' features and make a decision based on your needs. (See the accompanying Table.) One major difference to note is that SuperPatch works with all versions of AppleWorks, while the Beagle Bros program works only with version 3.0.

AppleWorks 3.0 Companion offers a number of options for personalizing displays and operating characteristics. Of particular interest are features that let you automatically keep the names of text files you import into AppleWorks, save the cursor position in word-processor and database files, and omit the colon after field names in database reports. Another selection unique to Companion is a patch that lets AppleWorks run from a write-protected disk.

There's also a patch that prints screen dumps (OA-H) while converting mousetext to caret symbols. If you've ever typed OA-H accidentally while using a non-ImageWriter printer, you've seen what the hidden control characters in mousetext display can do — red print, reverse form feeds, and so on. With this patch in place, though, you shouldn't have any problems. In addition, Companion uses the standard AppleWorks file-card interface for operation, making navigation as simple as possible.

SuperPatch 6.1, designed by John Link, a professor of art at Western Michigan University, offers a massive set of patches for all versions of AppleWorks. Many overlap with the Beagle Bros set in functionality, but others are distinct. A few are whimsical; you'll enjoy your friends' double-takes when they see *Carelessly saving this file* appear on screen. SuperPatch is careful to avoid stepping on the toes of other patches, too: Before it makes a change, SuperPatch examines AppleWorks to make sure you haven't already patched the area in question; in the event of unexpected data in the target patch area, SuperPatch flags the area as "Unknown" and refuses to alter it.

As in AppleWorks Companion, many SuperPatch options concern display characters and messages on screen. One popular change is to add a "bent arrow" for the return symbol, which appears in zoom mode. Another useful patch is an option to allow a printer and a "phantom disk" to share a common slot designation. If your printer is connected to slot 2 and a full complement of drives in your GS, AppleWorks will see the second 3.5-inch drive as occupying slot 2, as well. Under those circumstances, AppleWorks won't let

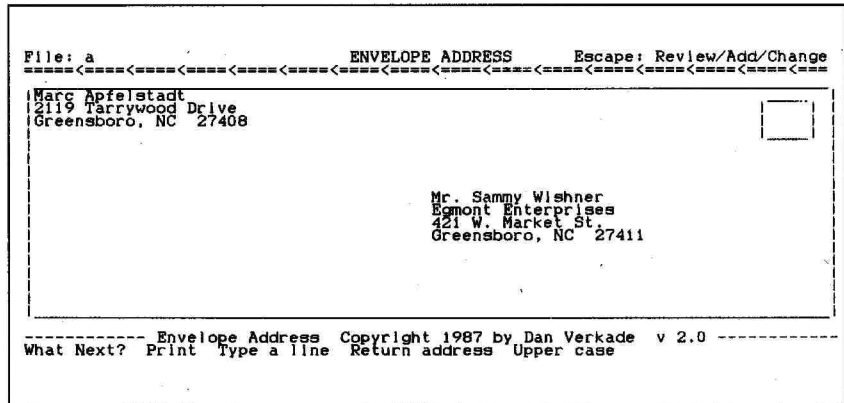


Figure 1. TimeOut DeskTools' Envelope Addresser utility.

you print to that slot. That's a good idea normally: As the documentation clearly explains, sending "printer initialization information" to a disk interface will cause a reboot, so AppleWorks forbids the process. In this case, however, you don't really have a drive there, so SuperPatch allows a drive in slot 2 and a printer, as well.

SuperPatch's documentation is complete and thorough. Not only does it list the patches available, but it explains carefully how each one works and what problems you might encounter. SuperPatch menus are organized so that each segment of AppleWorks is modified separately. Although this structure is logical, it means that you'll probably reread the documentation several times to make sure you've installed everything you want, because you'll have to install similar patches for different segments individually. In an integrated environment, we tend to think in terms of "if only the database would do this," not "oh, patch SEG.DB."

How do you choose between these two patch programs? AppleWorks Companion's modifications are more practical, and the program also includes a new TimeOut utility called *TextLoader Plus*, which simplifies the process of creating word-processor files from text files by letting you convert up to 12 ASCII files to AppleWorks in a single operation. Companion also offers far more choices for changing default settings for files (margins, characters per inch, and so on). It works only with AppleWorks version 3.0, however.

SuperPatch, on the other hand, works with versions 2.0, 2.1, and 3.0 and offers more patches for display characteristics and printer-driver modifications. Ideally, the most powerful solution is a combination of both programs. Be

THE WORKS

careful, though — some patches are incompatible with others. In general, try to patch AppleWorks as little as possible, as slowly as possible.

GOOD TIMING

If you've been using AppleWorks for any length of time, you've undoubtedly heard about Beagle Bros' TimeOut enhancements. Many of you have probably become so dependent on these utilities that you've forgotten what life

some of these utilities, making them even more affordable. **PerformancePack** contains DeskTools, **DeskTools II**, and **PowerPack**, for instance; **StylePack** contains SuperFonts, **Thesaurus**, and **FileMaster**. **DecisionPack** puts **Graph**, **SpreadTools**, and **SideSpread** into a single unit.

REPORTING IN

Several new additions have recently joined the TimeOut family, but **ReportWriter** is perhaps the most complex and

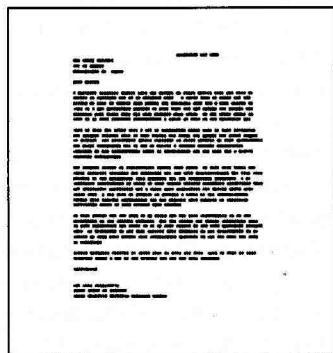


Figure 2. TimeOut DeskTools' Page Preview utility.

WEEK - MAR. 12 to MAR. 18		
12) MONDAY	SPECIAL DAY - first day of class after break	MONDAY
THINGS TO DO	HOURS	APPOINTMENTS
- Observe student teachers	6	
- practice quietet music	7	- drop off kids at school
- division meeting at 12	8	- see Lisa C. in Kernersville (2nd observation)
- woodwind pep preparation	9	
- mark class woodwind exams	10	- return to Greensboro
- symphony rehearsal (Auditorium)	11	- prep time for W Pedagogy
	12	- Division meeting (room 154)
	1	
	2	- see Janet in High Point (3rd observation)
	3	
	4	- take Christopher to choir (4:45)
	5	
	6	- pick up Christopher
	7	- Symphony rehearsal (7:30 - 10)
	8	

Figure 3. FlexiCal daily appointment calendar, from JEM Software.

was like without them. The release of AppleWorks 3.0 made this point especially clear. It was ready about two months before the compatible TimeOut series, so many users had to go back to "naked AppleWorks" — no mouse or anything. Two features that were sorely missed were **TimeOut DeskTools' Envelope Addresser** and **Page Preview** utilities.

Envelope Addresser (**Figure 1**) can pick up an address within your word-processing document, place it on a picture of an envelope, and print it — all without creating a separate document with funny margins. You can amaze your Mac-owning friends with that one. (Microsoft Word doesn't do envelopes very easily.) Page Preview gives you a miniature graphics image of your document (**Figure 2**) — no more page-break calculation with OA-K. Although you can't read the text, of course, it's easy to see where page breaks are misplaced, tabbing is off, and so on. As a bonus, when you return to your document, the page breaks still show (as if you had done an OA-K), so finding the location of a format correction is a breeze.

If you're still using plain AppleWorks without TimeOut, do yourself a favor and add **UltraMacros** (details below) and **SuperFonts** to your program disk. As a basic configuration, you'll add mouse support for cursor control, macros, a copy of the **TimeOut Paint** program, and the ability to print pictures and GS fonts within a text-based application. And if you're still using AppleWorks 2.0 or 2.1, **QuickSpell** gives you an internal spelling checker.

Beyond this basic expanded setup, you can use the other TimeOut programs as your needs demand. Incidentally, Beagle Bros recently announced a bundling program for

powerful member of the series yet. It offers the chance to leave the limitations of the AppleWorks database report format far behind in many respects, while still letting you use the database module for easy entry and file maintenance.

To begin with, ReportWriter lets you draw data from more than one file, breaking AppleWorks' 30-field limit for the first time. You can extract information from as many as 11 different files, up to a total of 250 categories. In addition, the report generator can use table look-ups so that you can print state abbreviations in your master file, for instance, as full state names simply by referring to another file to retrieve the additional information. ReportWriter can also post (add or change) information to other files, so automating your accounting applications, for example, is now feasible. The program can also edit in formats of up to 240 columns across, so that you can set up wide layouts, multiple-column mailing labels, and so on.

Be prepared to spend some time getting comfortable with this TimeOut product. It's earned high marks, but you'll want to sit down and work through the documentation's examples before striking out on your own to do custom designs. Creating your own personal applications is straightforward, but you need to follow the steps outlined for consistent output.

Do you need ReportWriter? If you've bumped up against the 30-field limit of regular AppleWorks database files or want more customized output from the database manager without going to the trouble of printing to a word-processing file and editing the resulting text by hand, the answer is yes. ReportWriter is intense, but it's also extremely powerful.

THE WORKS

Speaking of accounting, check out TimeOut SpreadTools. If you're a diehard AppleWorks spreadsheetophile, SpreadTools adds the ability to copy specific blocks of data, rather than the full rows or columns earlier versions of AppleWorks force you to manage. (If you're using AppleWorks 3.0 you already have this capability.) You can also analyze your files for errors, and the cross-reference tool lists all cell references. Another efficient tool is the row-to-column converter. If you have specific spreadsheet needs that AppleWorks doesn't address, SpreadTools will undoubtedly help.

ON LINE WITH APPLEWORKS

What else can we add to AppleWorks? For one thing, **TimeOut TeleComm** provides a powerful communications capability within the program. TeleComm addresses two major concerns: macro scripting for the log-on process and terminal emulation. With log-on scripting, you use a particular process to sign on automatically, instead of being forced to type every entry every time you go on line. With TeleComm, you can log on easily to mainframes, as well, and even use VT-52 terminal emulation (one of seven modes available). In addition, TeleComm also offers the ability to trap incoming text to a variably sized buffer or to copy it directly to a file on the desktop. The program supports a variety of upload and download protocols, and also includes built-in support for Gary Little's Binary II standard.

TimeOut TeleComm has one minor quirk, similar to a problem in Point-to-Point, Beagle Bros' excellent stand-alone communications program. Specifically, TeleComm doesn't like to operate at 2400 baud through the GS modem port with port buffering turned on. Nevertheless, TeleComm still offers a great combination of powerful features and the flexibility of working within AppleWorks.

MACRO POWER

An entire subculture of AppleWorks programmers has erupted thanks to the power of TimeOut UltraMacros. UltraMacros lets you use a *task file*, a special set of run-time macros, to design sophisticated commercial-quality applications. **AlphaCheck**, from ACTAsoft, is one of the better-known examples. This program prints checks automatically and enters them into the appropriate database file after you fill in a blank check form on screen. You can also assign and track tax categories, so that end-of-year reports can tell you exactly the amount you donated to charity, for example. Set up your categories by building a list from the federal Schedule A itemized-deductions form; then at tax time, use the printout to supply figures for your tax form.

The best way to use AlphaCheck is to buy custom check forms and write all checks from the computer, though you can also enter checks, debits, and so on by hand. If you don't want to use check printing, the program still does an excellent job of keeping your account in balance and tracking category data. A new version of the program, **AlphaCheck Plus**, adds double-entry bookkeeping capabilities.

Okay, so all of this talk about the powerful things people are doing with macros has you salivating. You want to do some macro work of your own, but you have no idea where to begin? Your first step should be to get a copy of the **UltraMacros Primer**, published by the National AppleWorks Users Group (NAUG). The book's roots are in a series of columns that macro whiz Mark Munz wrote for the *AppleWorks Forum* newsletter. For the book, all material has been revised and expanded. An excellent introductory section explains in detail how to install UltraMacros — it's a model of complete and concise information. The rest of the book proceeds step by step through the various possibilities UltraMacros offers, with chapters on "Macros That Read the Screen," "Executing Repetitive Tasks," and more. There's

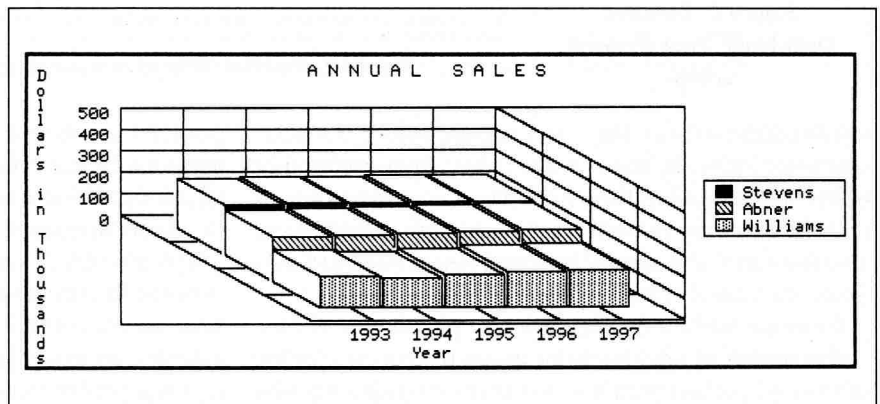


Figure 4. Graph It!'s 3-D option, from Timeworks.

also a special chapter on features that have been added with version 3.0 and later. Think about joining NAUG; your fellow members and the club's publications are great resources. You might also contact Dave Gair, coordinator of the **AppleWorks Programmers Association (APA)**. There's no better source of information on bugs, problems, and work-arounds than the APA.

If you're thinking of writing your own macro applications, be sure that you're using version 3.1 or later of UltraMacros; version 3.0 contained some minor, but annoying, bugs that were fixed in later releases. You should also consider Beagle Bros' **MacroEase**, a TimeOut application that helps you write macros.

APPLEWORKS GEMS FROM JEM

JEM Software is the "corporate child" of Beagle Bros author Randy Brandt. One of the company's recent releases is **SpellCopy**. Although it's simple and inexpensive, Spell-

Copy is invaluable if your system includes a RAM disk. Specifically, the program copies the AppleWorks 3.0 dictionary files to a RAM disk at startup, and also modifies AppleWorks to use dictionary files from the new location. SpellCopy operates by moving the dictionary files to your RAM disk (/RAM5), then starts UltraMacros, which loads AppleWorks and your other TimeOut utilities. (Thank goodness for hard disks.) The most recent version of SpellCopy also lets you specify up to 20 other files to transfer to RAM, as well — anything from AppleWorks itself to the TimeOut Thesaurus' word list to typefaces you'll use with SuperFonts.

Another interesting JEM Software product is **FlexiCal**, a specialized set of macros and master calendar spreadsheet templates. In short, FlexiCal lets you maintain an appointment calendar through a special set of solid-apple commands. You can easily create daily schedule sheets containing a combination of your hourly schedule and a to-do list.

Figure 3 shows a typical work day, entered via macros. If you've stumbled along for years with a simple monthly calendar instead of a full daily schedule at your fingertips, entering one month's worth of information will show you

keystroke, the program can generate an invoice by retrieving information from customer and inventory-item information. Watching it work is fascinating, as the program skips automatically from file to file on the desktop, grabbing data from fields with incredible speed. Before you know it, the completed invoice is in view, ready for printing. Another slick part of the process is the way in which the startup task file loads all appropriate data files automatically from your disk.

Items to be billed on the invoice are selected from your inventory file in another automated procedure. Because few people can remember all the material in a business inventory, Mr. Invoice macros accept either a stock number or a find command that lets you search through the inventory file and select an item. After you locate it, you enter a quantity and any additional items. When you finish, the program fills in the rest of the information automatically and even calculates sales tax. In the process, the inventory file is updated to reduce the quantity on hand by the number sold. The program creates a back-order condition if there isn't enough product on hand to fill the order. The current version of Mr Invoice handles only single-page invoices, but the program

is satisfactory for most Apple II-based small-business applications.

ACCESSORIZING APPLEWORKS

Two stand-alone programs deserve mention because they fill special needs for AppleWorks users.

Graph It!, from Timeworks, is an option if TimeOut Graph doesn't offer the flexibility you need. You may remember Graph It! as MagnaCharta from Thirdwave Technologies; this new version has benefited from a few enhancements, but maintains its superb printed output and, compared to other Apple II graphing programs, still offers

the most flexible set of options for placing objects on a page. Graph It! doesn't work directly with AppleWorks files, but the documentation explains clearly the process of creating a text data file from the AppleWorks spreadsheet module.

Figure 4 shows a sample of Graph It! output; the 3-D graph option is particularly unique and effective for certain types of data. Graph It! offers a wide variety of options for varying the display of your data — for business presentations, you can't go wrong here.

Sensible Grammar, from Sensible Software, has been updated recently to work with files from AppleWorks 3.0. It's a unique program: It searches through your word-processing files for the things you didn't really mean to say. Sensible Grammar compares your document against a master list of common errors and phrases, identifying sexist remarks, wordiness, pomposity, and so on. It also spots potential punctuation and capitalization errors. Each problem is shown on screen (as in **Figure 5**), and you can elect to take

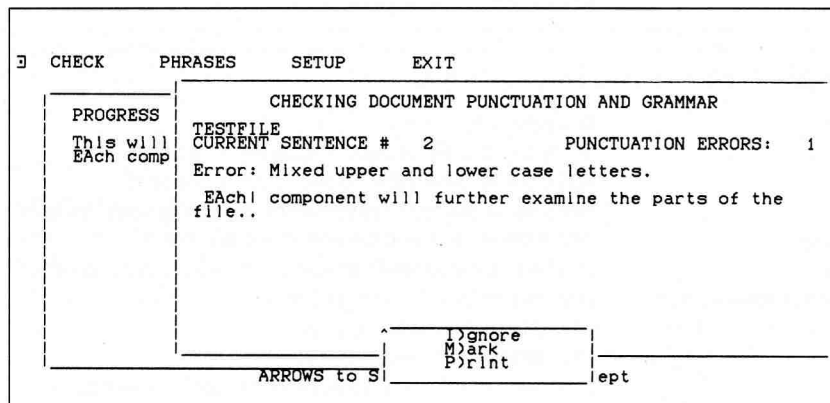


Figure 5. Highlighting a potential style problem with Sensible Grammar, from Sensible Software.

just how much detail, and convenience, you've been missing.

Is it bothersome keeping a manual record so that you can update a computer file? The process works best if you set aside a regular "calendar update" time each week — perhaps first thing every Monday morning. You *could* do the same thing yourself through a database file, but not with the same ease, consistency, and professional-looking output.

DoubleData is a JEM product that lets AppleWorks store up to 60 categories in a database record, using a solid apple-J command to jump between the two halves of the data file. You can combine any 30 of the categories into a report or use them in mail-merge documents. As with all of JEM's products, documentation is provided on disk.

Mr. Invoice is another JEM "macro plus data file" package, but this one stretches the possibilities of the automated AppleWorks environment furthest of all. It's an integrated set of data files for invoice, customers, inventory, and sales, with a special file for back-order information. With a single

SUPERPATCH 6.1

General Features

AppleWorks 2.0 and 2.1 compatible
 changes "more" to mousetext down arrows on menus
 customizes top data line in several screens
 customizes bottom data line in several screens
 changes date separator to period or dash
 changes "type number or use arrows" message
 disables all thermometer displays
 disables the thermometer display only on startup
 displays "tragically empty" when desktop is empty
 changes "carelessly" to "carelessly" on file-save screen
 continuous display of desktop space
 clears all screen messages from top of screen
 disables error beep
 return not required when making menu choice
 allows slot 1/2 printers with pseudo disks
 customizes "add files" menu defaults
 restores simple <cr> to type in directory paths
 disables file display sorting
 quick quit from AppleWorks
 customizes quit menu defaults
 disables quit option

installs advanced Diablo print driver
 installs slashed zeros for ImageWriter I, II, and LQ
 resets ImageWriter I, II, and LQ to default settings
 unidirectional printing for ImageWriter I, II, and LQ
 installs half-height printing for ImageWriter I, II, and LQ
 removes all printer information from SEG.ER
 removes unwanted printer data from SEG.ER

Word Processor

corrects tab and open apple-tab help entries

Database

customizes column underline character
 automatic date insertion in all reports
 changes printer default to no report header

Spreadsheet

customizes column overflow character
 automatic date insertion in all reports
 changes printer default to no report header
 installs date/time display, any ProDOS clock
 installs date/time display including seconds, GS only
 control-character stripper (requires UltraMacros)
 carriage-return stripper (requires UltraMacros)
 bank sizer

AW 3.0 COMPANION

General Features

eliminates "no/yes" questions
 custom-places open apple-Q menu
 lets program run on write-protected disk
 uses standard "getfile" commands in file listings
 swaps open apple-S and control/open apple-S
 allows open apple-H printing of screen containing mousetext
 marks imported text files as unchanged
 text filename becomes AppleWorks filename

Word Processor

changes tab-ruler markers
 restores cursor position when loading file
 open apple-tab moves to previous tab, ctrl-T moves forward
 cancels default "find text"
 changes new-file default settings

Database

removes colon after category name

changes total marker ("**")
 changes/cancels default "category 1" label
 tab from last category moves to next record
 remains at current record after canceling open apple-R
 restores cursor position when loading file
 changes open apple-F default to "in a specific category"
 changes default column width
 changes default label format
 changes default value format
 changes default recalculation order and frequency
 restricts spreadsheet to 999 rows (increases speed)
 sets direction GS enter key moves

Spreadsheet

TimeOut Pathologist (requires additional TimeOut program)
 TimeOut TextLoader+ (requires additional TimeOut program)
 TimeOut PathMan (requires additional TimeOut program)
 fixes some AppleWorks 3.0 problems

BOTH PROGRAMS

General Features

force GS to use "slinky" RAM for desktop
 use memory as RAM disk and extra desktop
 disable open apple-H form feed
 disable changes to default settings
 "yes" highlighted at AppleWorks prompts
 change file-listing priority (WP, DB, SS, other, subdirectories)
 change "—>" to mousetext checkmark
 change "pathname" to mousetext file folder
 change "disk" to mousetext disk symbol
 change "subdirectory" to mousetext file folder
 change cursor blink rate
 change cursor character
 change "|" character (mostly used for borders)

choose insert or overstrike on startup
 change AppleWorks error-bell sound
 use GS system beep instead of AppleWorks bell

Word Processor

change <cr> symbol
 change zoom tab character
 change tab fill
 keep file unchanged after printing

Database

eliminate "at end of records" query

Spreadsheet

replace "na" with blank spaces

Table. SuperPatch 6.1 (Quality Computers) vs. AppleWorks 3.0 Companion (Beagle Bros).

suggestions, replace, or mark it. The program takes the extra step of saving your original file and creating a new one containing the corrections. Sensible Grammar works with files from most word processors, and any program that can save a text file can produce checkable files. You might be surprised at the mistakes your writing contains — Sensible Grammar will inform you accurately and politely.

NEVER BEYOND REPAIR

What's left? Damage recovery, of course. If you haven't needed **RepairWorks** from Quality Computers, consider yourself lucky. While AppleWorks is a relatively stable environment, versions 2.0 and 2.1 contain a couple of annoying problems that can render files unreadable. And with any version of the program, events can occur while you're saving a file (a power blink or bad disk block, for example) that can damage the disk structure enough to prevent AppleWorks from reading the file. What to do when the dreaded *Getting errors trying to read DON.TLOSEIT.DOC* appears?

RepairWorks is designed specifically to recover as much data as possible from damaged AppleWorks word-processor and database files. The program is straightforward; the documentation thoroughly explains the whys and wherefores of every step of the process. If you have an emergency crash, Quality Computers will even ship next-day or second-day air for an additional charge. No one who depends on AppleWorks should turn on the computer without having this program around — just in case.

Another utility to hang onto "just in case" is **ProSel/ProSel 16**. Any number of file-manager programs are available for folks who choose to avoid the Finder or are using an enhanced Iie or Iic. ProSel offers a number of additional

benefits, however. *Mr. Fixit*, one of its utilities, is a disk analyzer and repair program of immense power. It can analyze any ProDOS device (3.5-inch or hard drive) for errors — and, better yet, fix almost any error it finds. It can even restore most information after a crash, except for some files in the root directory. As a standard practice, consider running a program like Mr. Fixit weekly to flag potential problems before you begin backing up files. Without a doubt, the other ProSel utilities are terrific, but Mr. Fixit is totally indispensable for protecting your data.

For total data integrity, though, get a battery-backup unit to power your monitor, central processing unit, and hard disk for 15 minutes after the power fails. This option lets you save opened files. Remember: If the power blinks during a save, your entire disk could easily become unreadable. A loss of electricity while working on a file, or even loading, isn't fatal, but during a disk-write operation, poof! A 200-watt uninterruptible power source (UPS) will cost you \$250–\$300 from mail-order outlets, and may be one of the best investments you could make to protect your system.

What do all these enhancements and accessories add up to? Your options for expanding AppleWorks and tailoring it to your own specifications are almost *limitless*. Given the program's speed, reliability, and flexibility, nothing else can match the "SuperWorks" environment for total productivity output. The motto among true Apple II believers is "AppleWorks Forever!" □

MARC APPELSTADT IS A PROFESSOR OF MUSIC AT THE UNIVERSITY OF NORTH CAROLINA/GREENSBORO. WRITE TO HIM AT 2119 TARRYWOOD DRIVE, GREENSBORO, NC 27408. ENCLOSE A SELF-ADDRESSED, STAMPED ENVELOPE IF YOU'D LIKE A PERSONAL REPLY.

PRODUCT INFORMATION

AlphaCheck, \$49.95
AlphaCheck Plus, \$68
 ACTAsoft
 19700 Wells Drive
 Woodland Hills, CA 91364
 (818) 996-6731

AppleWorks Programmers Association
 6531 Lexington Ave.
 Los Angeles, CA 90038-1451
 (213) 469-9916

AppleWorks 3.0
 Claris Corp.
 5201 Patrick Henry Drive
 Santa Clara, CA 95052-8168
 (408) 727-8227
 \$249

AppleWorks 3.0 Companion, \$39.95
TimeOut DeskTools, \$49.95
TimeOut DeskTools II, \$49.95
TimeOut FileMaster, \$49.95
TimeOut Graph, \$89.95

TimeOut MacroEase, \$39.95
TimeOut MacroTools, \$25
TimeOut MacroTools II, \$25
TimeOut QuickSpell, \$69.95
TimeOut Paint, included with SuperFonts & Graph
TimeOut PowerPack, \$49.95
TimeOut ReportWriter, \$79.95
TimeOut SideSpread, \$49.95
TimeOut SpreadTools, \$59.95
TimeOut SuperFonts, \$69.95
TimeOut Telecomm, \$69.95
TimeOut TextTools, \$49.95
TimeOut Thesaurus, \$49.95
TimeOut UltraMacros, \$59.95
TimeOut DecisionPack, \$149.95
TimeOut PerformancePack, \$109.95
TimeOut StylePack, \$129.95
 Beagle Bros
 6215 Ferris Square,
 Suite 100
 San Diego, CA 92121
 (619) 452-5500

Graph It!
 Timeworks
 444 Lake Cook Road
 Deerfield, IL 60015-4919
 (708) 948-9200
 \$69.95

DoubleData, \$30
FlexiCal, \$30
Mr. Invoice, \$40
SpellCopy, \$12.50
 JEM Software
 P.O. Box 20920
 El Cajon, CA 92021

ProSel, \$40
ProSel 16, \$60
 Glen Bredon
 521 State Road
 Princeton, NJ 08540

RepairWorks, \$39.95
SuperPatch 6.1, \$34.95
 Quality Computers
 20200 Nine Mile Road
 St. Claire Shores, MI 48080
 (800) 966-1508

Sensible Grammar
 Sensible Software
 335 East Big Beaver
 Suite 207
 Troy, MI 48063
 (313) 528-1950
 \$99.95

UltraMacros Primer
 National AppleWorks
 Users Group
 Box 87453
 Canton, MI 48187
 (313) 454-1115
 \$17.95 members
 \$19.95 nonmembers
 plus \$3 shipping
 \$29 yearly membership



IN THE BALANCE

Create a balance sheet, add an income statement, and bring your business finances under control.

By RUTH K. WITKIN

THE *BALANCE SHEET* AND THE *income statement* are a company's financial report card. Because they summarize daily accounting records, both statements give management a way to evaluate itself, reveal shortcomings that need correction, and act as a basis for planning and budgeting.

This month we'll help you set up your own balance sheet. Your customized spreadsheet will list what your company owns (*assets*), what it owes creditors (*liabilities*), and how much investors' money is in the business (*stockholders' equity*), and present this information in the form of $Assets = Liabilities + Stockholders' Equity$. The sides of the equation match because it's a *balance sheet*.

You'll also design an income statement, also called a *profit-and-loss statement*, to summarize business activities. You can list what came into the business (*sales*), what went out (*cost of goods sold and operating expenses*), what remained after costs and expenses were paid (*operating income*), and what remained after taxes and interest were paid (*net income*).

The accompanying **Figure** shows BALINCRAT, a spreadsheet that combines a balance sheet (in the upper half) and an income statement (in the lower left). Because each statement gives figures for

more than one year, it's *comparative*. Tucked in the lower right of the spreadsheet are financial ratios that express the relationship between items on the balance sheet and the income statement. So here's BALINCRAT, a true aristocrat: *BAL* (balance sheet), *INC* (income statement), and *RAT* (financial ratios). This month you'll create the BAL and INC parts, and next month you'll add the RAT portion.

A SPREADSHEET TO CALL YOUR OWN

Load AppleWorks and create a new spreadsheet file from scratch named **BALINCRAT**. You're about to enter a great deal of information on this spreadsheet, so turn off automatic recalculation to speed things up: Press Open apple-V (OA-V) and type **RFM** (for *Recalculate, Frequency, and Manual*).

Now enter a double line in row 2: With the cursor on A2, type quotation marks, type 9 equal signs, and hit Return. Leave the cursor on A2 and copy the line into B2 through K2: Press OA-C and hit Return twice. Move the cursor to B2, then type a period, move the cursor to K2, and press the return key.

Now copy that entire line to the clipboard: With the cursor still on A2, press OA-C, type **TR** (for *To clipboard and Rows*), and hit Return. Move the cursor to A30

and copy from the clipboard: Press OA-C and type **F**. Now copy again from the clipboard into row 52. (Yes, 52 is correct.)

In the same way, use minus signs to create a single line from A5 through K5. Then copy the line to the clipboard by pressing OA-C and typing **F** again. Now move the cursor to A33, and copy from the clipboard. Type a quotation mark, and enter one vertical character (it shares the backslash key) in F31, then copy it into F32 through F52. Your lines should now match those in the **Figure**.

ADJUSTMENTS

Follow these instructions to set up the rest of the spreadsheet:

Column width. All columns are now 9 characters wide. Use OA-L and follow screen prompts to increase the width of columns A and G by 23 characters (to 32 characters each); reduce columns B, D, H, and J by 4 characters (to 5 characters each); increase C, E, I, and K by 2 characters (to 11 characters each), and reduce F by 3 characters (to 6 characters). Press the return key after you change each column's width.

Number formats. Use OA-V to set a *standard value* format of *Commas* with no decimal places.

Labels formats. Now move the cursor to F31, press OA-L, choose *Block*, and highlight the cells from F31 through F52. Press Return, choose *Labels Format*, hit Return, choose *Center*, and press Return again. In a similar manner, right-justify B7, which will soon contain a dollar sign.

FORM AND FUNCTION

When you use underlines, dollar signs, and label indentations on the balance sheet and income statement, you must follow standard accounting practice:

Short lines and underlines. Single lines underline subtotals; double lines underline grand totals. In C12, type quotation marks followed by 10 minus signs, and hit Return. Use *Block* to copy this single line to the clipboard, even though C12 is only one cell. Now copy the single line from the clipboard to each of these cells: C14, C18, C20, C24, C26, C36, C38, C44, C46, C49, I11, I13, I16, I18, I24, and I26. Now, in C28, enter 10 equal signs. Copy this double line to the clipboard, then from the clipboard to C51 and I28.

Dollar signs. A dollar sign precedes the first amount in each column and each total amount. Each dollar sign has its own cell, so you get dollar signs aligned perfectly, unlike the staggered signs in a dollars format. Now enter a dollar sign in B7. (Type quotation marks first.) Copy the dollar sign to the clipboard, then from the clipboard to B13, B19, B25, B27, B34, B37, B45, B47, B50, H7, H12, H17, H25, and H27. Press OA-S to store BALIN-CRAT on disk.

ENTERING LABELS

The next step is entering the balance-sheet and income-statement labels shown in the **Figure**. (Don't enter the labels in the financial-ratio area — you'll enter them next month. Besides, you have enough work already.) Remember, you don't have to press Return after typing a label — simply move the cursor to the next cell that needs a label and you'll save a few keystrokes.

Note that we indented several labels. To indent, type quotation marks, then press the spacebar the proper number of times:

*Indent one space before typing the spreadsheet title in E1.

*Indent two spaces before typing the dates in B4, D4, H4, J4, B32, and D32.

*Indent three spaces before typing **Year Ended** in B31 and D31.

*Indent one space before a label under a general heading, such as *Cash* in A7, which follows the heading *Current assets*. Indent two spaces before a subtotal, such as *Total current assets* in A13. Indent three spaces before a final total, such as *Total assets* in A27. After the last label, press the return key, then press OA-S to store the spreadsheet on disk.

BALANCE-SHEET TERMS

You're about to enter the balance-sheet formulas. Here's a description of terms, so

that you can become familiar with some concepts in this area:

**Current assets* are cash and assets that can be converted to cash during the normal operating cycle of the business, usually no longer than a year. The spreadsheet lists assets in order of liquidity: *Cash*, *Marketable securities*, *Inventories*, and *Prepaid expenses*, such as insurance and rent, appear first.

**Fixed assets* and *other assets* are the least liquid, so they appear last. *Goodwill* is an intangible asset that reflects the value of the company's name and reputation in the marketplace.

**Current liabilities* are debts due for repayment within one year. Payments for these obligations are usually taken from *Current assets*. *Long-term liabilities* are debts not due in the current year.

**Stockholders' equity* shows the components of the owners' share in the business: *Common stock outstanding*, *Paid-in capital*, and *Retained earnings*.

ENTERING THE FORMULAS

The unshaded areas in the **Figure** show the formula locations. Read the next section, which describes the formulas, before you place the cursor on the cell that receives the formula. Now move the cursor to the cells shown in the formula, and begin typing.

When you've entered the formula, compare each character on your screen to the printed formula in this column. If everything agrees, press Return. If something's amiss, press Escape and start again.

Protect each formula immediately after creating it: With the cursor on the formula cell, press OA-L and hit Return to confirm *Entry*. Type **PN** to select *Protection Nothing*. (When you copy the formula, AppleWorks copies the protection.) Now enter the balance-sheet formulas.

FORMULA 1: TOTAL CURRENT ASSETS

Formula 1 adds the categories *Cash*, *Marketable securities*, *Accounts receivable*, *Inventories*, and *Prepaid expenses* (rows 7 through 11 in column C), and enters the value into *Total current assets*, C13. As in every other SUM formula, Formula 1 includes the line below the last cell and the blank cell above the first cell in the group. If you later insert rows between these cells, AppleWorks adjusts the cell references to add the new entries. Remember, protect this and every other formula.

Cell location: C13

Formula: @SUM(C12.C6)

FORMULA 2: TOTAL FIXED ASSETS

Formula 2 deducts *Accumulated depreciation* (C17) from *Plant, property, and equipment assets* (C16), and enters *Total fixed assets* in C19.

Cell location: C19

Formula: +C16-C17

FORMULA 3: TOTAL OTHER ASSETS

Formula 3 adds *Investments* (C22) and *Goodwill* (C23) to produce *Total other assets* in C25.

Cell location: C25

Formula: +C23+C22

FORMULA 4: TOTAL ASSETS

Formula 4 adds *Total current assets* (C13), *Total fixed assets* (C19), and *Total other assets* (C25) to produce *Total assets* in C27.

Cell location: C27

Formula: @SUM(C25,C19,C13)

FORMULA 5: TOTAL CURRENT LIABILITIES

Formula 5 adds *Notes payable (current portion)*, *Accounts receivable*, *Accrued taxes*, and *Other accrued liabilities* (rows 7 through 10, column I), and enters *Total current liabilities* in I12.

Cell location: I12

Formula: @SUM(I11.I6)

FORMULA 6: TOTAL LIABILITIES

Formula 6 adds *Total current liabilities* (I12) and *Long-term liabilities* (I15) to produce *Total liabilities* in I17.

Cell location: I17

Formula: +I15+I12

FORMULA 7: TOTAL STOCKHOLDERS' EQUITY

Formula 7 adds *Common stock*, *Paid-in capital*, and *Retained earnings* (rows 21 through 23, column I) to produce *Total stockholders' equity* in I25.

Cell location: I25

Formula: @SUM(I24.I20)

FORMULA 8: TOTAL LIABILITIES AND STOCKHOLDERS' EQUITY

Formula 8 adds *Total liabilities* (I17) and *Total stockholders' equity* (I25) to produce *Total liabilities and stockholders' equity* in I27.

Cell location: I27

Formula: +I25+I17

COMPARATIVE BALANCE SHEET						
	June 30, 1990	June 30, 1989		June 30, 1990	June 30, 1989	
ASSETS			LIABILITIES AND STOCKHOLDERS' EQUITY			
41						
51						
61	Current assets:		61	Current liabilities:		
71	Cash	\$ 185,890	\$ 182,506	Notes payable (current portion)	\$ 447,500	\$ 355,670
81	Marketable securities	36,503	30,090	Accounts receivable	152,897	140,800
91	Accounts receivable	771,080	807,289	Accrued taxes	41,234	110,560
101	Inventories	1,234,567	1,115,876	Other accrued liabilities	185,670	159,323
111	Prepaid expenses	19,880	16,540			
121				Total current liabilities	\$ 827,301	5 \$ 766,353
131	Total current assets	\$ 2,247,920	1 \$ 2,152,301			
141				Long-term liabilities:		
151	Fixed assets:			Notes payable (long-term)	626,017	829,371
161	Plant, property, and equipment	1,579,150	1,494,235			
171	Less: Accumulated depreciation	876,820	766,031	Total liabilities	\$ 1,453,318	6 \$ 1,595,724
181						
191	Total fixed assets	\$ 702,330	2 \$ 728,204	Stockholders' equity:		
201				Common stock (\$10 par value, 40,000 shares outstanding)	400,000	400,000
211	Other assets:			Paid-in capital	344,350	344,350
221	Investments	63,589	0	Retained earnings	1,015,971	740,231
231	Goodwill	200,000	200,000			
241				Total stockholders' equity	\$ 1,760,521	7 \$ 1,484,781
251	Total other assets	\$ 263,589	3 \$ 200,000	Total liabilities and stockholders' equity	\$ 3,213,839	8 \$ 3,080,505
261						
271	Total assets	\$ 3,213,839	4 \$ 3,080,505			
281						
291						
301						
311						
321	COMPARATIVE INCOME STATEMENT			** FINANCIAL ANALYSIS RATIOS **		
331		Year Ended	Year Ended		1990	1989
341	Sales	\$ 3,895,870	\$ 3,694,760	CURRENT RATIO	2.72	13 2.81
351	Cost of goods sold	2,528,090	2,423,800	QUICK ASSETS OR ACID TEST RATIO	1.20	14 1.33
361				CASH RATIO	.27	15 .28
371	Gross profit	\$ 1,367,780	9 \$ 1,270,960	NET WORKING CAPITAL (\$THOUSANDS)	1,421	16 1,386
381				DEBT TO ASSETS RATIO	.45	17 .52
391	Operating expenses:			DEBT TO EQUITY RATIO	.83	18 1.07
401	Selling expense	377,295	334,890	LONG-TERM DEBT TO EQUITY RATIO	.36	19 .56
411	General & admin expense	326,780	292,230	TIMES INTEREST EARNED RATIO	5.92	20 4.31
421	Depreciation	110,789	107,324	AVG COLLECTION PERIOD (DAYS)	72	21 80
431	Interest expense	93,350	124,406	RECEIVABLES TURNOVER RATIO	5.1	22 4.6
441				INVENTORY TURNOVER RATIO	2.0	23 2.2
451	Total operating expenses	\$ 908,214	10 \$ 858,850	ASSETS TURNOVER RATIO	1.2	24 1.2
461				GROSS PROFIT MARGIN	35.11	25 34.41
471	Operating income before taxes	\$ 459,566	11 \$ 412,110	NET PROFIT MARGIN	7.11	26 6.71
481	Income taxes	183,826	164,844	RETURN ON ASSETS	8.67	27 8.01
491				RETURN ON STOCKHOLDERS' EQUITY	15.71	28 16.71
501	Net income	\$ 275,740	12 \$ 247,266	EARNINGS PER SHARE	\$6.89	29 \$6.18
511						
521						
531						

Figure. The powerful BALINCRAT spreadsheet, combining balance sheet, income statement, and financial ratios.

COPYING THE ENTRIES

Now copy all your entries — dollar signs, lines, and formulas — from the 1990 columns to the 1989 columns.

First, the *ASSETS* section: Place the cursor on B7, press OA-C, and hit Return. Press OA-5 to move the cursor to B27, then Down Arrow to reach B28. Hit Right Arrow to block out column C, and hit Return again.

Now press Right Arrow twice, and hit Return. Every cell reference in each formula is *relative*, so press OA-R. Boy, these new copy features (block copy and relative-reference copy) in AppleWorks 3.0 are terrific, aren't they?

Now for the liabilities section: Place the cursor on H7, then press OA-C and hit Return. Press OA-5, then Down Arrow to reach H28. Hit Right Arrow to block out column I, and hit Return again.

Now press Right Arrow twice and hit Return. Every cell reference is once again

relative, so press OA-R. Press OA-S to store the spreadsheet on disk.

Use the **Figure** as a reference to type the practice numbers that appear in the unshaded areas of the balance sheet. These entries are values, so don't type any commas — AppleWorks produces them automatically.

You turned off automatic recalculation, so the formulas can't calculate your entries. Feel free at any time to press OA-K to recalculate, then compare your results with the **Figure**.

When you're finished, press OA-S to store the spreadsheet on disk.

INCOME-STATEMENT TERMS

Now turn your attention to the spreadsheet's income-statement formulas. Here's a description of some terms you'll need to know:

**Sales* include all sales of company products, adjusted for returns and allowances.

**Cost of goods sold* is the total of the expenditures needed to produce the products — including the cost of raw materials, factory overhead, factory labor, subcontracting, and freight.

**Gross profit* is the difference between *Sales* and *Cost of goods sold*.

**Operating expenses* include *Selling expense* (salaries and commissions for the sales force, advertising), *General and administrative costs* (rent, utilities, salaries, supplies, and other operating costs needed for overall administration of the business), *Depreciation* (allocation of an asset's cost over its estimated useful life), and *Interest expense* (cost of borrowing funds used in business operations).

**Net income* is the difference between *Gross profit* and *Operating expenses* after deduction of taxes.

Now enter the income-statement formulas. As before, protect each formula immediately after creating it.

FORMULA 9: GROSS PROFIT

Formula 9 deducts *Cost of goods sold* (C35) from *Sales* (C34) to produce *Gross profit* in C37.

Cell location: C37

Formula: +C34-C35

FORMULA 10: TOTAL OPERATING EXPENSES

Formula 10 adds *Selling expense* (C40), *General and administrative expense* (C41), *Depreciation* (C42), and *Interest expense* (C43), and enters *Total operating expenses* in C45.

Cell location: C45

Formula: @SUM(C44.C39)

FORMULA 11: OPERATING INCOME BEFORE TAXES

Formula 11 deducts *Total operating expenses* (C45) from *Gross profit* (C37) to produce *Operating income before taxes* in C47.

Cell location: C47

Formula: +C37-C45

FORMULA 12: NET INCOME

Formula 12 deducts *Income taxes* (C48) from *Operating income before taxes* (C47) to produce *Net income* in C50.

Cell location: C50

Formula: +C47-C48

GET ON THE FAS-TRACK!



- Call for FREE 128 pp Catalog
- Toll-Free Technical Support
- We Welcome School Purchase Orders
- Everyday Low Prices

Now copy the income-statement entries from the 1990 to the 1989 columns: With the cursor on B34, press OA-C and hit Return. Press OA-9 to move the cursor to B53, hit Right Arrow to block out column C, and hit Return again. Press Right Arrow twice, hit Return, and press OA-R.

Once again, use the **Figure** as a reference and enter the practice numbers that appear in the unshaded areas of the income statement (again, no commas). Press OA-K at any time to recalculate, and compare your results with the accompanying **Figure**.

PRINTING THE SPREADSHEET

BALINCRAT is 134 characters wide and prints 17 characters per inch, letting it fit compactly on one page. Press OA-O to bring up the *Printer Options* screen. Now type **CI** (for *Chars per Inch*) and press Return. Type **17** and hit Return again.

To get a good balance, we'll change the margins: Type **TM** (for *Top Margin*) and press Return. Type **.3** and hit the return key again.

Now type **RM** (for *Right Margin*) and press the return key. Type **.1** and hit Return once again.

Press OA-S to store the spreadsheet on disk and return it to the screen.

Now turn on your printer. Press OA-P to start the *Print* command. Press Return to confirm *All*, then select the printer or type your printer number, and hit Return.

Enter the date, or, if your computer has a clock, type @ (the "at" sign) and hit Return twice. BALINCRAT rolls off the printer in all its glory.

Next month you'll enter the formulas that produce BALINCRAT's financial ratios and get a short course in what they mean. If you consider your new information in light of a company's past performance, trends over time, and industry norms, ratios can provide a quick way to assess a company's financial condition. □

CONTRIBUTING EDITOR RUTH K. WITKIN IS THE AUTHOR OF THE TEMPLATE/HANDBOOK SERIES *SUCCESS WITH APPLEWORKS* (inCIDER, IDG COMMUNICATIONS/PETERBOROUGH), *THE BEST BOOK OF APPLEWORKS* (HOWARD W. SAMS & CO.), AND *PERSONAL MONEY MANAGEMENT WITH APPLEWORKS* (JOHN WILEY & SONS). WRITE TO HER AT 5 PATRICIA STREET, PLAINVIEW, NY 11803. ENCLOSE A SELF-ADDRESSED, STAMPED ENVELOPE IF YOU'D LIKE A REPLY.

Applied Engineering



GS Ram Plus w/1 Meg	\$199.95
GS Ram Ultra w/256K	\$159.95
GS Ram Ultra w/1 Meg	\$199.95
AE 3.5" 800K Drive	\$204.95
Vulcan 20 Meg Drive	\$499.95
Vulcan 40 Meg Drive	\$649.95
TransWarp IIgs	\$289.95
RamWorks III w/256K	\$139.95

256K Drams (8 - 120ns)	\$25
1 Meg Drams (8 - 100ns)	\$69
256K x 4 (2 - 120ns)	\$20

Zip Technologies

4 mhz Zip Chip	\$99.95
8 mhz Zip Chip	\$144.95
Zip IIgs	\$Ca.11

Laser Computer

Laser 128 w/RGB mon	\$519.95
Laser 128EX w/RGB mon	\$599.95
Laser 190A Printer	\$194.95
(Computer prices include freight)	

AMR AS800 3.5" Drive



\$169.95
IIgs & IIc+
Daisy-Chainable
5.25" \$139.95

ThunderWare

LightningScan GS



\$199.95

New LightningScan IIgs allows you to scan in one quick pass photos, logos, & graphics at up to 400DPI.

ThunderScan (IIc or IIgs) \$154.95

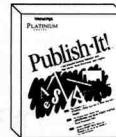
Promodem 2400A



\$129.95

300/1200/2400 Baud Hayes
Compatible Internal Modem for
II+, IIc or IIgs. Includes software!

DTP and Graphics



Publish
It! 3
\$72.95
(Limited
Quantities)

4 in one Graphics Pack	\$74.95
Educational Graphics	\$25.95
Graphic Writer III (IIgs)	\$89.95
Childrens' Writing & Publishing Center	\$36.95
The New Print Shop	\$29.95
Print Shop IIgs	\$36.95
Music Studio 2.0 (IIgs)	\$48.95
PaintWorks Gold (IIgs)	\$48.95

Beagle Brothers



T.O. Style Pack	\$81.95
T.O. Decision Pack	\$93.95
T.O. Performance Pack	\$68.95
AW 3.0 Companion	\$24.95
TextTools	\$31.50
Superfonts	\$39.50
Thesaurus or Powerpack	\$28.95
Desktools I or II	\$28.95
Sidespread or File Master	\$28.95
Spreadtools or Ultramacros	\$37.50
Graph	\$49.95
ReportWriter	\$49.50
Point-To-Point	\$61.95

Accessories & Misc Hardware

ImageWriter Black Ribbon	1-5 \$2.95 6+ \$2.50
ImageWriter 4-Color Ribbon	1-5 \$6.50 6+ \$5.75
10 DS/DD 3.5" Diskettes	\$6.50
25 DS/DD 5.25" Diskettes	\$8.95
System Saver IIgs	\$69.95
IIc 80 Column 64K Card	\$24.95
FingerPrint GSI Ver 3	\$89.95
Computereyes IIgs	\$199.95
Kraft KCIII	\$18.95

Productivity Software

AppleWorks 3.0	\$169.95
AppleWorks GS 1.1	\$199.95
HyperStudio 2.1 (IIgs)	\$89.95
Quicken	\$37.95

Utility Software

Copy II Plus 9.0	\$24.95
Prosel 16 (IIgs)	\$54.95
Easy Drive	\$26.95
Repairworks	\$26.95
Superpatch	\$26.95
Cross-Works	\$69.95

Vitesse

Quickie Scanner IIgs/IIc	\$204.95
Guardian (IIgs)	\$30.95
Renaissance (IIgs)	\$30.95
Exorciser (IIgs)	\$27.95
Wings (IIgs)	\$47.95
Deliverence (IIgs)	\$30.95

Education

Where in Time	\$27.95
Where in the World	\$25.95
Where in the USA	\$27.95
Where in Europe	\$27.95
Math Blaster Plus	\$29.95
Word Attack Plus	\$29.95
Oregon Trail	\$25.95
Think Quick	\$30.95
McGee or Kates Farm (IIgs)	\$27.95
The Playroom	\$24.95
Mavis Beacon Typing IIgs	\$32.95

Kraft Systems



Thunderstick

New high-performance joystick for Flight simulation and racing games.

\$27.95

Entertainment

Test Drive II (IIgs)	\$29.95
Jack Nicklaus Golf (IIgs)	\$29.95
Chessmaster 2100 (IIgs)	\$32.95
Arkanoid II (IIgs)	\$21.95
Battle Chess (IIgs)	\$30.95
Xenocide (IIgs)	\$30.95
Fast Break (IIgs)	\$27.95
Clue	\$24.95
Task Force (IIgs)	\$24.95



FAS-TRACK
COMPUTER PRODUCTS

7030C Huntley Road • Columbus, Ohio • 43229

ALWAYS CALL **1-800-272-1600**
TOLL-FREE



1-614-847-4050 (Central Ohio)

U.S. F.P.O., and A.P.O., add 3% (minimum \$4.00) for each shipment. No C.O.D. In Ohio, add 5.75% Sales Tax. MasterCard, VISA, and American Express—No extra charge. We accept purchase orders from schools. Prices subject to change without notice.

FROM HOME TO SCHOOL AND BACK AGAIN, FAS-TRACK DELIVERS!



ALL THE NEWS THAT FITS

With this handy technique and your favorite desktop-publishing program, you can transform words into type in no time.

By **CYNTHIA E. FIELD, Ph.D.**

INCORPORATING THAT ESSAY OR feature article into your newsletter's format is a desktop publisher's ultimate challenge — the prose may be brilliant, but it's usually too short or too long.

Instead of adding clip art to fill blank spaces, or using a smaller type size to squeeze your material into text frames, this month we'll show you how to determine the amount of text that will fit into any desktop publication before you begin writing. You'll not only avoid some of the hassles, but your publication will look more professional.

JUST MY TYPE

Start up **Publish It! 3** and go into *Size to Fit* mode by pressing Open apple-4 (OA-4) or pulling down the Special menu. (Although we designed and tested this technique with Publish It! 3, you can adapt the procedure to work with your favorite DTP program.)

Next, press OA-Z to open a new file, and name it FONT.TEST. Select the text tool and use the program's screen rulers as guides to create a text frame about four inches wide by four inches high.

Now insert the I-beam into the text area, and choose the font you want to use in the actual publication. Press OA-W to select the

font, then begin typing a writing sample with Publish It! 3's word processor.

For most publications, type the body of the text in 10- or 12-point size, because that's what your readers are accustomed to. The Publish It! 3 font library offers 10- and 12-point type sizes in three distinct faces: Deerfield, Desplaines, and Wilmette.

If you want to add some variety to your publication, choose a different font. In addition to Publish It! 3's fonts, you can buy any of hundreds of inexpensive GS typefaces (file type \$C8 or FON) through public-domain software sources.

Some fonts may be too stylish or distracting to use for the body of your text, but others, such as Bookman and Palatino, are traditional looking, and quite readable. Such typefaces add a sense of understated authority to your publications.

THE SWITCH

If you're using an earlier version of Publish It!, you must first convert a type \$C8 font to Publish It!-compatible format (\$F7 or IMG file type). Publish It! 3, however, can use GS fonts directly, without any conversion.

Conversion programs are available in the public domain — check with your local user group, or refer to *inCider's* recent article on public-domain software for more information. (See "Pick a Winner," June

1990, p. 36.) If you'd like to try your hand at a bit of typeface creativity, you might also be interested in a new kind of utility program — the *font editor*. (See "Face to Face," March 1990, p. 61, for details.)

Using alternative type styles with Publish It! is easy because options for removing or adding selected fonts are listed under the Apple menu. Some users "de-install" font families they use rarely to make room for those they employ on a day-to-day basis.

SAMPLING YOUR PROSE

Whenever we need to type in hypothetical text to test projects such as this one, we enter part or all of the *Gettysburg Address*. (Aren't you glad you memorized it in eighth grade?) President Lincoln's speech contains some 271 words, a reasonably long sample.

For more precise results, however, we suggest you type a representative paragraph or two of your original prose. You could select some lines from an editorial you wrote for the latest issue of your club newsletter. Or perhaps you could use a couple of paragraphs from that letter you sent to the editor of your local paper.

Whatever you choose to type, print the sample, then save the FONT.TEST file (OA-S) to a data disk.

If you want to test another font, place the I-beam at the beginning, and select the text either by pressing OA-E and choosing *Select to End* from the Edit menu, or by using the mouse to drag the I-beam across the text. Press OA-W and choose the next font you want to evaluate from the font directory that appears on screen.

MEASURE FOR MEASURE

Using a ruler as your guide, make pencil marks at one-inch intervals across the width of the printed text, then make



The IIGS just got up to speed.

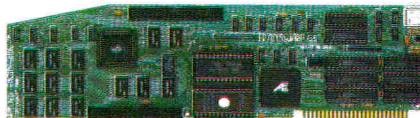
Join the tens of thousands of TransWarp GS™ owners who've discovered computing at Warp Speed!

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®
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.

similar marks at one-inch intervals down the length of the text.

Draw vertical and horizontal lines through the marks to create a grid composed of one-inch blocks with words trapped inside.

Now count the number of complete words that occupy the first block. When a grid line bisects a word, include the word in your count only if the majority of the word's letters fit within the block. Write down the word count for the first block.

Repeat this procedure on two additional text blocks, then calculate an average by adding the three word-count values and dividing the result by 3. This average equals the number of words you can print with a particular font in one square inch of a printed page.

ADD IT ALL UP

Now open your publication's DTP template file. There are two methods for determining the total area of your publication's text frames, so choose the one that fits your style and project best.

With the first method, you need to place a border around each text frame: Select the text, press OA-M, and click on the *Frame Borders* check box.

Do the same for each remaining chunk of text in your publication. Print a copy of all pages comprising your blank template. With a ruler, measure the width and height of each text frame.

The second and easier method lets you use Publish It's width and height measurements from each text frame's *Show Specifications* dialog box.

If you incorporate this project into a classroom exercise, you may want students

to try the first method, then check the accuracy of their measurements against the values given in each *Show Specifications* dialog box.

With a calculator, or paper and pencil, multiply each frame's width by its height to determine its area. Then add the areas of all the text frames to determine the total amount of space that's available for text in your publication.

Next take the average number of words per square inch that you calculated during the font test and multiply that number by the total text area that's available in the publication's template.

The result yields the total number of words that fit into the allocated space.

Multiply the total word count by 0.9 to allow for a 10 percent margin of error. Experience may prompt you to edit this fudge factor as necessary to give even more precise counts. Here's the template equation:

$$\frac{\# \text{ of Words}}{\text{Square Inch}} \times \frac{\text{Square Inches}}{\text{Publication}} \times 0.90 = \frac{\# \text{ of Words}}{\text{Publication}}$$

KEEP IN MIND

When you adopt our text-fitting protocol, don't forget that certain variables can alter anticipated results.

For one thing, the number of words that occupy a given text frame varies if you suddenly begin incorporating shorter or longer words than you used during the font test. An essay written by the average second-grader, for example, includes more words per square inch than an essay written by a high-school senior.

Moreover, switching to a different type size can change a words-per-square-inch value dramatically.

When we used the 12-point Deerfield font, for example, we fit the *Gettysburg Address* three times into a 68.6-square-inch text area.

With the 10-point Deerfield font we fit the speech four times into the same space. The 9-point Deerfield font accommodated President Lincoln's immortal prose a whopping six times!

READY TO ROLL

Coping with variables is easy if you calculate word counts for all the typefaces, sizes, and styles you'll eventually use.

For optimum efficiency, perform all font-test calculations during a single work session, and store the results in a handy quick-reference table printed on an index or rotary-file card.

Thanks to a new generation of modern Apple II word processors — such as **AppleWorks 3.0** with its built-in spell-checking accessory — you can generate document word counts on command.

Type your article, press OA-V to select the program's spell-checking function, then select *Options*, *Summary*, and *Screen* (unless you want a printout of the results). After you spell-check the document, the on-screen summary provides a running word count.

Adjust the size of your AppleWorks document so that it conforms to the result of the template equation above.

If you discover that you have room in your desktop publication for additional text, find a paragraph that could benefit from more development or clearer explanation.

If you still have space left over, consider adding a sidebar to the main article. In either example, determining the amount of text ahead of time lets you fill the extra space with interesting information instead of superfluous clip art.

If you find that your document is too long, instead of manipulating type sizes and fonts to fit it into a text frame, shorten the text by excising any "fat."

By using a grammar checker to prune wordiness, for example, you'll not only shorten the piece, but probably make it more comprehensible.

PLANNING AHEAD

Above all, don't feel enslaved by any word-count guidelines you've calculated. Just try to stay within a hundred words of the target value.

That way you'll have a minimum of editing and formatting to perform after the word-processing file's been imported into your DTP template. □

CONTRIBUTING EDITOR CYNTHIA E. FIELD IS A FREE-LANCE JOURNALIST SPECIALIZING IN COMPUTER-RELATED TOPICS. WRITE TO HER AT 60 BORDER DRIVE, WAKEFIELD, RI 02879. ENCLOSE A SELF-ADDRESSED, STAMPED ENVELOPE IF YOU'D LIKE A PERSONAL REPLY.

PRODUCT INFORMATION

AppleWorks 3.0
Claris Corporation
5201 Patrick Henry Drive
P.O. Box 58168
Santa Clara, CA 95052-8168
(408) 727-8227
\$249

Publish It! 3
Timeworks Inc.
444 Lake Cook Road
Deerfield, IL 60015
(800) 535-9497
(312) 948-9200
\$129.95

Thanks for the memory.

UniDOS Plus allows thousands of DOS 3.3 Applesoft programs and data files to run with large-capacity 3.5-inch disks. The 3.5-inch disks have five times the storage capacity of floppy disks - but Apple's older DOS 3.3 cannot access them. UniDOS Plus fills this gap. With UniDOS Plus, you get DOS 3.3 compatibility and a big 800K capacity!

More Memory Too!

You get 24% more memory for your programs and data - without hardware! UniDOS moves DOS 3.3 out of program memory and into auxiliary RAM...and adds nearly 9,000 bytes to Applesoft program space. You'll write bigger, more powerful programs that used to be impossible.

Still More!

You get these exciting features too: The first FAST COPY for 3.5-inch disks! • Wildcard Catalog commands. • Intermixed 3.5- and 5.25-inch disks. • Two 400K volumes per disk. • Up to two 3.5-inch drives (1.6 megabytes) per slot!

System Requirements

UniDOS Plus runs on any Apple II series computer and is compatible with: Apple UniDisk 3.5, Apple 3.5-inch disk, and the Chinon 800K disk with Central Point's Universal Disk Controller card.

UniDOS Plus works with all Applesoft programs, but doesn't work with many copy-protected or commercial programs.

Order now to get BIG DISK capacity and BIG MEMORY in one powerful package!

Call Toll-Free 1-800-343-0728 to order UniDOS Plus...
or simply fill out this coupon and mail it TODAY!

Say Yes!

I want UniDOS Plus for just \$39.95!

Payment enclosed: Check/Money Order Visa
 MasterCard American Express

Card # _____

Expire Date _____

Signature _____

Name _____

Address _____

City/State/Zip _____

IDG Special Products

80 Elm Street • Peterborough, NH 03458

Shipping & Handling: add \$2.50, U.S. and Canada; add \$7.50, overseas air mail. Massachusetts residents add 5% sales tax. Make checks payable to IDG Special Products. All foreign orders must be paid in U.S. funds drawn on a U.S. bank. Please allow 4-6 weeks for delivery.

UAZS



SHELL SERVICE

Now that you're acquainted with shells, learn to fill them with desk accessories and initialization files and create programs that aren't simply "routine."

By JOE ABERNATHY

IN OUR PREVIOUS COLUMN, "Fundamental Tools," August 1990 (p. 68), we presented shells for writing GS desktop applications. *Shells*, or *templates*, contain those parts of programs common to a particular type of software — you simply fill in the details for each new application of the shell. This month we present templates and strategies for creating three other types of GS programs: *classic desk accessories* (CDAs), *new desk accessories* (NDAs), and *GS/OS initialization* (INIT) files.

NDAs are the shared system utilities whose names you see when you pull down the Apple menu. In most GS desktop programs this menu appears in the top-left corner of the screen.

CDAs are system utilities, too. To bring them into view you must press the open-apple, control, and escape keys simultaneously. Although the IIGS Control Panel was developed as a CDA, with the release of GS/OS version 5 it's available as both a CDA and an NDA. The only similarity between the two utilities, however, is that you can execute them while you run another program. Also, NDAs can function in tandem with other programs.

INIT files are programs you can execute automatically when using GS/OS to start up your GS. This property offers all sorts

of possibilities — GS BASICs enthusiast Jeff Noxon designed the indispensable BufferInit printer buffer as an INIT file.

NEW DESK ACCESSORIES

Whatever function or feature you're trying to program, you can't ignore the GS desktop. NDAs must function within the GS desktop environment, taking into account all aspects of that environment, including window creation. Therefore, NDAs exercise your ability to use the built-in GS Toolbox and its related data structures as you build your program.

Listing 1 contains the minimum requirements for an NDA. Although your NDA doesn't have to use a window, we set up our template so that it does. To make the NDA listing readable, we used the programming language Pascal. To follow along with another language, print an example NDA supplied with your compiler. (All compilers that create NDAs, such as **Merlin** and **ORCA/M**, have these examples.)

The second line in **Listing 1** tells the **ORCA/Pascal** compiler the names of the four routines (*Open*, *Close*, *Action*, *Init*), its frequency of execution, its event mask, and its name. The frequency, 60 in our example, means that GS/OS checks in with the NDA every 60 ticks, or once a minute. Of course, you can change this if you need to update some portion of the NDA. The

event mask describes the action codes that should pass to the NDA. (See the *Apple IIGS Toolbox Reference Volume 1*, Addison-Wesley, pp. 5 – 6.)

The *uses* statement lists the NDA's internal toolsets and header files, or its common libraries of routines. Our statement includes the minimum number of toolsets, files, and libraries within any desktop-windowed environment.

The *Common* command provides the program's definition for data. You may want to print this if you're not familiar with Pascal data structures.

When you select the NDA from the Apple menu, you call up the *Open* function simultaneously. To ensure that your NDA hasn't already been activated, however, the Boolean on/off flag, *NDAActive*, is tested. If it's not activated, a standard window-definition template for the Toolbox creates the NDA's window, and the *Open* function returns a pointer to that new window. To close the NDA's window, simply use the *Close* procedure.

The *Action* routine interprets the "action code" that the Toolbox Desk Manager passes to the NDA. *EventAction* can be the mouse's *ButtonDown* or *ButtonUp*, the keyboard's *KeyDown* or *AutoKeyDown*, or other general actions, including *Update* and *Activate*. By calling *MyNDAProc*, *Update*, or *RunAction*, you invoke the NDA's action.

Another point of interest is *MyNDAProc* — the location of the original programming that makes your NDA shell come to life. Most examples are clocks or QuickDraw graphics. (See your compiler's examples.)

After you've created your NDA, change the compiled program's filetype to *NDA* (GS/OS type \$B8), and copy it to the *system/desk.accs* directory of your boot disk. Then simply restart your GS and your new NDA will appear under the Apple menu.



Homework isn't just kids' stuff anymore.

PC Transporter gives the term homework a whole new meaning. Bring your MS-DOS work home from the office and use your Apple to get caught up. . . or get ahead. Now for a fraction of the cost of an IBM clone, your Apple II has the power to run virtually all MS-DOS programs.

And your Apple IIGS, IIe or II+ will run those programs at more than *three times the speed* of an IBM XT. Run Lotus 123, dBASE III PLUS, Harvard Graphics, Symphony, Microsoft Works, Flight Simulator and thousands of other titles you can't get for your Apple II!



Works with your Apple's peripherals

PC Transporter was designed to take full advantage of the Apple-compatible peripherals you already own. So you won't need an extra printer, monitor, mouse, modem or hard disk. They can all be used for *either* MS-DOS or ProDOS. And you can switch back and forth instantly, even transfer files from ProDOS to MS-DOS and back again.

Your Apple-compatible peripherals and PC Transporter not only work together, you get *faster operation and better quality graphics*,

since your Apple analog monitor is sharper than IBM-standard digital monitors.

Universal disk drive controller

PC Transporter works as a universal disk drive controller, enabling your Apple or AE 3.5 Drive to run MS-DOS or ProDOS and to shift instantly between the two. If you need 5.25 MS-DOS capability, our optional 5.25 IBM-format drives enable you to access 5.25 MS-DOS disks and will also store ProDOS.

Shop ALL the software aisles

Discover thousands of new titles you couldn't run at home before. Exchange ProDOS and MS-DOS files with your friends and co-workers. Store IBM programs on any ProDOS storage device including the Apple or AE 3.5 drive, Apple UniDisk 3.5, Apple or AE 5.25 Drive, Vulcan, SCSI or ProDOS compatible hard drives.

Easy to install and use

PC Transporter was designed by the experts so you don't have to be one to use it. We include clear, understandable installation instructions, pre-boot software and even an installation video to help.

The do-everything computer

Turn your Apple into a fast, powerful tool that'll change the way you think about home-

work. And know that Applied Engineering stands behind PC Transporter with a full one-year warranty and American-made pride.

PC Transporter with 768K. \$399
IIGS Installation Kit. \$49
IIe/II+ Installation Kit. \$39
Optional 5.25 IBM Format 360K Drive Systems

Single-Drive System. \$259
Dual-Drive System. \$399

Order today!

To order or for more information, see your local 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.


Applied Engineering®
The Apple enhancement experts.
 A Division of AE Research Corporation

(214) 241-6060

P. O. Box 5100
 Carrollton, TX 75011



©1990. AE Research, Inc. All rights reserved. Prices subject to change without notice. Brand and product names are registered trademarks of their respective holders

CLASSIC DESK ACCESSORIES

Unlike NDAs, CDAs use the GS' text screen; therefore, programming CDAs is less complicated because you have to provide only two routines, *Start* and *ShutDown*. *Start* can be almost any binary program, and *ShutDown* is usually empty. It's easy to create an NDA: Simply copy an old program into the *Start* function and you'll get a new classic desk accessory. If you use an old program, however, make sure your variables are arranged properly — if they aren't, you'll make an error in the conversion process.

Listing 2 uses the language C for our CDA shell. You can find examples of CDAs with all compilers that support CDA creation — the trick is you need only a small amount of extra code to create a CDA. As with NDAs, if you want CDAs to appear on the CDA menu, you must place the CDA files (GS/OS type \$B9) in the *system/desk.accs* directory of your startup disk.

If you use **Micol Advanced BASIC** (IIGS version) you can create CDAs without manipulating their compiled BASIC programs. Just run the finished copy through the conversion utility included with the Micol compiler. Similar to the Micol tool for creating launchable .SYS16 files, the only down side to this approach is that all of Micol's runtime library of internal procedures is added to your new CDA — your programs become much larger than usual.

INIT FILES

Listing 3 hardly needs an explanation — there's nothing special about these handy files. You can find examples of the two types of INIT files — *temporary* (GS/OS type \$B7) and *permanent* (GS/OS type \$B6) — in your startup disk's *system/system.setup* directory.

When you start up your GS with GS/OS, you execute all INIT files. The temporary INIT is removed immediately from memory to make room for other programs and data. Temporary INITs are used by Apple to "patch" the Toolbox with the latest updates.

There are occasions when you want a loaded program to remain active each time you start up your GS. Permanent INIT programs do just that: When you boot your computer these programs are loaded and executed, then remain protected in your GS' memory until you remove them. CDALock, a program that disables access

Listing 1. IIGS new desk accessory (NDA) shell.

```

{$keep 'myfile'}
{$newDeskAcc Open Close Action Init 60 -1 '-MyNDA\H***'}

program MyNDA (output);

{ ----- }
{ New Desk Accessory Shell }
{ By Joe Abernathy. }
{ Copyright 1990, inCider }
{ Compiler: ORCA/Pascal for Apple IIGS. }
{ Based on an example by The Byte Works. Used with permission. }
{ ----- }

uses
    Common, QuickDrawII, EventMgr, WindowMgr, DeskMgr, MscToolSet;
var
    MyStr:    pString;           { scratch string }
    NDAwinptr: grafPortPtr;     { desk acc window pointer }
    NDAwin:   paramList;       { window parameter list }
    NDAActive: boolean;        { tracks nda status }

{ ----- }
{ Open - activate the NDA if needed. }
{ ----- }

function Open: grafPortPtr;
begin
    if not NDAActive then begin
        MyStr := 'MyNDA';           { assign the window title }
        with NDAwin do begin
            paramLength := 78;
            wFrameBits := $FFFFCOA0;
            wTitle := @MyStr;
            wRefCon := 0;
            wZoom.v1 := 0;
            wZoom.h1 := 0;
            wZoom.v2 := 0;
            wZoom.h2 := 0;
            wColor := nil;
            wYOrigin := 0;
            wXOrigin := 0;
            wDataH := 0;
            wDataW := 0;
            wMaxH := 0;
            wMaxW := 0;
            wScrollVer := 0;
            wScrollHor := 0;
            wPageVer := 0;
            wPageHor := 0;
            wInfoRefCon := 0;
            wInfoHeight := 0;
            wFrameDefProc := nil;
            wInfoDefProc := nil;
            wContDefProc := nil;
            wPosition.v1 := 50;           { your window dimensions here }
            wPosition.h1 := 50;
            wPosition.v2 := 100;
            wPosition.h2 := 200;
            wPlane := pointer (-1);
            wStorage := nil;
        end; { ndaWin }
        NDAwinptr := NewWindow (NDAwin); { open a window }
        SetSysWindow (NDAwinptr);      { set it to the system window }
        NDAActive := true;              { Set boolean status flag }
        Open := NDAwinptr;             { return window pointer }
    end; { if not NDAActive }
end; { Open }

{ ----- }
{ Close - deactivate the NDA when it's time to do so. }
{ ----- }

```

PRODUCT INFORMATION

Apple Programmer's Workshop

Apple Programmers
and Developers Association
Apple Computer Inc.
20525 Mariani Ave.
Cupertino, CA 95014-6299
(800) 282-2732
\$100

CallBox

CallBox Programmers
Association
So What Software
10221 Slater Ave., Suite 103
Fountain Valley, CA 92708
(714) 964-4298
membership \$25/year
\$99

MD-BASIC

Morgan Davis Group
10079 Nuerto Rancho
San Diego, CA 92078-1736
(619) 670-0563
\$49.95

Merlin

Roger Wagner Publishing
1050 Pioneer Way, Suite P
El Cajon, CA 92020
(619) 442-0522
\$124.95

Merlin-to-ORCA Source-Code Translator, \$29.95

ORCA/M, \$69.95

ORCA/Pascal, \$150
The Byte Works Inc.
4700 Irving Blvd NW, Suite 207
Albuquerque, NM 87114
(505) 898-8183

Micol Advanced BASIC

Micol Systems Inc.
9 Lynch Road
Willowdale, ON
Canada M2J 2V6
(416) 495-6864
\$145 GS
\$89.95 Ile/Ic

```

procedure Close;
begin
if NDAActive then begin
  CloseWindow (NDAwinptr);
  NDAActive := false;
  end; { if NDAActive }
end; { Close }

{ _____ }
{ Action - Handle an action call. }
{ _____ }

procedure Action (code: integer; param: longint);
var
  evPtr: eventRecPtr;
  currPort: grafPortPtr;
begin
case code of
  eventAction: begin
    evPtr := pointer (param);
    if evPtr^.eventWhat = updateEvt then begin
      BeginUpdate (NDAwinptr);
      MyNDAProc;           { call your code here }
      EndUpdate (NDAwinptr);
      end; { if updateEvt }
    end; { eventAction }
  runAction: begin
    currPort := GetPort;
    SetPort (pointer (NDAwinptr));
    MyNDAProc;           { call your code here }
    SetPort (currPort);
    end; { runAction }
  clearAction: code := 1;
  otherwise: ;
  end; { case code of }
end; { Action }

{ _____ }
{ Initialize }
{ _____ }

procedure Init (code: integer);
begin
  if code = 0 then begin
    if NDAActive then Close;
    end
  else
    NDAActive := false;
  end; { Init }

{ _____ }
{ MyNDAProc }

{ _____ }

procedure MyNDAProc;
begin;

{ your code should do something here }

end; { MyNDAProc }

{ _____ }
{ Body of program is null for NDAs. }
{ _____ }

begin
end.

```

to the Control Panel CDA, is an example of a permanent INIT file. (See Apple Clinic's "Control-Panel Update," July 1990, p. 24.)

Listing 3 displays the shell for a temporary or a permanent INIT program in Merlin assembly language. INITs operate in full 16-bit mode, and you must set the filetype of your finished program and copy it to the *system/system.setup* directory of your startup disk.

If you have Byte Works' **Merlin-to-ORCA Source-Code Translator**, you don't have to learn a second compiler to convert assembly-language source-code listings from Merlin to either **Apple Programmer's Workshop** or its cousin ORCA/M. If you don't have this converter, or if you have trouble running a conversion, here are some common resolutions.

You must convert Merlin's data directives — such as *ASC*, *STR*, *DS*, and *DA* — to APW's *DC x* or *Declare Constant* (or *DS*, *Declare Storage*) syntax, where *x* represents a data type. Also, change the *SAV* directive (shown at the end of **Listing 3**) to *KEEP filename* and move it to the top of the APW source-code file. Replace any of Merlin's *DO* conditional compilation commands with APW's *AGO* or *AIF* constructions. Also, replace any compiler directives, such as *include* statements, with their APW equivalents, then rewrite *USE* statements in *USES* format, and change *PUT* to *COPY*.

One program module, Merlin 16+, includes "intelligent" macros, which push result space for Toolbox calls onto the stack automatically. You can get a similar set of macros as shareware for APW. If you don't have them, modify all tool calls that begin with a tilde (~) to push their own result space.

Use ASML to compile and link your APW program, then enter *TYPE filename filetype* to filetype-cast your file. For example, enter

Listing 2. IIGS classic desk accessory (CDA) shell.

```

/*_____*/
Classic Desk Accessory Shell
By Joe Abernathy.
Copyright 1990, inCider
Compiler: ORCA/C for Apple IIGS.
/*_____*/

#pragma keep "myfile"           /* Your file name */
#pragma cda "MyCDA" Start ShutDown /* Your CDA Name */
#include <stddef.h>             /* Other include files add here */
#include <stdio.h>
#define ESC 0x1B               /* Add'n'l constants defined here */

int myvar;                      /* More variables get defined here */

/*_____*/
Start - standard entrance point for a CDA
/*_____*/

void Start(void)
{
  /* Your program code goes here */
}

/*_____*/
ShutDown - CDA exit usually is not used.
/*_____*/

void ShutDown(void)
{
}

```




Open the door to multimedia!

For your students. For your school. For yourself.

Now everyone in your school can discover the excitement of multimedia. Easily. Affordably. And with the computers you already own!

Sound. Color. Graphics. Special Effects. Interaction.

Your school will have everything necessary to produce classroom presentations, interactive branching stories, colorful overhead transparencies and even remarkable hypermedia presentations with videodisc clips!

With multimedia software from Scholastic, your students will be motivated to exchange ideas and information in totally new and creative ways!

Slide Shop

The first desktop presentation software designed for schools, **Slide Shop** features all the tools needed to produce self-running shows full of color, graphics, titles, music, sound effects and action. Create your own presentations for class or for school clubs. You can even transfer your shows onto videotape or overhead transparencies!

Super Story Tree

Imaginations will soar as your students use **Super Story Tree** to write, illustrate, and produce their own interactive branching stories on the computer. Students can read each other's tales either on the screen—complete with all the visual and sound effects—or printed out in branching adventure format.

HyperScreen

With **HyperScreen**, students and teachers create original interactive presentations that blend text, graphics, sound and

even video clips. Each screen is linked by on-screen buttons that you design to perform a range of actions, such as playing music, opening a window of text, or playing a video clip.

Graphics and Sound Booster Packs

This series of exciting curriculum and theme-oriented packs provides dazzling new sights and sounds for all of your multimedia presentations.

And this award-winning creativity tool...

SuperPrint II: The Next Generation

The new super-enhanced version of **SuperPrint!** gives everyone incredible power to create, design and print any kind of printed material. From miniature greeting cards to huge posters six feet tall. You can even create your own clip art with a new full-featured drawing program!

These programs are available for Apple (128K) and MS-DOS (IBM and 100% compatibles, 256K) machines in both 5.25 and 3.5 inch disk sizes.

Order by phone today. Call 800-541-5513

Circle 41 on Reader Service Card.

SCHOLASTIC

Ask for your FREE Scholastic Software Catalog.

nightstand drawer opens to let a red balloon escape to follow the cursor around the screen and pop when selected, only to reappear in the nightstand drawer.

OTHER WORLDS

Seven of the objects on screen respond with more than just simple sound and animation — they're gateways to other Playroom worlds. The cuckoo clock on the wall cycles through a 24-hour period, showing Pepper performing a variety of activities depending on the time of day.

For example, when youngsters point at the number 4 on the clock, an animated bird appears and cuckoos four times. If it's 4 in the afternoon, we see Pepper busy at piano practice. If it's 4 o'clock in the morning, we can watch Pepper asleep in his bed.

Kids see a digital representation of the hour and can link it conceptually with the corresponding analog time on the clock face. The hour is also written out in word form. Clicking on the middle of the clock face or pressing the spacebar instructs the computer to select a random time.

If children choose the computer on the table, they can practice with upper- and lowercase letters. Selecting an uppercase letter from the computer keyboard displayed on screen prompts it to display the corresponding lowercase letter.

Truly adventurous souls can try to spell simple words with Pepper's assistance. When youngsters complete a word, they receive a friendly animated reward. Adults can make the game more difficult by determining the number of letters that will show on the keyboard as a child spells the word.

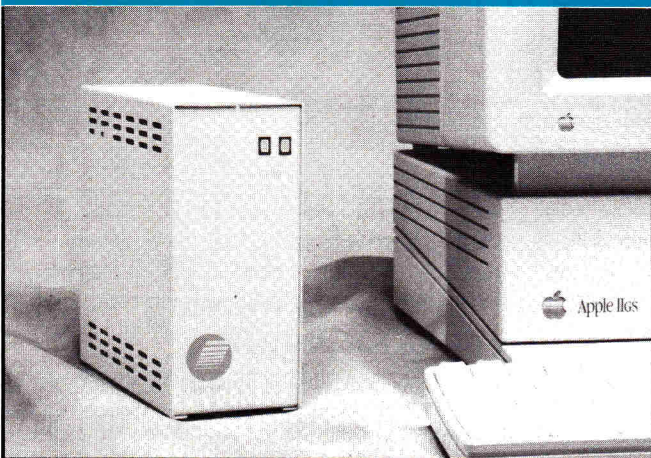
One special Playroom toy has the head of an elephant, the body of a penguin, and the legs of a fish. When kids select this strange mixed-up toy, they can create new character combinations. Clicking on the head changes that portion of the body. Clicking on the icon of the mixed-up toy, located in the upper right corner of the screen, produces a random combination of all parts simultaneously. A printing option lets youngsters generate a hardcopy of their mixed-up creatures. The Playroom supports a wide variety of printer models.

My 7-year-old daughter's favorite Playroom activity is *The Mousehole*. It's a counting game (with three difficulty levels) she can play with a friend or against the computer. Contestants race along a numbered board; a throw of electronic dice determines the number of spaces they move. When players land on a white square, they receive a bonus move. If they land on a black square, they get bumped back. The object of the game is to be the first to reach the finish. Kids will need to use their counting skills to win.

Another interesting activity in The Playroom involves a painting hanging on the wall. It's no ordinary framed portrait, because it talks. If children select the picture with the pointer, they can listen to (and learn to read) important safety words, such as *poison*, *danger*, *walk*, and *don't walk*. Clicking on the picture's corner flap cycles through the word list.

The on-screen spinner toy reinforces counting from 1 to 12 as children learn to associate numbers with their conceptual representation. To activate the spinner,

YOU NEED SCSI AND CHINOOK IS IT!



"According to our benchmark results, Chinook's CT-40 connected to the Apple II High Speed SCSI Card is the best performer of the lot -- that is, if you want a compact, competitively priced, fast, quiet, fixed external hard-disk drive."

inCider Magazine, July 1990

The Software

Excellent utility software comes with every drive. IIE owners receive the Chinook SCSI Utilities and Backup II from Apple. IIGS owners receive EZ Backup, a GS/OS backup program and the Chinook SCSI Utilities. Also included is a Hyperstudio demo (GS owners only) and the shareware version of DB Master. Each drive is formatted with the latest System Software.

All drives come with a 30 day money back guarantee and a 1 year warranty. To place an order or for additional information, call us today at **(800)/999-7034**. We accept Visa/MC/Money order/School Purchase Orders.



CHINOOK

615 Main St., #635
Longmont, CO 80501
303/678-5544
FAX: 303/772-1395

With Apple's release of the new High-Speed SCSI controller card, you can now take advantage of the inherent flexibility of SCSI, combined with the speed of Direct Memory Access (DMA). For example, DMA allows our CT-40 to verify over 725 blocks/sec. SCSI opens up your IIGS to a whole new universe of peripherals. There can no longer be any doubt that SCSI is the solution.

The Hardware

Chinook sells only Voice Coil Actuator (VCA) disk drives -- the most reliable technology available. Unlike other technologies, VCA keeps the data heads aligned with your data, assuring fast, error free data transfer every time. A Chinook VCA drive translates to a worry free hard drive..

Drive	Access Time	Auto-head Parking	Pricing
CT-20	27ms	Yes	\$449
CT-40	25	Yes	529
CT-80	25	Yes	769
CT-100	25	Yes	799

Apple SCSI Card (req'd) 99
RAMFast (for the power user) 199

youngsters choose a number and a screen graphic. For example, if they choose a top hat and the number 12, 12 top hats appear on screen. Meanwhile, a sleeping Pepper rests quietly on screen. When youngsters wake him up (by pointing and clicking), he places a random number of objects on screen and asks, "How many?" You can configure the difficulty level of this activity and change the maximum number of objects Pepper will place on screen to three, six, nine, or 12.

My favorite game in The Playroom is *The ABC Book*. It lets children compose a scene with either a fairy-tale or a farm motif. Youngsters place objects on screen by pointing and clicking on a letter of the alphabet.

In the farm scene, selecting the letter *T* calls up a picture of a tractor. The word *tractor* is then printed beneath the picture. Clicking on the letter *S* will call up a picture of a scarecrow. Once a graphic is on screen, kids can place it anywhere, including in the trash. In this activity, youngsters come to associate a familiar object with its

beginning letter. You can also print the completed scenes.

The Playroom is great amusement, but it's more than simple entertainment — it's a well-designed skill builder. Kids won't tire of it quickly because the program provides a number of activities to experience.

The graphics interface makes the software simple enough for even the youngest preschoolers to enjoy. The absence of written on-screen instruction means that kids can navigate through the different scenes with a minimum of adult supervision.

The Playroom is challenging and lots of fun. The manual contains suggestions for several off-line activities, plus reproducible worksheets for added enjoyment. A pint-sized plush Pepper toy and keyboard stickers are also included.

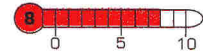
All things considered, Broderbund's newest Apple II skill builder is a must for any early-learning software library. It should certainly become one of the all-time Apple II classics.

Carol S. Holzberg, Ph.D.
Shutesbury, MA

SPORTS SCHEDULER

**SPORTS SOFTWARE ASSOCIATES,
75 RECREATION PARK DRIVE, HINGHAM,
MA 02043, (617) 749-7880**

Schedule-generation utility;
128K Apple II; copy protection; \$99.95

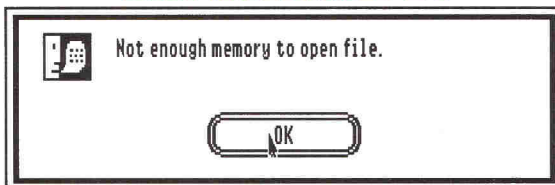


It's a simple matter of logistics — you have ten Little League teams, each of which plays the others twice. You have two fields, each of which you can use three times a week; and you can play two games on each field each night. Now, create a schedule for the upcoming season — right.

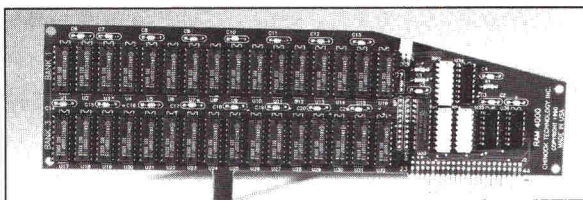
Granted, any reasonably intelligent person could do the job — given enough hours, pencils, and paper. But if you think it's *easy*, then you've probably never volunteered to make a schedule before — or perhaps you were naive enough to have just done so.

Well, thanks to Sports Scheduler, you can save yourself hours of work and still produce an optimal schedule for your organization — Little League, softball

The Solution To



IS



The RAM 4000

- DMA Compatible, 100% compatible with the Apple II High-Speed SCSI card and the RAMFast SCSI Card
- Supports 1,2 and 4MB configurations
- Supports both ROM 1 and ROM 3 IIGS, no alterations
- Multi-layer printed circuit board

**RAM 4000, 1MB
Additional memory**

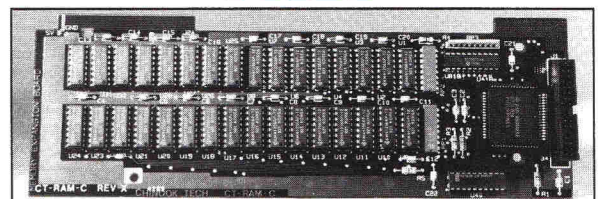
**\$149
69.95/1MB bank**



615 Main St., #635
Longmont, CO 80501
303/678-5544
FAX: 303/772-1395

**To Order, or for additional
information call:
800/999-7034**

C-RAM



Never has there been a better time to enhance your Apple IIc with memory expansion connector, or Apple IIc Plus, with additional memory. Many of your standard programs will be tremendously enhanced with the addition of expansion memory. Take AppleWorks for example. When Claris upgraded AppleWorks to version 3.0, the available desktop on a 128K Apple II decreased to 40K from 56K. This is fine for everyday letters, but don't load too many document onto the desktop or timeout applications into memory. All too soon the dreaded message, "Not enough room on the desktop" will appear. Consider how great it would be to access your TimeOut applications at RAM fast speed and switch between AppleWorks modules without accessing the floppy drive. With the C-Ram you can do this and more!

C-Ram can provide additional memory in the following configurations, 256K, 512K or 1MB and is user upgradeable. The C-Ram is the solution to enhancing your productivity.

**C-Ram, 256K
Additional Memory**

**\$129
27.95/256K bank**

Shipping:

Hard drives, \$9 UPS Gnd, \$18 2nd day.
RAM cards, \$3 UPS Gnd, \$7 2nd day.

Canadian Customers contact: Canadian Computer Outlet
Box 7081
Oakville, ONT L6J-6J5
416/849-0737

tournaments, midget football, or whatever. Sports Scheduler is a powerful program that can handle entire seasons for up to 22 teams and up to 231 games per league.

BATTER UP

Using a menu-based interface, Sports Scheduler takes you through the process of setting up a league, creating and printing worksheets to aid in scheduling, creating the actual schedule for the league, and editing the schedule if necessary.

The advertisements for Sports Scheduler state that you can create schedules in "just a few short minutes." While the program does indeed create a schedule in short order, it does so only after you've done all the preliminary work — creating the league files, printing and filling out the *League Layout Worksheet*, and entering the data into the computer.

Once you've finished that, then in "a few short minutes" you'll have a complete schedule ready to print or edit. Other

factors that will affect the amount of work that goes into the scheduling process and the amount of time it will take for the machine to create a final schedule include the number of teams in the league, the number of games being played, and so on.

That doesn't mean that the program doesn't do what it claims to; it does, and it does so in an exemplary fashion. You'd need to do all the ground work mentioned above, regardless of whether you were scheduling by hand or using Sports Scheduler — you just have to realize that the real time savings takes place once your data are in the machine.

Note also that if you play the same type of schedule year after year, your time investment is virtually nil for every season after the first. Simply edit the beginning and ending dates and the program will calculate all the other required dates to fill the schedule.


The program can schedule across calendar years, allow for leap years, and schedule up to the year 2084. It also lets you designate arbitrarily up to 15 dates to leave blank as it calculates your schedule dates automatically. For example, if June 20th is the league picnic, or if you want to be sure to leave July 4th open, simply answer yes when the program asks whether you want to skip any dates on the schedule, and type in the selected dates.

THERE'S MORE

Sports Scheduler includes a number of other features, as well — it can schedule leagues with an even or odd number of teams; assign "byes" (when a team passes on the first round of a tournament) for each team, and print the word *BYE* on the schedule where necessary; save files in either ASCII or DIF format so that you can read them into most word processors or spreadsheets for easy editing; and produce a very useful *League Information* form listing each team's name, colors, coach, assistant, and addresses.

Incidentally, regardless of the type of schedule you're generating, Sports Scheduler does its best to work in an unbiased fashion — producing equal home/away dates and a fair distribution of time slots, playing fields, and so on.

The program runs into some problems when trying to create non-standard sched-



ALLTECH ELECTRONICS CO., INC.

1300 E. Edinger Ave., Suite D., Santa Ana, CA 92705
2018 Lomita Blvd., Suite 1, Lomita, CA 90717
602 Garrison St., Oceanside, CA 92054

Minimum Shipping & Handling Charge \$5.00

PHONE ORDERS: (619) 721-7733 — FAX: (619) 721-2823

<p>Other Expansion Cards</p> <ul style="list-style-type: none"> 80 Col. (II+) \$45.00 UniDisk 5.25 Controller \$45.00 UniDisk 3.5" Controller \$75.00 Z-80 C/P/M \$29.00 Graphic Parallel Printer Card \$35.00 Super Serial \$69.00 Apple Parallel Interface \$35.00 Mountain CPS, Clock, Parallel, Serial \$45.00 <p>RAM Chips</p> <ul style="list-style-type: none"> 64K (4164) -15/-20 ea.\$75/\$50 256K (41256) -12/-15 ea.\$275/\$250 256 x 8 SIMM each \$29.00 1024 x 8 SIMM each \$85.00 Other memory chips available. CALL! <p>Parts & Misc.</p> <ul style="list-style-type: none"> Apple II+ Case \$35.00 Apple IIe Case \$75.00 ProFILE Case & Power Supply \$75.00 II+ , IIe Power Supply* \$39.00 Mac 400K Drive Assembly CALL EPROMS! 2716, 32, 64, 128 & 27512 CALL <p style="text-align: center;">Dealer Enquires Invited</p> <p>Monitors</p> <ul style="list-style-type: none"> AMBI 9" Composite Monitor \$49.00 Apple Monitor III (used) \$65.00 Color Comp. (Not for 80 Col. Txt.) \$ <p>Keyboards</p> <ul style="list-style-type: none"> Apple II+ , IIe, IIc, III* Keyboards* \$65.00 Mac 512/128 Keyboard* \$65.00 Mac Numeric Keypad (128/512)* \$39.00 IIgs + Mac ADB CALL <p>*\$10.00 + Shipping for your old part.</p> <p>Bulk Diskettes</p> <ul style="list-style-type: none"> 5.25" DSDD 100 for \$24.00 3.5" DSDD 50 for \$25.00 Alignment Disk (Techs only). \$29.00 <p>Manuals</p> <ul style="list-style-type: none"> AppleWorks v1.2 w/disks \$35.00 AppleWriter II w/disk \$29.00 *ImageWriter, Color Plotter \$12.00 *LaserWriter Plus, Scribe \$12.00 *HyperCard w/Disks \$29.00 *Mac Project (Supports SE, II) \$29.00 *Misc Apple Manuals Avail CALL 	<p>Storage Devices</p> <ul style="list-style-type: none"> IIe External Full Height FD* \$65.00 IIc, Laser 128 External* \$75.00 IIc Internal* \$95.00 AMR 3.5 IIgs, IIc + \$189.00 ProFILE 5 Meg \$120.00 <p>Apple® Chips</p> <ul style="list-style-type: none"> MMU, IOU For IIe, IIc CALL Apple IIe Enhancement Kit \$79.00 Chips for Disk II CALL Apple II+ ROM Set CALL Apple IIgs ROM 01, VGC Chips CALL 68882 Math Co-Processor CALL <p style="text-align: center;">Dealer Enquires Invited</p> <p>Ram Expansion</p> <ul style="list-style-type: none"> Super Expander GS w/1 Meg \$139.00 Super Expander IIe (1 Meg) OK \$69.00 Super Expander II+ (1 Meg) OK \$79.00 Super Expander IIc (1 Meg) OK \$89.00 64K/80 IIe RAM w/64K \$39.00 512K/80 IIe RAM w/512K \$75.00 128K RAM, II+ , IIe Slot 0-7 \$69.00 Language Card/16K II+ \$39.00 <p>Accessories & Cables</p> <ul style="list-style-type: none"> No Slot Clock \$29.00 Apple IIc Carrying Case \$29.00 ImageWriter Black Ribbons 6 for \$10.00 Phone NET Compatible Connector \$29.95 CPrint (Use EPSON RX/MX on IIc) \$39.00 ImageWriter LQ Sheet Feeder, Second Bin, and envelope attachment \$275.00 ImageWriter LQ 4 Color Ribbon \$19.95 ImageWriter LQ Black Ribbon \$14.95 ImageWriter II 4 Color Ribbon \$5.95 Serial to Parallel Converter \$49.95 20 to 19 Pin Disk II Cable \$14.95 *ImageWritr. I Accs. Kit, Mac 512 \$29.00 *ImageWritr-I Accs Kit, II/e \$29.00 *Apple Parallel Cable Kit \$15.00 *AppleModem Accs Kit IIc \$29.00 *DaisyWheel Accs. Kit, Lisa \$25.00 *AppleModem Accs Kit, Apple II \$29.00 <p>Mother Boards</p> <ul style="list-style-type: none"> IIc Mother Board \$200.00 IIe Mother Board \$200.00 II+ Mother Board \$100.00 Mac 128 Mother Board \$100.00 Mac 512 Mother Board \$150.00
--	---

We will buy your old or non-functional units for \$10.00 plus shipping charges.
**Minimum shipping and handling charges will be \$5.00.
Above prices are subject to change without notice. Refunds subject to 20% restocking fee. We are not responsible for products purchased in error. Our liability is limited to purchase price only. All prices are cash and carry. Shipping, COD, and insurance charges extra.
NOTE: School purchase orders accepted! **New this month inCider-Oct. 90

ules in which a different number of fields are available on an irregular basis. As the manual states, however, "No scheduling program could cover the multitude of scheduling variables associated with all the different types of leagues or sports."

In cases in which your schedule requires manual input, Sports Scheduler still simplifies your work by scheduling the home team, visitor, and game number and leaving blanks under the date, day, time, and location slots for you to fill in by hand.

EXTRAS

Sports Software Associates also produces two stand-alone companion packages — *League/Team Standings*, which generates win/loss records, team standings, results of most recently played games, and other miscellaneous data; and *Referee/Facility Scheduler*, which produces a master schedule of events (up to 22,000 in a given year), listing the date, day, time, location, level, and a blank space for the referee or official. Each program sells for \$39.95.

Sports Scheduler specifically addresses the needs of community-league team sports, but you can adapt it easily for bowling leagues, statistical replay leagues, and other uses. The program definitely takes much of the drudgery out of what can be (and often is) a pretty time-consuming and frustrating task.

Jim Trunzo
Leechburg, PA

SUPER STORY TREE

SCHOLASTIC, Inc.,
730 BROADWAY, NEW YORK, NY 10003,
(212) 505-3000

Interactive writing program;
128K Apple II; no copy protection; \$79.95



Eighty dollars? That was my first reaction when I received a copy of Super Story Tree. I couldn't believe that whatever was inside this box could be worth that much money. I was wrong.

Super Story Tree is far more than a watered-down kid's word processor with a few graphics thrown in. It's a powerful, creative tool with enough versatility to function in a number of ways. You can use Super Story Tree to design illustrated

works complete with sound effects, music, interaction, special effects, even speech.

STORY TIME

The process of creating a story can be exceptionally simple or mildly difficult with Super Story Tree, depending on the number of program features you want to include. After working through the tutorial and creating several stories on their own for practice, however, most school-aged children will be able to use

Super Story Tree without any problem.

Creating a story with Super Story Tree hinges on designing single pages and linking them together in one of several ways. Individual story pages can be either all text or a blend of text and graphics.

All-text pages can include sound effects and music. Graphics pages can incorporate clip-art graphics, multiple fonts, borders, drawings, and colors, as well.

Once you've completed a page, you can link it to other pages with one of three

The Sensational Lasers

Apple IIe/IIC Compatible

\$335

Includes 10 free software programs!

New! Now Includes
COPY II PLUS®



The Laser 128® features full Apple® II compatibility with an internal disk drive, serial, parallel, modem, and mouse ports. When you're ready to expand your system, there's an external drive port and expansion slot. The Laser 128 even includes 10 free software programs! Take advantage of this exceptional value today. . . . \$335

Super High Speed Option!

only \$375

The LASER 128EX has all the features of the LASER 128, plus a triple speed processor and memory expansion to 1MB \$375.00

The LASER 128EX/2 has all the features of the LASER 128EX, plus MIDI, Clock and Daisy Chain Drive Controller \$415.00

DISK DRIVES

- * 5.25 LASER/Apple 11c \$ 99.00
- * 5.25 LASER/Apple 11e \$ 99.00
- * 3.50 LASER/Apple 800K \$179.00
- * 5.25 LASER Daisy Chain **New!** \$109.00
- * 3.50 LASER Daisy Chain **New!** \$179.00

Save Money by Buying a Complete Package!

THE STAR a LASER 128 Computer with 12" Monochrome Monitor and the LASER 145E Printer \$599.00

THE SUPERSTAR a LASER 128 Computer with 14" RGB Color Monitor and the LASER 145E Printer \$699.00

ACCESSORIES

- * 12" Monochrome Monitor \$ 89.00
- * 14" RGB Color Monitor \$249.00
- * LASER 190E Printer \$219.00
- * LASER 145E Printer **New!** \$189.00
- * Mouse \$ 59.00
- * Joystick (3) Button \$ 29.00
- * UDC Card \$ 49.00

USA MICRO YOUR DIRECT SOURCE FOR APPLE AND IBM COMPATIBLE COMPUTERS

2888 Bluff Street, Suite 257 • Boulder, CO 80301
Add 3% Shipping • Colorado Residents Add 3% Tax

Your satisfaction is our guarantee!

Phone Orders: 1-800-654-5426

8-5 Mountain Time • No Surcharge on Visa or MasterCard Orders!
Customer Service: 1-800-537-8598 • In Colorado (303) 938-9089
FAX Orders: 1-303-939-9839

Laser 128 is a registered trademark of Video Technology Computers, Inc. Apple, Apple IIe, Apple IIc and Imagerwriter are registered trademarks of Apple Computer, Inc.

Circle 297 on Reader Service Card.

5 1/4 GENERIC DISKS
100 @ 29.95
50 @ 15.95
25 @ 7.95

3 1/2 GENERIC DISKS
100 @ 69.95
50 @ 37.95
25 @ 19.95

DISK STORAGE
5.95

DISK NOTCHER
3.95

6 YEARS OF SERVICE

YOUR TOLL FREE ACCESS CALL...FOR THE BEST PRICES...BEST DELIVERY

1-800-999-6868

FAX NUMBER 614-927-0052

We have hundreds of other programs in stock at Fantastic savings.

SILICON EXPRESS

- ACT 32.95
- Algeblaster+ 31.95
- Anc't Art of War 29.95
- Appleworks 174.95
- Appleworks IIGS 199.95
- AW 3.0 Companion 27.95
- Auto Duel 24.95
- Award Maker Plus 31.95
- Bad Dudes 27.95
- Bag of Tricks #2 29.95
- Bank St. Writer Plus 49.95
- Batman 24.95
- Battle Chess 32.95
- Battle Tech 32.95
- Battles of Napoleon 34.95
- Beagle Compiler 59.95
- Beagle Desk Access 44.95
- Beagle Draw 61.95
- Beagle Font 39.95
- Beagle Graphics 47.95
- Beagle Picture Man 29.95
- Beagle Write Access 31.95
- Beagle Write Fonts 28.95
- Beagle Write 54.95
- Beagle Write GS 68.95
- Bnth. Apple Pro DOS 13.95
- Blazing Paddies 24.95
- Body Transparent 26.95
- Bubble Bobble 24.95
- Bus.works Bundle 279.95
- Bus.works Payroll 138.95
- Cad Apple 69.95
- Calendar Crafter 32.95
- Car Builder 29.95
- Carmen Sandiego Europe 29.95
- Carmen Sandiego USA 29.95
- Carmen Sandiego Time 29.95
- Carmen Sandiego World 25.95
- Cartooners 21.95
- Certificate Maker 23.95
- Certificates & More 32.95
- Champions of Kyrnn 34.95
- Charley Brown ABC 20.95
- Chessmaster 2100 31.95
- Children's Publishing 35.95
- Choplifter 8.95
- Compuserve Starter 21.95
- Concentration 9.95
- Copy II + 23.95
- Create w/Gar. Del. 26.95
- Cross Country USA 26.95
- Crossword Magic 32.95
- Crystal Quest 32.95
- Curse of Azure Bonds 34.95
- Dazzle Draw 34.95
- Deluxe Paint IIGS 34.95
- Designasaurus 23.95
- Design Your Home 52.95
- Design Your Interior 52.95
- Design Your Landscape 52.95
- Design Your Train 39.95
- Dinosaurs 26.95
- Dinosaur Days 26.95
- Dollars & Sense 69.95
- Dragon Wars 32.95
- Draw Plus IIGS 20.95
- Dungeon Master 26.95
- Early Games 18.95
- Easy As ABC 18.95
- Easy Drive 39.95
- 816 Paint 49.95
- Essential Data-Dup 4 19.95
- F-15 Strike Eagle 14.95
- Facemaker 26.95
- Family Feud 9.95
- Family Roots 169.95
- Flight Sim II 31.95
- Fraction Factory 9.95
- Fraction Fever 8.95
- Game Show 26.95
- Gato 10.95
- Gauntlet 31.95
- Geometry 53.95
- GEO Calc 48.95
- GEO File 48.95
- GEO Publish 64.95
- GEOS 48.95
- Gertrude's Secrets 26.95
- Gettysburg 41.95
- Gnarly Golf 20.95
- Gold Rush 27.95
- Grade Buster 74.95
- Grammar Gramlins 31.95
- Grammar Examiner 26.95
- Graphic Exchange 34.95
- Graphic Writer III 95.95
- Great Western Shoot 20.95
- GS/OS 5.0 DOS 42.95
- Hardball 26.95
- Heavy Barrel 24.95
- Hunt For Red Oct. 21.95
- Hyper Studio 89.95
- Jack Nicklaus Golf 34.95
- Jam Session 33.95
- Jeopardy I, II or JR 9.95
- Karateka 8.95
- Kid Writer 25.95
- Kid Writer Gold 34.95
- Kids on Keys 17.95
- Kinder Comp 26.95
- Knights of Legend 34.95
- Kings Quest (Each) 30.95
- Labels Labels Labels 26.95
- Last Ninja 10.95
- Leisure Larry I 24.95
- LIFE & Death 34.95
- Locksmith 38.95
- Lode Runner 8.95
- Madden Football 34.95
- Magic Spells 27.95
- Man. Your Money 94.95
- Maniac Mansion 14.95
- Map Skills 32.95
- Marble Madness 14.95
- Math & Me 20.95
- Math Blaster + 31.95
- Math Blaster Mystery 31.95
- Mathmaza 27.95
- Math Rabbit 23.95
- Math Wizard 32.95
- Math Word Problems 34.95
- Mavis Beacon 28.95
- Merlin 8/16 88.95
- Micro Type 35.95
- Might & Magic I or II 34.95
- Minipix 1, 2 or 3 23.95
- Monsters & Make Believe 26.95
- Mixed-up Mother Goose 19.95
- Mouse Talk 75.95
- Music Construction 10.95
- Music Studio 45.95
- Newsroom 24.95
- Number Munchers 26.95
- On Balance 37.95
- Once Upon A Time 32.95
- Oregon Trail 26.95
- Pac Man 9.95
- Paintworks +/Clip 32.95
- Paint Write Draw 89.95
- Paintworks Gold 45.95
- Paperboy 11.95
- PFS: File & Report 69.95
- PFS: Graph 69.95
- PFS: Workmates 134.95
- PFS: Write 69.95
- Piece of Cake Math 9.95
- Pirates 29.95
- Playroom 26.95
- Point to Point 68.95
- Pow! Zap! Kerplunk 34.95
- Prince of Persia 23.95
- Printmaster Plus 27.95
- Print Shop 29.95
- IIGS 37.95
- Lovers 26.95
- Sampler 22.95
- Holiday 15.95
- Party 22.95
- Program Writer 34.95
- Proterm 94.95
- Publish-It 3 84.95
- Publish It Fonts 1 or 2 27.95
- Publish-It 4 in 1 79.95
- Quicken 38.95
- Read-Up 32.95
- Ram and Roll 31.95
- Reader Rabbit 23.95
- Reading Compreh 32.95
- Reading I or II 27.95
- Reading & Me 22.95
- Reading & Me Talking 35.95
- Repair Works 27.95
- Robo Cop 24.95
- Roger Rabbit 26.95
- Run Your Own Train 27.95
- Salvation 34.95
- Sargon III 13.95
- Sat (Harcourt Brace) 26.95
- Science Tool Kit 49.95
- Scrabble 26.95
- See the U.S.A. 32.95
- Sensible Grammar 64.95
- Sensible Speller 82.95
- Sideways 45.95
- Silent Service 14.95
- Slipheed 24.95
- Smart Money 54.95

- Snoopy's Reading 19.95
- Soft Switch 34.95
- Space Quest I, II 32.95
- Speed Reader 31.95
- SpellCopter 26.95
- Spell It + 31.95
- States & Traits 26.95
- Sticky Bear ABC 23.95
- BOB 26.95
- Drawing 34.95
- Math 1 or 2 23.95
- Music 32.95
- Numbers 23.95
- Opposites 23.95
- Parts of Speech 32.95
- Printer 34.95
- Reading 23.95
- Rd. Comprehension 29.95
- Shapes 23.95
- Spellgrabber 31.95
- Talking Alphabet 29.95
- Talking Opposite 29.95
- Talking Shapes 29.95
- Town Builder 32.95
- Typing 29.95
- Word Problems 32.95
- Strike Fleet 10.95
- Super Patch 6.1 25.95
- Take 1 Deluxe 36.95
- Teddy Barrel of Fun 26.95
- Terrapin Logo + 78.95
- Test Drive 25.95
- Test Drive II 32.95
- Test Writer 32.95
- Tetris 24.95
- Thexder 22.95
- Think Quick 29.95
- Tic Tac Show 26.95
- Timeout Desktools I 34.95
- Timeout Desktools II 34.95
- Timeout Filemaster 34.95
- Timeout Graph 64.95
- Timeout Macrotools I 17.95
- Timeout Macrotools II 17.95
- Timeout Powerpack 34.95
- Timeout Quick Spell 48.95
- Timeout Report Writer 55.95
- Timeout Sidespread 34.95
- Timeout Spreadsheets 39.95
- Timeout Superfonts 48.95
- Timeout Telecom 48.95
- Timeout Thesaurus 34.95
- Timeout Ultramacros 42.95
- TML Pascal II 81.95
- Tournament Bridge 32.95
- Triple-Dump 27.95
- Type! 18.95
- Typing Tutor IV 25.95
- Ultima IV or V 35.95
- Ultima Trilogy 35.95
- VCR Companion 33.95
- Wasteland 10.95
- Webster Spell Chkr. 37.95
- Wheel of Fortune I or II 9.95
- Will Maker 30.95
- Win Lose or Draw 9.95
- Wings of Fury 21.95
- Wizard of Words 27.95
- Wizardry 5 30.95
- Wizardry Trilogy 32.95
- Word Attack + 31.95
- Word Attack French 34.95
- Word Attack Spanish 34.95
- Word Bench 98.95
- Word Master 30.95
- Word Munchers 26.95
- Word Perfect 109.95
- Word Perfect GS 109.95
- World Geograph 84.95
- Writer Rabbit 29.95
- Xenocide 32.95
- Zany Golf 27.95
- Zork Zero 34.95
- COMPUTERS**
- Laser 128 EX 418.95
- Laser 128 EX/2 489.95

REVIEWS

commands — *continue*, *choice*, or *chance* — and that's where the interactivity comes in.

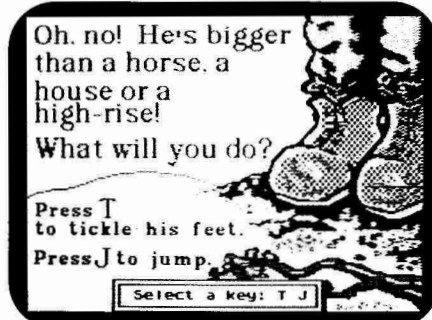
HAPPY ENDINGS

If you choose the *continue* command, the page "turns," revealing the next one in the created sequence.

If you use the *choice* command at the end of a page, the reader will be able to choose from up to eight different options to continue. Each choice takes him or her to a different page and therefore a different plot line or solution. *Choice* gives you the chance to create a truly interactive story in which the reader's decisions affect the outcome directly. This feature alone justifies the price of the program, because of the flexibility and uniqueness it offers.

The final link command, *Chance*, is just what it sounds like: The program selects randomly from either of two different pages (each of which you designate), making the story potentially different each time it's read.

Continue, *choice*, and *chance* aren't mutually exclusive, so you can use them all at one time or another throughout the story. The sheer number of combinations you can create with just the three link commands provide you with enough flexibility to create anything from straightforward



Multimedia storytelling for kids.

nonfiction stories to reader-involved fictional tales. Add the graphics and sound facilities in Super Story Tree and you begin to get some idea of the scope of this full-featured program.

ARTISTIC LICENSE

You can select graphics images from those contained within the program or from a compatible program, or you can create them yourself with the drawing and painting module included with Super

1-800-999-6868

OR 1-614-927-9555

FAX NUMBER 614-927-0052

Add \$4.95 min. U.S. shipping. C.O.D. \$5 extra. Hawaii and Alaska \$7.00 min. Orders outside U.S. are not insured. Canada & Mexico 10% min. \$10.00. All other countries 30% min. \$30.00. MasterCard, Visa and zipco purchase orders accepted. Personal checks allow 3 weeks. 6% sales tax for Ohio residents. Defective replaced within 20 days. Compatibility not guaranteed. Prices subject to change without notice.

SILICON EXPRESS
50 E. Mill, Pataskala, OH 43062

Story Tree. You can use clip art from Scholastic's own Slide Show program or from any Print Shop-compatible disk, as well. Considering how extensive the Print Shop libraries are, that amounts to a lot of pictures from which to choose. If they aren't enough, however, feel free to create your own.

FOR ARTISTIC TYPES

The drawing and painting module that comes with Super Story Tree is powerful enough to let you create more-than-respectable pictures. It includes the standard draw, shape, and fill commands and more than 30 brush types and five line widths.

You can also import artwork from major paint programs such as 8/16 Paint, Mouse-Paint, Blazing Paddles, and a host of others. You can even use digitized images from ComputerEyes or ThunderScan.

SPECIAL EFFECTS

You can add sound to your pages just as easily as pictures. The *Sound Library* includes 33 musical scores, 34 sound effects, and ten speech clips. The music and sound effects are quite good, but the speech clips range from passable to poor. Still, the judicious use of sound will augment your story quite well.

Super Story Tree also "turns the pages" with flair. The program lets you dictate which of ten "wipe" effects it should use to traverse from one page to another. For example, you might have the current page dissolve, revealing the page "behind" it as it does so. You could also program the page to scroll from right to left or simply cut immediately to the next page.

PROGRAM OPERATION

Naturally, you have to use the keyboard for the actual writing in Super Story Tree. All other aspects of the program, however, can be accomplished with the keyboard, the joystick, or the mouse.

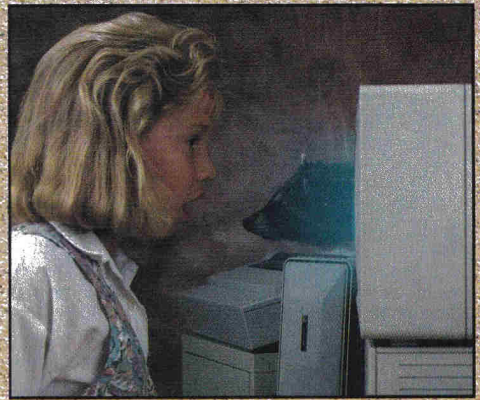
The mouse seems to work best in most cases, with the joystick a close second. The keyboard isn't used to its best advantage, with several natural key combinations missing from the command options. While manipulating mouse and joystick is natural for younger users, good typists will be frustrated. ➔

TOO REAL?

NEW!

When we set out to create the best software package to teach students about North American animals, we didn't know just how real it would appear!

What we did create is a fun to use and easy to understand program. ANIMAL TRACKER is the very best method to learn and teach about animals. Students see what the animals look like, hear how they sound, see their tracks, learn fascinating facts about them and then answer quizzes on information covered. ANIMAL TRACKER gives you proven quality and the performance you've been looking for in educational software... Really!



Sample screens



Watch for more data disks to come.

ALL SOFTWARE FEATURES:

- HIGH DEFINITION GRAPHICS
- COMPLETELY MENU/MOUSE DRIVEN
- SUPPORTS BOSE/EXTERNAL SPEAKERS
- WORKS GREAT WITH TRANSWARP GS
- SUPPORTS MIDI IDEAS SUPERSONIC STEREO & APPLIED ENGINEERING SONIC BLASTER CARD
- DIGITIZED HUMAN SOUND (choose M/F)
- COVERS OVER 40 NORTH AMERICAN ANIMALS/BIRDS, SOUNDS, DIET, HABITAT, ETC.
- AUTHENTIC DIGITIZED SOUNDS OF ANIMALS/BIRDS
- INTERACTIVE RANDOM QUIZZES
- SUPPORTS EPSON/IMAGEWRIER PRINTERS
- SPANS 4 3.5" DISKS; HARD DISK INSTALLABLE
- NOT COPY PROTECTED
- MADE IN USA

Discover quality & value from

NBST
NATURE BOY SOFTWARE

only \$79.95



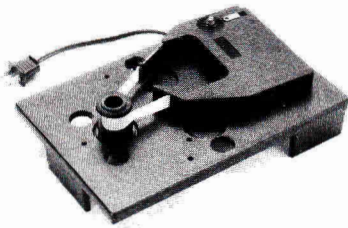
DEALER INQUIRIES WELCOME FOR MORE INFORMATION CALL 1-508-481-2911

1-800-NATURE BOY--TOLL FREE ORDER LINE--CALL TODAY

Circle 143 on Reader Service Card.

Never buy another ribbon!

MacInker Over 140,000 sold since 1982



Free bottle of ink, reservoir cover, ink meter and dispenser

\$45.00

MacInker™, the automatic ribbon re-inker. The Imagewriter MacInker (mod 234IM) re-inks Imagewr. I/II black & single color cartridges. The Universal MacInker re-inks hundreds of different cartridge types (including the Imagewr. LQ) with suitable adapters. Extra dark, dot matrix, lubricated ink yields a truly better than new print quality and helps extend print-head life. Average re-inkings/cartridge is 60-100. With the **Multicolor Adapter (mod M422, \$40.00)** your MacInker can re-ink the multicolor Imagewriter II cartridges. We have a full range of optional accessories, inks & cartridges: indelible ink, heat transfer etc. Colors: red, green, blue, yellow, purple, brown, orange, silver, gold. Free catalog.

Imagewriter I/II MacInker (mod 234IM).....	45.00
Multicolor Adapter (mod M422).....	40.00
Epson MacInker (mod 271EP).....	42.00
Universal MacInker.....	75.00
Imagewriter cartridges.....3.15/ea (qty 6)	4-color.....10.00/ea
ImageWriter LQ cartridges.....14.50/ea	LQ 4 Color.....16.90
Extra ink bottle.....3.00/ea	pint.....18.50

Apple Autoswitch - Data Switches - Accessories



4 port 8 pin.....	50.00	MouseTamer*.....	12.50
Apple Autoswitch (4:1).....	149.00	*(eliminates interference of cord with mouse)	
BothWay Autoswitch.....	89.00	Accurate Electronic Pedometer.....	15.00

Order Toll Free (800)547-3303

Computer Friends, Inc., 14250 NW Science Park Dr. Portland OR 97229
tel. (503)626-2291 - fax (503)643-5379

Major credit cards accepted, cod, immediate shipment, 30 days money back guarantee

Circle 288 on Reader Service Card.

HUNDREDS OF EDUCATIONAL PROGRAMS FROM MOST OF THE TOP SCHOOL PUBLISHERS NOW HAVE THE ADDED BENEFIT OF VOICE — THANKS TO THE ECHO®. THE NEW ECHO II RUNS ON THE APPLE® IIc AND IIGS; THE ECHO IIC RUNS ON THE APPLE IIc AND IIc PLUS. CALL STREET ELECTRONICS FOR MORE INFORMATION AND A LIST OF COMPATIBLE SOFTWARE.

STREET ELECTRONICS CORPORATION

6420 VIA REAL CARPINTERIA, CALIFORNIA 93013

TELEPHONE (805) 684-4593 FAX (805) 684-6628



Circle 92 on Reader Service Card.

Super Story Tree also uses windows, dialog boxes, pull-down menus, scroll boxes, and point-and-click screens, all of which make the program intuitive.

THE CREATIVE PROCESS

Editing features abound — with one notable omission. While you can preview a page and edit its graphics images, type font, color, and so on, you can't delete a page once you've created it.

You can ignore a page by simply not linking it to any other pages when you put your story together, but the page will still exist and be cited on your *Load Page* screen. If it isn't linked, though, it won't be part of your finished product.

Super Story Tree has many features that are admirable, but what really won me over was the program's free-standing stories. You can save them to disk and let someone else — a friend, a teacher, or a classmate — look at your story even if that person doesn't have Super Story Tree. (You can also send your stories to a wide variety of printers.) This concept once again enhances the value of the package and justifies its price.

DETAILS

Super Story Tree comes on either one 3.5-inch disk or two 5.25-inch disks. If you're running the program from the 5.25-inch disks, you should have two drives to reduce the amount of disk swapping you'll have to endure.

Neither version of the program is copy protected, and Scholastic Software even encourages you to make working disks, going so far as to label the original disks as archival — but the company also includes enough anti-copy literature, agreements, copyright laws, and so on to make casual software pirates feel both guilty and paranoid.

Super Story Tree is a first-rate program in every aspect — from its 160-page manual to the way it works, emphasizing strong educational concepts in its encouragement of creative thinking, organizational planning, and conceptualization.

This package also taught at least one surprised reviewer not to judge a program by its cover — or its price tag. □

Jim Trunzo
Leechburg, PA

Software Discounters Of America

Est 1984

WE ARE THE #1 SOFTWARE SOURCE FOR THOUSANDS OF COMPUTER OWNERS

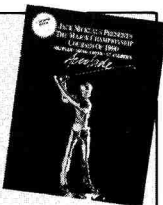
If you've never shopped with us before, now is the time to find out why so many valued customers have!

- Speedy Delivery
- Deep Discounts
- Astronomical Selections

- Free shipping on orders over \$100
- No surcharge on MC/VISA
- Overnight & 2 day shipping available

ACCOLADE™

Play the grand slam courses of the 1990 U.S. Open - Medinah, IL; British Open; St. Andrews & PGA Championship - Shoal Creek, AL. Req. J.N. Golf



J.N. GOLF 1990 COURSES
List \$24.95 **SDA Discount Price \$16**

- ACCESS**
World Class L.B. Golf... \$9.88
- ACCOLADE**
Fast Break GS... \$29
Grand Prix GS... \$29
4th & Inches Football GS... \$29
4th & Inches
Team Const. GS... \$9.88
Hardball... \$9.88
Hardball GS... \$25
Jack Nicklaus Golf GS... \$32
JN Golf 1990 Courses GS... \$16
JN Golf Chp. Courses GS... \$16
JN Golf Intl Courses GS... \$16
Mean 18 Golf GS... \$29
Test Drive 128K... \$23
T.D. 2: The Duel GS... \$29
T.D. 2: Europe Scen. GS... \$16
T.D. 2: Muscle Cars GS... \$16
T.D. 2: Calif. Scen. GS... \$16
T.D. 2: Super Cars GS... \$16
Third Courier GS... \$32

- ACTIVISION**
Battle Chess... \$29
Battle Chess GS... \$32
Crossbow... \$25
Dragon Wars... \$32
Last Ninja 128K... \$9.88
Last Ninja GS... \$14
Music Studio 2.0 GS... \$44
Neuromancer 128K... \$9.88
Neuromancer GS... \$14
Rampage 128K... \$9.88
Teleworks Plus GS... \$65

- AEC FUN LEARNING**
Human Biology... \$6.88
Life Science... \$6.88
U.S. Geography... \$6.88
U.S. History 1 or 2... \$6.88 Ea.

- ARTWORK**
Bridge 6.0 GS or 64K... \$25 Ea.
Kaleidokubes
48K or GS... \$14 Ea.

- Strip Poker... \$19
S.P. Data Disks... \$25
Call Strip Poker 2 GS... \$25
S.P.2 Data Females #1 GS \$14
S.P.2 Female/Male #2 GS \$14
S.P.2 Data Females #3 GS \$14
- AVALON HILL - ON SA LE!**
N.B.A. Basketball... \$19.88
Police Blotter... \$14.88
Super Bowl Sunday... \$17.88
- BERKELEY**
Geos 128K... \$44
Geocalc... \$44
Geofile... \$44
Geopublish... \$65

- BLUE LION - ON SA LE!**
Ticket to Hollywood... \$19.88
Ticket to Spain... \$19.88
- BRITANNICA/FANFARE**
Algebra 1 1st Semester... \$25
Gnarly Golf GS... \$19
Grt. Western Shootout GS \$19
Laser Force GS... \$19
Task Force GS... \$25

- BRÖDERBUND**
Ancient Art of War... \$29
Ancient Art of War at Sea 128K... \$29
Bannermania... \$23
Land of Y's GS 768K... \$29
Bank St. Writer + 128K... \$49
Captain Goodnight... \$9.88
Carmen S.D.-Europe 128K \$29
Carmen S.D.-Time 128K... \$29
Carmen S.D.-U.S.A. 128K \$29
Carmen S.D.-U.S.A. GS... \$32
Carmen S.D.-World 128K \$25
Carmen S.D.-World GS... \$32
Centauri Alliance... \$32
Choplifter/Midnight Magic... \$6.88
Dark Heart of Ukrukl... \$39
Dazzle Draw 128K... \$32

- Geometry GS... \$49
Jam Session GS... \$32
Karateka... \$6.88
Loderunner... \$6.88
Playroom 128K... \$25
Prince of Persia... \$23
Print Shop GS... \$39
P.S. Graphics Library
Party Edition GS... \$23
Sampler Edition GS... \$23
New Print Shop... \$32
P.S. Sampler Graphics... \$16
P.S. Party Graphics... \$16
P.S. School/Business Gr... \$16
Toy Shop... \$28.88
VCR Companion 128K... \$32
Wings of Fury 128K... \$23

- CINEMAWARE**
Rocket Ranger GS... \$32
The Three Stooges GS... \$32

- DATA EAST**
Heavy Barrel... \$23
Ikari Warriors 128K... \$9.88
Platoon 128K... \$9.88

- DAVIDSON**
Algeblaster Plus 128K... \$32
Grammar Gremlins 64K... \$32
Math Blaster Mystery 128K \$32
Math Blaster Plus 128K... \$32

- Might & Magic 2... \$32
Pipe Dream... Call
Skate or Die GS... \$14
Tunnels Armageddon GS... \$26
Vegas Gambler GS... \$26
Wasteland... \$9.88
World Tour Golf GS... \$14
Zany Golf GS... \$26

- EPYX - ON SA LE!**
Legend of Black Silver... \$17.88
Graphics Scrapbk. 1 or 3\$8.88
Sporting News Baseball \$17.88
Sub Battle Simulator... \$9.88
Winter Games... \$8.88
- FIREBIRD - ON SA LE!**
Corruption... \$18.88

- FTL**
Dungeon Master GS... \$25

- GAMETEK**
Candyland... \$9.88
Double Dare... \$9.88
Hollywood Squares 128K \$9.88
Super Password 128K... \$9.88

- HI-TECH EXPRESSIONS**
Big Bird's Spc. Delivery... \$6.88
Ernie's Magic Shapes... \$6.88
Fun House... \$8.88
Looney Tunes Print Kit... \$9.88
Muppet Adventure... \$9.88

Broderbund®

There has never been a banner maker like this before! Packed with spectacular features. Destined to be a #1 best seller!



BANNER MANIA SDA Discount Price \$23
List \$34.95

- Math Blaster Plus GS... \$32
Math & Me 128K... \$19
Read 'N Roll 128K... \$32
Reading & Me 128K... \$25
Spell It Plus 128K... \$32
Talking Math & Me GS... \$32
Talking Reading & Me GS \$32
Word Attack Plus 128K... \$32

- DESIGNWARE**
Algebra 1 1st Semester... \$25
Designasaurus 128K... \$25
Designasaurus GS... \$32
Jigsaw GS... \$25

- ELECTRONIC ARTS**
Bard's Tale 2 GS... \$19
Blockout GS... \$25
Chessmaster 2100... \$32
Cribbage/Gin King GS... \$26
Earl Weaver Baseball... \$26
Empire Call... \$24
Hunt For Red October... \$21
Hunt For Red October GS \$21
Keep The Thief GS... \$21
Kings Bounty... \$16
Life & Death GS... \$32
M. Beacon Typing GS... \$32
Madden Football... \$32
Maniac Mansion... \$23
Marble Madness 128K... \$9.88
Marble Madness GS... \$14
Might & Magic 1... \$16

- Muppet Print Kit... \$9.88
Print Power... \$9.88
Remote Control... \$8.88
Ses. St. Print Kit... \$9.88
Ses. St. First Writer... \$9.88
Win, Lose or Draw 1 or 2\$8.88
Win, Lose or Draw Jr... \$8.88
Win, Lose or Draw Dix... \$16

- INFOCOM**
Battletech... \$19
Hitchhikers Guide... \$9.88
Journey... \$19
King Arthur... \$19
Mines of Titan... \$19
Shogun... \$9.88
Zork Zero... \$9.88

- LEARNING COMPANY**
Children's Writing & Publishing Ctr. 128K or GS... \$39 Ea.
Math Rabbit... \$24
Reader Rabbit GS... \$39
Reader Rabbit... \$24
Think Quick!... \$32
Writer Rabbit... \$32

- LEISURE GENIUS**
Clue... \$25
Risk... \$25
Scrabble... \$25

- MECA**
Andrew Tobias: Managing Your Money 128K or GS... \$95

Broderbund®

The #1 best selling program of all time has been improved w/fantastic new features. Hi res printing, New Graphic editing, Color, More fonts, Huge signs, Calendars & more!



NEW PRINTSHOP SDA Discount Price \$32
List \$49.95

- MELBOURNE HOUSE**
Elway's Quarterback GS \$9.88
War in Middle Earth GS... \$32

- MICROILLUSIONS**
Blackjack Academy GS... \$25
Firepower GS... \$23
Sky Travel... \$34

- MICROLEAGUE**
M.L. Baseball... \$25
M.L.B. 89 Team Disk... \$14

- MICROPROSE/MEDALIST**
F-15 Strike Eagle... \$14
Magic Candle... \$32
Pirate 128K or GS... \$29 Ea.
Silent Service 128K or GS... \$14

- MINDSCAPE**
Balance of Power 1990 GS \$32
Captain Blood GS... Call
Deja Vu 2 GS... \$32

- MY SOFTWARE**
My Label Maker... \$14
My Mail List (w/Labels)... \$14

- ORIGIN**
Knights of Legend... \$32
Omega... \$32
Quest For Clues Book 2... \$19
Space Rogue... \$32
Tangled Tales... \$19
Times of Lore... \$25
Ultima 4 or 5... \$39 Ea.
Ultima Trilogy... \$39
Windwalker... \$25

- ROGER WAGNER**
Hyperstudio GS... \$89

- SHARE DATA**
Wipe Out... \$9.88

- SIERRA**
Gold Rush 128K or GS... \$25
King's Quest 1, 2, 3 or 4
128K or GS... \$32 Ea.
Leisure Suit Larry
128K or GS... \$25

- Manhunter N.Y. 128K... \$32
Manhunter N.Y. GS... \$32
Mother Goose 128K or GS \$19
Police Quest 128K or GS \$32
Silphed GS... \$23
Smart Money GS... \$49
Space Quest 128K... \$32
Space Quest 2 128K... \$32
Space Quest 1 or 2 GS... \$32

- SIR TECH**
Heart of Maelstrom... \$32
Return of Werdna... \$14
Wizardsry Trilogy... \$32

- SPECTRUM HOLOBYTE**
Solitaire Royale GS... \$23

- SPRINGBOARD**
Certificate Maker... \$24
Newsroom... \$23
N.R. Clip Art 1, 2, 3... \$14
Publisher 5 1/2 or 3 1/2... \$89 Ea.

- SSI**
Champions of Krynn... \$32
Curse of Azure Bonds... \$32
Overrun... \$32
Pool of Radiance... \$29
War of the Lance... \$26

- SUBLOGIC**
Flight Simulator 2... \$32
Jet... \$26

- TAITO**
Qix... \$9.88
Renegade... \$9.88

- TIMETWORKS**
P. I. Font Pack 1 or 2... \$25 Ea.
Publish It! 3 128K/GS... \$84

- UNICORN - ON SA LE!**
All About America
GS 768K... \$29.88

- ORIGIN**
Animal Kingdom... \$17.88
Decimal Dungeon... \$17.88
Fracton Action... \$17.88
Math Wizard GS... \$24.88

- WEEKLY READER**
Stickybear ABC's... \$24
Stickybear Math 1 or 2 \$24 Ea.
Stickybear Numbers... \$24
Stickybear Opposites... \$24
Stickybear Reading... \$24
Stickybear Spellgrabber... \$32
Talking Alphabet GS... \$32

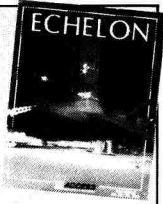
- WORD PERFECT**
Word Perfect 128K... \$97

- ACCESSORIES**
Animation Station... \$65
Big Mouse Pad 8 1/2 x 11... \$7
Disk Case 5 1/4 or 3 1/2... \$6.88 Ea.
Drive Clnr. 5 1/4 or 3 1/2... \$4.88 Ea.
Sony 3 1/2 Color... \$13.50 Bx.
Sony 3 1/2 DSDD... \$9.99 Bx.
Sony 5 1/4 DSDD... \$5.49 Bx.
Wico Ergostick... \$27
500XJ Joystick... \$25
Suncom Analog Joystick... \$25

- SDA CLOSEOUT!!!**
Desk Power... \$7.88
Echelon... \$9.88
Karate Champ/Kung Fu... \$7.88
P.H.M. Pegasus... \$8.88
Paintworks Plus GS... \$26.88
Speed Reading Tutor 4.18.88
Texder... \$16.88
Writers Choice Elite GS \$32.88

ACCESS™ Software Incorporated

An awesome 3D space flight simulation set on the planet Isis. Features 3 weapon systems. Now at a new low SDA price.



ECHELON
New Low SDA Price \$9.88

POLICIES & PROCEDURES

- SHIPPING: Continental U.S.A. - orders under \$100 add \$4; Free shipping on orders over \$100; Call for details on overnight & 2 day shipping. AK, HI, FPO, APO - shipping is \$5 on all orders. Canada and Puerto Rico - shipping is \$7.50 on all orders. PA residents add 6% sales tax on the total amount of orders including shipping charges.
- Orders with cashiers checks or money orders shipped immediately on in stock items. Personal and company checks, allow 14 business days clearance. No C.O.D.'s!
- Defective merchandise replaced within 60 days of purchase. Other returns subject to 20% restocking charge. You must call customer service for return authorization - 412-361-5291, 9-5:30 EST.
- Prices and availability are subject to change.

HOW TO ORDER

- Call us & use your Mastercard or Visa
- # USA/CANADA 1-800-225-7638

Order Line Hours: Mon-Thurs 9:00 A.M.-9:00 P.M.,
Fri-9:00 A.M.-7:00 P.M., Sat-10:00 A.M.-4:00 P.M. EST.
• Send Money Orders or Checks to:

SOFTWARE DISCOUNTERS
P.O. Box 11327 - Dept. INC.
Blawnox, PA 15338

- Fax MC/VISA orders with our fax #1-412-361-4545
- Order Via Modem on CompuServe, GENIE & QLink.
- School purchase orders accepted.



Our Keys To The Future

The Computer Learning Foundation.[®]
We're helping you put kids on computers.

Computers and software can unlock kids' creative potential. We help people understand technology. As the official host of Computer Learning Month[®] every October, we facilitate thousands of classroom and community programs, helping millions discover the benefits of using computers.

Our TV series, books, programs and contests are available to teachers and parents everywhere. And now families can save up to 50% on top software and accessories, approved by the Foundation, through our partnership program with Del Monte[®] Snack Cups. So, write us today:
**Computer Learning Foundation, Dept.
P.O. Box 60007, Palo Alto, CA 94306-0007.**



"Consumer information on [software] programs remains spotty at best. A potential solution...the Computer Learning Foundation will evaluate and recommend software for its educational value, as well as provide information to both schools and families on how to integrate computer-based learning into everyday life." --NEWSWEEK

"Computer technology is here to stay. It is imperative that we prepare our children to use the tools of their times. ...[Technology] should be fully integrated into our educational methods if we are to realize its many benefits."
--BUSINESS WEEK (special section article by Sally Bowman, Computer Learning Foundation Director)

*You Won't Believe
What They'll Achieve!*



inCider Oct. IN10

The Computer Learning Foundation is a non-profit organization sponsored by:

Academic Computing[®]
American Educational Computer
Apple Computer, Inc.
Britannica[®] Software, Inc.
Broderbund Software, Inc.
Classroom Computer Learning
Compu-Teach[™]
Computer Gaming World
Curriculum Product News

Davidson & Associates, Inc.
Del Monte Foods, USA
Electronic Learning
First Byte[®]
Great Wave Software[®]
IBM Corporation
inCider Magazine
Jostens Learning Corporation
The Learning Company[®]
Logo Computer Systems, Inc.

Microsoft[®]
Prodigy Services Company
Scholastic Software, [™] Inc.
Sierra[®]
Software Publishers Association
Tandy[®]/Radio Shack[®]
T.H.E. Journal
Teaching K-8
Today's Catholic Teacher

READER SERVICE INDEX

Reader Service	Page
52	5th of July Productions..... 90
40	Abracadata 24
103	Alltech Electronics Co. Inc. 74
*	Applied Engineering.....22, 23, 29, 35, 63, 67, 87
65	AZ-Tech Computer Services 93
87	Bible Research Systems..... 91
151	Big Red Apple 70
*	Broderbund Software 89
116	Canadian Computer Outlet..... 92
9	CDA Computer Sales 10, 11
115	Chinook Technology..... 72, 73
*	Choice Computer Products 92
21	Co-Du-Co..... 90
*	CompuCraft..... 93
124	Compuserve..... 50
252	Computer Enhancers..... 92
288	Computer Friends..... 78
*	Computer Learning Foundation..... 80
37	Creative Pursuits 31
134	Dayton Computer Supply..... 92
220	Educational Resources 33
85	Fas-Track Computer Products ... 61
38	Gemini Marketing Inc. 91
*	Genie..... 36, 37
74	Golem Computers 42, 43
*	inCider Sub ad 83
23	International Software Library 93
57	Kelvin Electronics..... 92
*	Kensington Microware..... CV4
226	Lance Haffner Games 93
175	Laser Computer Inc. CV2
44	LRO Computer Sales 40

Reader Service	Page
248	Memory Plus Distribution 85
4	Merritt Computer Products..... 91
55	National AW User Group 93
247	Nature Boy Software..... 77
39	New Concepts, Inc. 84
173	New Science Prospects 91
71	Nite Owl Productions..... 90
237	Orange Cherry Software..... CV3
59	Perfect Solutions Software 90
*	Preferred Computing..... 49
105	Price Busters..... 13
128	Programs Plus... 14, 15, 16, 17, 18, 19
269	Public Domain Exchange..... 25
136	Quality Computers..... 2, 3, 5
165	Quality Computers..... 41
155	Quality Computers..... 4
7	Ramco Computer Supplies..... 91
117	Ribbonland 81
90	Roger Coats 26, 27
185	S.A. AuTeur Co. The 91
41	Scholastic..... 71
240	Sensible Software..... 9
143	Silicon Express 76
292	Softdisk 1
96	Softronic 93
127	Softspoken, Inc. 91
270	Software Discount of America ... 79
18	Sports Software Assoc. 90
60/3	Springbranch Software, Inc. 92
20	Stone Edge Technologies..... 90
92	Street Electronics..... 78
104	Supra Corp. 39
140	Timeworks 6
231	Tulin Corp. 24
*	UniDOS 65
297	USA Micro 75
17	VMC Marketing Technologies... 92

This index is provided as an additional service. The publisher does not assume liability for errors or omissions.

Ribbon Land

THE BEST FOR "MUCH" LESS

ORDER HOTLINE

1-800-221-4892



BACK TO
SCHOOL
SPECIALS

BLACK (6/Pk)
Only \$2.49 ea.

4-COLOR (3/Pk)
Only \$5.49 ea.

COLOR 6 Pack*
Only \$17.99

*Includes 1 each: Red, Blue, Green, Yellow, Brown, & Purple Ribbons!



IMAGE
WRITER
RIBBONS

Made in the
USA
and proud of it!

DURABLE PLASTIC DISK
BOXES w/LOCK

HOLDS 80 ↓ \$8.95



HOLDS 120 ↓ \$9.95



KAO

3.5" DSDD
ONLY \$9¢

T-SHIRT RIBBONS

IW Single Color Transfers.. \$4.99
IW 4-Color Transfer..... \$9.99
Heat Transfer Pens Bold*.. \$11.99
Heat Transfer Pens Fine*... \$9.99

*Colors: Red, Blue, Yellow, Green, & Orange.



PREMIUM PAPERS 100 Sheets/Pk	PASTELS \$3.99	BRIGHTS \$4.99	PARCHMENT \$5.99
---------------------------------	-------------------	-------------------	---------------------

PRINT SHOP 50/PK ENVELOPES	<table style="width: 100%; text-align: center;"> <tr> <td style="width: 33%;">PASTEL.....</td> <td style="width: 33%;">BRIGHT.....</td> <td style="width: 33%;">PARCHMENT.....</td> </tr> <tr> <td>\$3.99</td> <td>\$3.99</td> <td>\$4.99</td> </tr> </table>	PASTEL.....	BRIGHT.....	PARCHMENT.....	\$3.99	\$3.99	\$4.99
PASTEL.....	BRIGHT.....	PARCHMENT.....					
\$3.99	\$3.99	\$4.99					

BANNER PAPER 45 Ft/Roll	PASTELS/ THEMES \$7.99	BRIGHTS COLORS ON RECYCLED PAPER \$8.99	NEON COLORS \$8.99
----------------------------	---------------------------	---	-----------------------



RIBBON INKERS

IW I/II(SINGLE COLOR)..... \$39.99
IW II(BLACK + 4-COLOR).... \$99.99

*ABOVE INKERS INCLUDE INK & ALL PARTS NEEDED TO GET STARTED! QTY'S LIMITED!

NEW

KB/Skins™

KEYBOARD PROTECTORS!

APPLE IIgs/IIc/IIe w/wo KEYPAD/II+... \$9.99

MAC/MAC +/SE(81 KEYS)..... \$9.99

MAC II/SE EXT.(105 KEYS)..... \$10.99

NEW

PCovers™

DUST COVERS!

APPLE IIgs (2 COVER SET).... \$9.99

MACINTOSH w/ANY KB.. \$10.99

MOUSE PAD (8"x9") GREY OR BLUE... \$4.99

GRIP CLIP COPY HOLDER..... \$6.99

S & H • UPS GROUND-\$4/ORDER•US MAIL-\$6/ORDER • OTHERS CALL •

TERMS • MASTERCARD, VISA, DISCOVER, AMEX (AMEX ADD 5%) •

RIBBONLAND • PO BOX 506 • EXTON • PA • 19341

Circle 117 on Reader Service Card.



**LEARNING
CURVE**

**The real
challenge in
educational
technology is
getting people to
accept that we live
in an era different
from the one in
which we grew up.**

KEEPING PACE WITH TIME

By **DAVID D. THORNBURG, Ph.D.**

DO YOU REMEMBER WHEN THE FIRST pocket calculators came out? As I recall, they sold for a few hundred dollars. At that time, the world was filled with bulky mechanical monsters, and although pocket calculators offered a convenient alternative, that hefty price tag kept many people from buying them. When calculators broke the \$10 barrier, however, the market suddenly blew wide open. Now you can get a decent solar-powered calculator for under five bucks — including tax. Is there a lesson here for computer manufacturers?

DEAD MICE SMELL BAD

When calculators were expensive, no one worried about their role in education. After all, most students couldn't afford these tools, so educators continued to teach kids long division (divide, multiply, subtract, bring down, or "dead mice smell bad"). With the advent of low prices, however, there isn't a child in school who can't afford a calculator. For the one-time price of a hot lunch, even the poorest of students can let modern technology remove the drudgery from what is really a beautiful science.

Although most kids own calculators, pitifully few school programs in this country incorporate these tools into their lessons. In fact, some educators are horrified at the thought of teaching a student to rely on a calculator. "What will the child do when the batteries go dead?" replied one such neo-Luddite. Although I explained patiently that solar-powered calculators don't use batteries, she was still concerned: "Well, suppose the child needs to do a calculation in the dark," she responded. Sure. When is the last time you were in a house without power in the middle of the night and someone made you divide 786 by 27?

The low cost of calculators helps identify the real challenge in educational technology: getting people to accept that we live in an era different from the one in which we grew up. And as the "calculator in the classroom" battle

continues, I see another philosophical war looming on the horizon.

PERSONAL WORD PROCESSING

Thanks to the **Laser PC-3** (Laser Computer, 800 North Church Street, Lake Zurich, IL 60047, 708-540-8086) and its built-in word processor, I wrote this column on a plane somewhere over the California coast.

If you haven't seen this little gem, it weighs about a pound, runs for ages on four penlight cells, has 32K of RAM, a built-in spell checker, a calculator, a communications package, and a bunch of other programs I haven't even tried yet. Its only drawback is the two-line display that shows only 20 characters per line. This computer even has a full-sized keyboard (similar to the one on the Apple IIc), yet it's only about the size of a hardback book.

But the best news is the price. For about \$150 you get the computer, the software to port your text over to your main computer, a complete set of cables for serial file transfer, and a parallel printer.

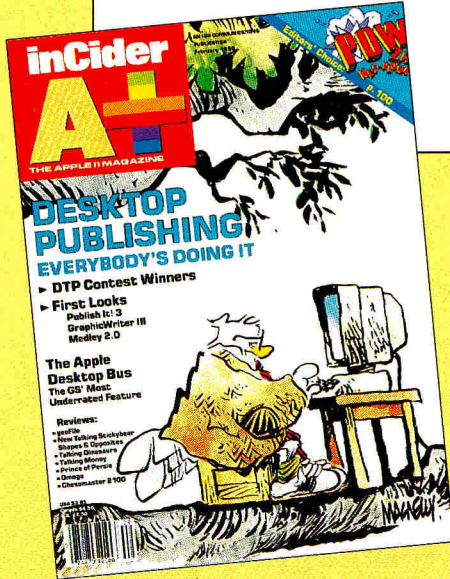
Years ago I pleaded with Apple (in this column, in fact) to create an inexpensive laptop like this one that children could own — a computer they could use under the shade of a tree, at a desk in school or at home, or in the car on the way to Aunt Gertrude's for the holidays.

I envisioned that this computer would be available universally — every school-aged child in the country would have one. Well, that time is coming, even if the label isn't going to be Apple's.

When I get back to my office in a few days, I'll dump this file to my Apple computer and tweak it with AppleWorks — just as I expect kids will do when they have their own notebook-sized computers. The classroom computer can and should have all the "bells and whistles." Kids should be able to upload their stuff to a computer with a high-quality display for refinement,

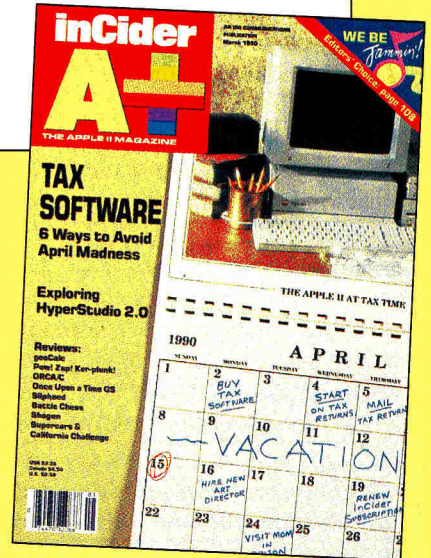
inCider/A+ brings you everything you need to know to unlock the power of your Apple II!

Get the Most from your Apple II



inCider/A+ magazine delivers the best coverage of the Apple II field with:

- Software and hardware reviews
- Ready-to-run program listings
- Off-the-shelf solutions to your computing problems
- In-depth articles to increase your productivity
- Monthly columns-AppleWorks in Action, Learning Curve, and Applesoft Advisor to name a few!
- Hints and techniques. . .and much, much more!



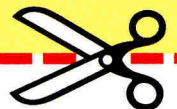
inCider/A+ has everything an Apple II user needs to know. That's why an inCider/A+ subscription can be the best investment you make for your computing future. Your "Apple II magazine" will keep you informed about all the new products for the Apple II family, and give you hands-on know how to get the most from your machine.

inCider/A+ knows that change never stops in the exciting world of Apple II computing. What's new today may be old tomorrow. And, as an Apple II user, being ready for tomorrow's changes will mean more productivity and efficiency.

For the best in software and hardware reviews, entertainment, education and answers to your most pressing questions—turn to inCider/A+

SAVE 54%! Order now and get a 2 year subscription (24 great monthly issues) to inCider/A+ for only \$43.00. That's a big 54% off the newsstand price! Or order a one year subscription for \$27.97 and save 40% off the newsstand price!

CALL TOLL-FREE 1-800-289-0619 to order inCider/A+ magazine



...or simply fill out this coupon and mail it TODAY!

YES!

Please enter my subscription to inCider: 2 years (24 issues) 1 year (12 issues)
 () Payment enclosed () Bill me \$43.00 Save 54% \$27.97 Save 40%

Name _____
 Address _____
 City/State/Zip _____

Mail to:
 inCider/A+
 P.O. Box 56818
 Boulder, CO
 80322-8618

Please make checks payable to inCider/A+. All foreign orders must be prepaid in U.S. funds drawn on a U.S. bank. One year rates: Canada \$34.97, Mexico \$32.97, Foreign Surface \$47.97, Foreign Airmail \$82.97. Please allow 6-8 weeks for delivery. Savings based on annual single-copy price of \$47.40.

but to capture young ideas as they develop, kids also need access to laptops.

WHAT ABOUT COST?

Just as with early calculators, a word processor similar to mine is too expensive to supply to every child. But think about this: If I bought a computer with the file-transfer software for my desktop machine and two interface cables for \$150, what would the computer cost by itself?

Also, remember that I bought only one. I bet the dealer's margin is high enough that I could buy a quantity of these computers for under \$100 each. If a school district wanted 16,000 of them, imagine the bulk price.

My guess is we're quickly approaching the time when we'll put a computer with the power of the PC-3 into the

hands of every kid in the country for only \$50, while still leaving enough incentive for the manufacturers. Let's see now, fifty bucks times 100 million kids — that's about \$5 billion. These days we spend that much propping up the Kingdom of Spudonia.

THE WRITTEN WORD

I leave it to Laser, Tandy, and the other makers of notebook computers to decide who wants this phenomenally large market. I'm more concerned with those educators who still resist any technology in their classrooms. I admit that children won't learn good penmanship from a computer, nor will they need to learn the spelling of *pneumonia*. But if each child has his or her own laptop computer, maybe we can get to the real purpose of writing —

expressing ideas and communicating with others.

I know one child in particular who'd benefit from one of these computers. She's a tremendously creative fourth-grader whose everyday speech is filled with rich metaphor — she's a born storyteller. She's also tremendously dysgraphic, even though she can read quite well. Still, her *ds* sometimes look like *bs*, or *gs*, or *qs*, and writing is a painful experience for her. To deny her access to a low-cost word processor is tantamount to child abuse.

The only way to become a good writer is to write. When writing is physically painful (some students clutch their pens so hard they leave marks on their hands), or frustrating (some students must completely recopy their manuscripts with each revision), it's

difficult to entice them to express their ideas.

When I was young I didn't have these fancy tools. In fact, my desk had an inkwell in it. But we're not living in anyone's past. A \$50 computer that's lighter than a dictionary should be in the bookbag of every kid in the country. Period.

Now, what are we going to do about it? □

DR. THORNBURG'S PERSPECTIVES ON OTHER EDUCATION-RELATED TOPICS APPEAR IN THE AUDIO-CASSETTE NEWSLETTER *SOUND EDUCATION*. IN ADDITION, PRINCIPALS OF SCHOOLS WITH STUDENTS IN GRADES K THROUGH 6 ARE INVITED TO WRITE TO HIM REGARDING A SCHOOL DONATION PROGRAM HE HAS ESTABLISHED WITH ROYALTIES FROM THE AUDIO TAPE *SUNSHINE THOUGHTS*, PRODUCED BY THE THORNBURG CENTER FOR PROFESSIONAL DEVELOPMENT, P.O. BOX 1317, LOS ALTOS, CA 94023-1317. ENCLOSE AN SASE IF YOU'D LIKE A PERSONAL REPLY.

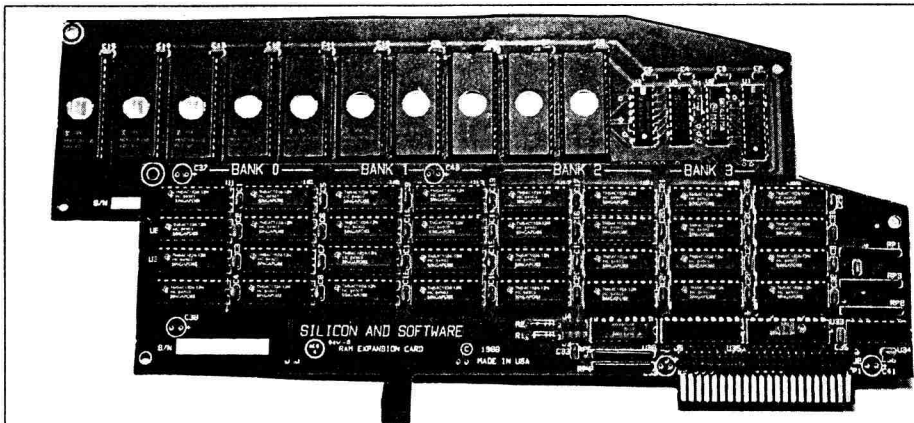
InnerExpress™ : Speeds up Falcons™, InnerDrives™ and OverDrives™ by 200%-300%\$129

InnerDrive without InnerExpress	InnerDrive with InnerExpress	ID with InnerExpress and TWGS™
Interleave: 10:1	Interleave: 6:1	Interleave: 5:1
Read-Write blocks/second: 81	Read-Write blocks/second: 225	Read-Write blocks/second: 284

NCS-GS RAM and ROM Expansion Boards™

This multi-layered memory expansion board (same technology used by Apple) is 100% DMA and RAMKeeper™ compatible. It is expandable to 4 Mbytes, via the economical 1 MByte DRAM chips and includes a ROM expansion socket for the existing ROM sister board.

NCS-GS RAM Expansion Board 0k \$79
 1 Meg \$159 2 Meg \$249 3 Meg \$409
 NCS-GS ROM Expansion Board \$59



Enhanced VisionPlus™

Real time, color/B&W video digitizer for the Apple IIGS. Previously referred to as the Visionary™ in InCider Magazine's September review.

Enhanced VisionPlus \$329

NCS-GS RAM Expansion Board, NCS-GS ROM Expansion Board, Enhanced VisionPlus, and Emerald Visions are trademarks of New Concepts, Inc. InnerExpress is a trademark of VRI. Falcon, InnerDrive, and OverDrive are trademarks of Ingenuity, Inc. AST VisionPlus is a trademark of AST Research, Inc.



Limited time offer until September 15th:
 InnerExpress \$95

Limited time offers until September 30th:
 Upgrade your AST VisionPlus \$105
 Upgrade to Emerald Visions* \$60

*With cover of Deluxe Paint II™ or PaintWorks Gold™ manual. New Concepts, Inc. is the current developer/distributor of all products mentioned in this ad.

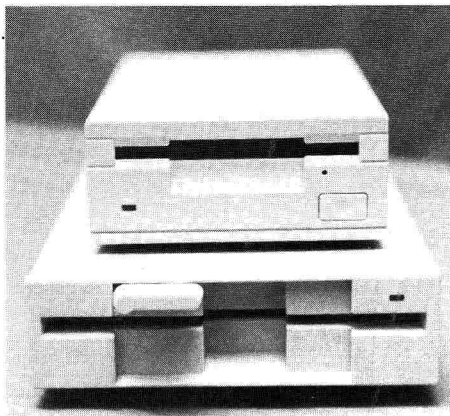
Dealer inquiries welcomed

Emerald Visions™

The first full-featured, full-screen, 16, 256, 3200 color paint program for the Apple IIGS \$99.95

OctoRam: Memory Expansion Board \$119

New Concepts, Inc.
 665 West Jackson Street, Suite #2, Woodstock, IL 60098
 Technical Support/Information: (815) 338-4227
 Orders Only: (800) 487-8684



5 1/4" DISK DRIVES FOR APPLE

1 Year Warranty
Parts & Labor
100% Compatible
Super Quiet
Cable
Included

Apple II, II+, IIe
Franklin Ace 1000
Apple IIc, IIc+, IIGS
Apple IIe UniDisk
Laser 128
Apple IIc+, IIGS
Daisy Chain

\$79.00
\$79.00
\$99.00

AMR 3 1/2" Disk Drive
For Apple IIc+ & IIGS

\$199.00

ZIP CHIP 8 Mhz \$158.00		Extended 80 Column Card With 64K For Apple IIe 100% Appleworks Compatible 5 Year Warranty \$38.95		UNIVERSAL Disk Controller Run 800K Disc Drives on your II+ and IIe \$64.95	
NEW MPD DUAL SYSTEM We did it ... You can now run Apple and IBM software on the same computer! Complete Systems ... from \$999.00 Call for details.		Super Serial Card 100% Apple Compatible 5 Year Warranty \$48.95		800K DISK DRIVE 3 1/2" for II+, IIe, MAC, LASER 128 \$179.00	
Do you have an IBM System? Want to run Apple software ... You need TRACKSTAR ... \$399.00		Graphics Printer Card w/Cable or Apple II+ & IIe 5 Year Warranty Parallel \$44.95		Disk Controller Card For Apple II, II+ & IIe 5 Year Warranty \$34.95	
CHECKMATE PRODUCTS		LASER 128 Computer Three Times the Speed of a IIe Built in Memory Expansion Board 128EX \$399.00 128EX2/5.25 \$445.00 128EX2/3.50 \$495.00		CPM Card \$34.95 IIe Numeric Keypad \$34.95 II+ & IIe RF Modulator \$15.95	
PRO TERM \$78.50	MultiRam RGB IIe 0K to 1 Meg. from \$121.00	Cooling Fan For Apple II+ & IIe With Surge Suppressor \$26.95		Cooling Fan For Apple IIGS No Noise Interference \$19.95	
MultiRam IIe 0K to 768K from \$88.50	MultiRam IIc 0K to 1 Meg. from \$105.00	DISKETTE STORAGE W/Lock 5 1/4 Holds 70 Disks \$6.95 5 1/4 Holds 100 Disks \$8.95 5 1/4 Holds 120 Disks \$10.95 3 1/2 Holds 50 Disks \$6.95 3 1/2 Holds 100 Disks \$8.95		ACCESSORIES Mouse Pad \$4.95 Disk Notcher \$4.50 Disk Clean 5 1/4 \$4.00 Disk Clean 3 1/2 \$4.00 LASER Add on's Call Mouse \$49.00 Printers Call	
Memory Chips Call		II+ Owners 16K Card \$34.95 128K Card \$64.95 80 Column Card \$48.95 Plus Works \$49.00 5 Year Warranty		Green or Amber Monitor \$99.00	
MPD 4 Meg GS Card 0 Meg to 4 Meg from \$59.00		Cables From \$9.95 IIe to Modem IIc to Modem IIe to IMG I IIc to IMG II IIe to IMG II Others Talk & Data Kits SCSI Cables		Replacement Keyboard for IIe \$55.00	
Super Expander IIe 0K to 1 Meg from \$52.50 IIc 0K to 1 Meg from \$65.50		Prices subject to change without notice		5 Amp Pwr. Supp. II, II+ & IIe \$49.00	
GS Mouse \$59.00		SWITCH BOXES DIN 8 A/B \$24.95 DIN 8 A/B/C/D \$29.95 DB 25 A/B \$24.95 DB 25 A/B/C/D \$34.95 Parallel A/B \$24.95 Parallel A/B/C/D \$34.95		Joystick for Apple IIe, IIc, IIc+, & IIGS With Fire Button Same as Mach III \$24.95	

We Ship
2nd Day Air
Continental US Only

VISA & MASTERCARD — NO EXTRA CHARGE DEALER PRICING
Shipping Most Items \$5.00 / Drives \$7.00 / Computers Call / C.O.D. + \$3.50

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

10 a.m. to 5 p.m.

M.S.T.

Mon - Fri.

University & School P.O.

Accepted

20% Restocking charge
on returned items

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

We Ship
2nd Day Air
Continental US Only



TAKE COMMAND

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. Bracketed numbers refer to *inCider's* Applesoft Proofer program.

For your copy, send a self-addressed, stamped envelope to Proofer, c/o *inCider*, 80 Elm Street, Peterborough, NH 03458.

TIMEOUT TEXT DISPLAY

By Gordon Macfarlane

IF YOU USE TIMEOUT ULTRA-Macros (Beagle Bros, 6215 Ferris Square, Suite 100, San Diego, CA 92121, 619-452-5500, \$59.95) with AppleWorks 3.0, you've probably manufactured

several homemade macros from time to time. Although some folks keep track of these typing shortcuts by either dumping them to paper or using *Display Current Macro* in the *Macro Compiler* section of the program, the technique outlined here gives you access to that information almost instantly.

Here's what you have to do: Make an ASCII text file containing all data you want to display. Your best bet is to start with an AppleWorks database. Create a database file called DISPLAY.TEXT with only one category per record; each record will contain one macro. The screen can display only 54 files at a time: Column 1 contains the first 18 entries, column 2 contains entries 19 through to 37, and column 3 holds entries 38 to 54. Note that the third column's entries must be less than 19 characters wide or they'll wrap around the screen into column 1. If you want to separate pieces of data on screen, use a blank entry.

Now type the macro keys and a short description of what they do. To display the open and closed apples in your list of macros, use the tilde (~) and "at" (@) keys — they convert to apples when displayed

Program listing. TimeOut UltraMacros reminder file.

```
50 D$ = CHR$(4) [759]
100 PRINT D$"PR#3": PRINT [1881]
110 HTAB 20: PRINT "CONSTRUCT A TIMEOUT APPLICATION":
    HTAB 20: PRINT "=====":
    POKE 34,3: HOME [9105]
130 DIM N$(100) [791]
140 PRINT : PRINT : PRINT : INPUT
    "Enter name of text file-> ";A$ [7097]
150 IF A$ = "" THEN END [1157]
160 ONERR GOTO 190 [814]
170 PRINT D$"VERIFY"A$ [882]
180 GOTO 200 [330]
190 PRINT : PRINT "SORRY NO FILE": END [4172]
200 ONERR GOTO 260 [1187]
210 PRINT D$"OPEN"A$ [978]
220 PRINT D$"READ"A$ [953]
230 A = A + 1: INPUT N$(A) [1735]
250 GOTO 230 [606]
260 PRINT D$"CLOSE"A$ [2526]
270 POKE 216,0 [975]
280 A = A - 1:G = 4:F = 1: IF A > 54 THEN A = 54 [2562]
300 HOME : FOR Z = 1 TO A: VTAB G: HTAB F: PRINT N$(Z):G
    = G + 1: IF G > 21 THEN G = 4:F = F + 30 [6284]
```

```
310 NEXT [236]
320 VTAB 23: INPUT "Enter name for TIMEOUT file
    for this data? TO.":BG$ [5139]
330 IF BG$ = "" THEN END [1288]
340 IF LEN (BG$) > 12 THEN 320 [1446]
350 HOME : VTAB 6: PRINT "Place your TIMEOUT
    Application disk in one of your drives.": PRINT : PRINT
    "Enter name of disk and directory if applicable." [22349]
360 VTAB 15: PRINT "Default name ->
    /APPLEWORKS/TO/" [2778]
370 PRINT "Press Q return to quit." [5764]
380 VTAB 10: INPUT "Press ? for catalog. -> /";J$ [2826]
390 IF J$ = "?" THEN 760 [1382]
400 IF J$ = "Q" THEN END [1321]
410 IF J$ = "" THEN J$ = "APPLEWORKS/TO" [4065]
420 ONERR GOTO 450 [819]
430 PRINT D$"VERIFY"/J$ [986]
440 POKE 216,0: GOTO 460 [1024]
450 POKE 216,0: VTAB 22: HTAB 10: PRINT "SORRY,
    CAN'T FIND THAT DISK.": GET R$: GOTO 350 [9318]
460 ONERR GOTO 490 [1211]
470 PRINT D$"VERIFY"/J$/TO."BG$ [1819]
480 POKE 216,0: VTAB 22: HTAB 10: PRINT "SORRY,
    THERE IS ALREADY IS A FILE BY THAT NAME.": GET R$:
    PRINT : GOTO 320 [13035]
490 POKE 216,0 [795]
```




Not all modems are created equal.

The right modem can change the way you use your computer. Modems allow you to step outside the limitations of your own hardware and software. But the degree to which you are benefitted by your modem is directly proportional to the quality of modem you select.

Not all modems are created equal. A new generation of 2400 baud modems, both internal and external, have appeared on the scene as of late. While Hayes AT compatibility and equivalent raw transmission speed can be expected, there are differences. Some are subtle. Others, quite significant.

Expensive features and low cost

Applied Engineering's entry into this market, the DataLink 2400™, was designed to combine the features of expensive modems with the price of low-cost modems.

Frankly, some of the DataLink 2400's advantages are subtle. Like the ability of our firmware to intuitively accept commands in both upper and lower case, thus avoiding the nuisance of being ignored for forgetting to press the "shift" key.

Other advantages are more evident. Like the inclusion of sophisticated, genuinely useable communications software, something others offer as an expensive option.

Hardware considerations:

While most people just plug the DataLink 2400 in and go, advanced users will find a host of sophisticated features like the ability to select firmware defaults of baud rate, data format, parity and control interrupts. Other modems require a set of obscure commands when running from firmware or don't allow you to disable interrupts.

Our DataLink 2400 has two non-volatile ROMs for pre-setting and storing different

configurations. It saves you the hassle of setting up configurations every time. We also included the ability to save phone numbers in non-volatile ROM, so you don't have to hunt for often-called numbers.

Some modems can't redirect hardware handshake lines even though most bulletin board software packages require these lines to be changeable - the DataLink 2400 can.

The software story.

We make sure you've got the right software. We include our own.

And the software we include (*OnLine 64** for the II+ and 64K IIe, *DataTerm* for the IIGS and IIe) comes thoroughly documented, *non-copy protected* on two 5.25" disks and one 3.5" disk, and positively loaded with features others don't have. Like VT52 terminal emulation, enabling you to address more bulletin boards and use them easier.

Our transfer protocols aren't limited to Xmodem. We include Xmodem, Ymodem, 4modem, ProDOS Xmodem and Turbo Xmodem. We also employ binary packing, squeezing and unsqueezing—techniques that divide, combine and compress files to save you time and long distance charges.

Some bulletin boards require different data formats. If you can't change formats you can't use them. Our software lets you change formats. Others don't.

More features:

- Full Hayes AT compatibility
- Compatible with AppleLink, Point-to-Point, ASCII Express, Access II and others
- Compatible with Bell 103 and 212, European CCITT V.22 BIS, V.22 and V.21
- Two modular jacks with long cable
- Built-in capture buffer
- Adaptive equalization and descrambling
- PC Transporter compatibility
- Macro-making program
- FCC certified design
- \$200 in free memberships, discounts and on-line time to get you started
- Proudly made in the U.S.A.

Choose an AE DataLink modem for the completeness of a total communications package, the ease of use that our step-by-step instructions assure and the reliability of our name and famous five-year warranty.

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.

A Division of AE Research Corporation.

(214) 241-6060

P.O. Box 5100, Carrollton, TX 75011

Prices subject to change without notice.

*OnLine 64 and DataLink have most, but not all the features of DataTerm and DataLink 2400 respectively.

Listing continued.

```

500 HOME : VTAB 7: PRINT "WORKING"; SPC( A + 1)".<-":
      VTAB 7: HTAB 9 [4025]
510 GOSUB 730 [652]
520 POKE 8460, LEN (BG$) [1534]
530 FOR Z = 1 TO LEN (BG$): POKE 8460 + Z, ASC
      ( MID$ (BG$,Z,1)): NEXT [3481]
540 BG$ = "TO." + BG$ [1661]
550 B = 8568:D = 8574:X = 3:Y = 0 [2419]
560 POKE B,32: POKE B + 1,0: POKE B + 2,17 [3736]
570 B = B + 3 [655]
580 FOR Z = 1 TO A: POKE B,32: POKE B + 1,111: POKE B
      + 2,17: POKE B + 3,0: POKE B + 4,0: POKE B + 5,0:
      POKE B + 6,0:B = B + 7: NEXT [5461]
590 POKE B,32: POKE B + 1,81: POKE B + 2,17:
      POKE B + 3,96 [4084]
600 C = B + 4 [641]
610 FOR Z = 1 TO A: PRINT ".": [1821]
620 POKE D,Y: POKE D + 1,X: POKE D + 2,C - INT (C / 256)
      * 256: POKE D + 3, INT (C / 256) [6973]
630 LE = LEN (N$(Z)): IF LE = 0 THEN LE = 1:N$(Z)
      = " " [3656]
640 POKE C,LE: FOR ZZ = 1 TO LE:C = C + 1 [2888]
650 E = ASC ( MID$ (N$(Z),ZZ,1)): IF E = 64
      THEN E = 128 [2701]
660 IF E = 126 THEN E = 129 [2011]
670 POKE C,E: NEXT [592]
680 C = C + 1:D = D + 7:X = X + 1: IF X > 20
      THEN X = 3:Y = Y + 30 [5068]
690 NEXT [234]
700 POKE 8564,C - INT (C / 256) * 256: POKE 8565, INT
      (C / 256) [4487]
710 PRINT D$"BSAVE"/"J$"/"BG$",a$2100,"E"C [2446]
720 END [292]
730 FOR Z = 8448 TO 8475: READ ZZ: POKE Z,ZZ: NEXT [3058]
735 FOR Z = 8476 TO 8544: POKE Z,0: NEXT [2863]
736 FOR Z = 8545 TO 8567: READ ZZ: POKE Z,ZZ: NEXT :
      RETURN [3326]
740 DATA 76,120,33,11,2,225,38,68,16,0,0,0,4,77,73,78,69,68,97,
      116,101,32,38,32,66,101,108,108,14,10,0,0,0,0,0,0,0,0,0,0,
      1,0,0,0,0,52,2,0,0 [13319]
760 PRINT : PRINT "Enter slot #";: GET S$:
      PRINT S$:S = VAL (S$): IF S = 0 THEN 350 [6805]
770 PRINT "Enter drive #";: GET SS$: PRINT SS$:
      PRINT :SS = VAL (SS$): IF SS = 0 THEN 350 [6559]
780 ONERR GOTO 810 [307]
790 PRINT D$"CATALOG,S"S",D"SS: PRINT "Press a key";:
      GET R$ [6017]
810 POKE 216,0: GOTO 350 [1279]

```

on screen. Save this file as a text file called DISPLAY.TEXT by printing it to disk.

Now run the accompanying BASIC Program listing and enter the name of the text file when the program prompts you. The program then asks you where you keep your TimeOut applications, then creates a TimeOut file called TO.DISPLAY.TEXT automatically.

Now run AppleWorks and you should see TO.DISPLAY.TEXT on your TimeOut menu. This program is designed to display text with the AppleWorks word processor, but it can display text with the database and spreadsheet, as well. If you experiment with all three modules, however, you'll discover that your macros look best on the word-processor screen.

You can even use the program to display much more than UltraMacros information — type a quick note to yourself, copy your favorite poem, or jot down an important business date. Whatever you include, make sure it's an ASCII text file. □

Write to Gordon Macfarlane at 16 Namao Drive, Trenton, Ontario, Canada K8V-1C2.

QUICKIES

Modify the UniDisk 3.5 (mid-1988 or later model) to work like a standard Apple 3.5 drive. First check inside your UniDisk to make sure the mechanism is a Sony model #F51W-xx or -xxx. If so, connect your cables as described in the June 1990 Apple Clinic ("Operating on the UniDisk," p. 22). Unplug the interface cable from the lower circuit board and the jumper cable from its socket on the upper board, then reconnect the interface cable into the upper circuit board and let the jumper cable dangle.

— Ronert Smith
Arminius Publications

Here's a Paintworks Gold modification in Applesoft BASIC that can speed up a slow mouse when the program is adapted to launch under GS/OS version 5.0.2:

BLOAD pathname,A\$300,Bn,L1

Provide the full pathname for the Paintworks Gold program and for n substitute the number 51698 or 51717 for version 1.0 or 1.5, respectively. Then POKE 768,1 followed by this: BSAVE pathname,A\$300,Bn,L1

Use the same pathname and n as described above.

— Richard March
Chagrin Falls, OH

AppleWorks 3.0 has lots of new whistles, but the same old error bell. You can change it with the following modification: BLOAD APLWORKS.SYSTEM,A\$2000,TSYS

POKE 9926, P

POKE 9928, D

P and D are new pitch and duration values, respectively, between 1 and 255. To make the change permanent, add this to the program on your backup disk:

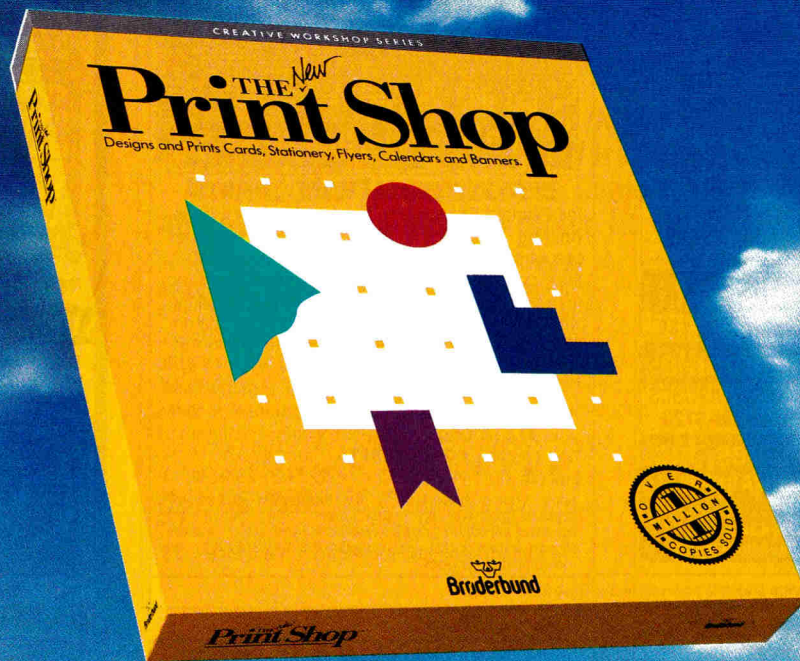
BSAVE APLWORKS.SYSTEM,A\$2000,TSYS

— Bill Knepper
Sandpoint, ID

ThunderScan's cable is pretty short. Extend it with a Tandy cable, part #26-257, available at your local Radio Shack outlet.

— Ralph Mooers
Belle Vernon, PA

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*, 80 ELM STREET, PETERBOROUGH, NH 03458.



HEIGHTENED CREATIVITY

We've just elevated creativity to a higher level. Announcing The New Print Shop® from Brøderbund — the new version of the most popular consumer software of all time. Now with sharper images, new formats and lots more fantastic features, including:

- Better graphic resolution
- Multiple graphics and fonts per page
- Multicolor graphics
- Create huge signs or tiny gift enclosure cards



- Greater flexibility to place graphics anywhere you like
- Skip steps or move backward and forward as you design

All this with the same Print Shop ease-of-use.

The New Print Shop. Now being creative is truly a heavenly experience.

Special Upgrade Offer for current Print Shop Owners. Just call The New Print Shop Hot Line for upgrade details:

800-999-3256

Educators: call 800-521-6263.

- Available for Apple IIe, IIc/IIc Plus computers with 128K, \$49.95. A compatible printer is required.
- Look for The New Print Shop at your local dealer, or call The New Print Shop Hot line at 800-999-3256 to order direct.
- Also available: The New Print Shop Graphics Libraries®: Sampler Edition, Party Edition, and School & Business Edition for the Apple IIe, IIc/IIc Plus, \$24.95 each.



Brøderbund®

© Copyright 1990 Brøderbund Software, Inc.
17 Paul Drive, San Rafael, CA 94903-2101. All rights reserved.

84INC

DB Master Products

Fast. Powerful. Easy to use. DB Master Version Five for simple record handling and reports. DB Master Professional for serious relational data base jobs. The most power you can put in your Apple III!

- DB Master Version Five - \$45 Prof'II - \$189
 - Medical Billing Template* - \$150
 - Basic Programmer's Pak* - \$129
 - Developer's Pak & Run-Time Pgm* - \$195
- *requires DB Master Professional

IIGS Desktop Publishing

- GraphicWriter III - \$75 Medley 2.0 - \$65

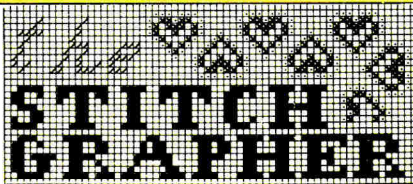
RamFAST Hard Disk Bundles

Top quality Rodime drive & top speed RamFAST/SCSI caching controller. 20 MB-\$625; 40 MB-\$725

Stone Edge Technologies, Inc.

P.O. Box 3200, Maple Glen, PA 19002
(215) 641-1825
Add \$5 shipping, \$10 for hard disks.
Mastercard, Visa, Checks and PO's OK. Add \$5 for COD.

Circle 20 on Reader Service Card.



DESIGN NEEDLECRAFT CHARTS

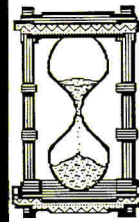
for Counted Cross-Stitch, Needlepoint, Latch Hook, Knitting, etc. using a revolutionary new computer program-The *Stitch Grapher*. Graphs up to 240 X 400 counts with up to 30 symbols may be generated & printed with any of 3 grid styles along with a color chart. A unique windowing feature allows the artist to move, copy, rotate, mirror image, save & re-use previous designs.

The *Stitch Grapher* is compatible with the 64K Apple II and 256K IBM-PC microcomputers. Disk plus 90 pg. manual - \$89.95. For complete information contact: **COMPUCRAFTS**, P.O. Box 326, Lincoln Ctr., MA 01773 or call (508) 263-8007.

Apple version supports only the Imagewriter printer with depicted grid style (dot matrix printers, other than the Imagewriter will require graphics capable interface card or separate support software). IBM version supports all IBM Graphics / Epson compatible printers.

Your IIGS out of time?

Slide-On™



Patent Pending

Thousands of satisfied owners have found our replacement battery kit is the best way to replace the soldered on clock battery on a 256/512K IIGS.

- Complete Instructions
- No Solder Required
- Heavy Duty Lithium Battery
- 10 Year Shelf Life
- \$14.95 ea. or \$120 for 10 Kits

NEW for Iie, Iic, & IIGs on 3.5" Disk

Nite Owl Journal 3.5 - *Incredible Collection*
WRAITH Adventure Game - *Devil's Demise*
Software \$14.95 ea. - only \$9.95 before 12/31/90

Please include \$2 S/H per Order (\$5 overseas)

FAX: 362-5798

Call (913) 362-9898



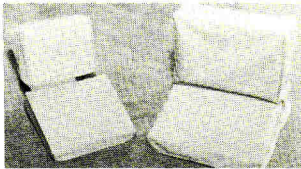
Nite Owl Productions
5734 Lamar Street
Mission, KS 66202

Circle 71 on Reader Service Card.

Protect Your Computer with Quality, Custom Fit, Fabric

Dust Covers

In Tan-Navy-Royal-Grey-Red-Brown



- Professional Appearance
- Unlike plastic covers, ours allow heat from equipment to flow thru fabric.
- Machine Wash & Dry.
- Custom Design/Perfect Fit.
- All Fabric. Won't crack or dry out with age.

Apple Computer Items

10-62	IIGS, Color Mon & Keyboard.....	29.95
10-87	IIGS, KSS, Cir Mon & Keyboard	29.95
10-65	IIGS Mouse.....	2.00
10-67	IIGS Keyboard.....	6.95
10-12	Mac & Keyboard.....	24.95
10-55	Mac & Keyboard Plus.....	24.95
10-74	Mac SE & Keyboard.....	24.95
10-75	Mac SE & Extended Keyboard.....	24.95
10-52	Mac w/Apple Hrd Drive beneath	19.95
10-72	Mac II Color Mon & Keybrd.....	29.95
10-73	Mac II Color Mon & Ext Keybrd.....	29.95
10-77	Mac II Mono Mon & Keybrd.....	29.95
10-78	Mac II Mono Mon & Ext Keybrd.....	29.95
10-18	Mac External Drive (400K).....	5.00
10-53	Mac External Drive (800K).....	5.00
10-28	Mac Mouse.....	2.00
10-80	Iic, Mono Mon & Std.....	24.95
10-16	Iic & Monitor Iic (Separate).....	24.95
10-36	Iic Computer.....	9.95
10-61	Iic & Color Monitor Iic.....	29.95
10-17	Iic External Drive.....	6.95
10-34	Iic Computer.....	15.95
10-33	Monitor Iic.....	15.95
10-32	Color Monitor Iic.....	19.95
10-07	Iic & Monitor Iic.....	24.95
10-14	Iic, Duo Drive & Mon II.....	29.95
10-57	Iic & Duo Drive.....	19.95
10-58	Iic & Color Mon Iic.....	29.95
10-45	Iic, Duo Drive & Cir Mon Iic.....	34.95
10-03	Disk II Drive (Single).....	6.95
10-04	Disk II Drives (2 Stacked).....	9.95
10-60	Apple 3.5 (Single).....	6.95
10-38	Apple 5.25 (Single).....	6.95
10-59	One 3.5 on top one 5.25.....	9.95
10-09	Imagewriter.....	15.95
10-37	Imagewriter II.....	15.95
10-19	15" Imagewriter.....	19.95
10-39	Imagewriter II/cut sht Fdr.....	24.95
10-20	Scribe Printer.....	15.95
10-35	Laserwriter Printer.....	24.95
10-90	Laserwriter II Printer.....	24.95
10-82	Imagewriter LQ.....	19.95
10-91	Imwriter LQ w/cut sheet feeder.....	24.95

Also available: IBM, Compaq, Misc. Printers and Others

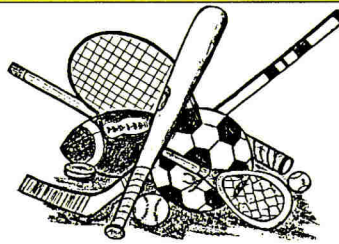
Name _____
Address _____
City/State/Zip _____
Telephone _____
Item No. _____ Color _____
*MC/VISA # _____ Exp. Date _____

Add \$3.00 Shipping & Handling (Check, M.O., C.O.D., VISA, MC)
WI Residents Add 5% Tax
Call (414) 476-1354 or Mail Form and Pymt. to:

Co-Du-Co

4802 W. Wisconsin Ave. Milwaukee, WI 53208

Circle 21 on Reader Service Card.



Sports Scheduler

- FEATURES:**
- Any league or category with 4 to 22 teams.
 - No limit on the number of categories that can be scheduled.
 - Equal distribution of teams in playing slots.
 - Up to 231 games per schedule.
 - Dates calculated automatically.
 - Schedules list date, day, time, location, game number and opponents for each game.
 - Only minutes to schedule a league or category.
 - Includes Referee/Facility Scheduler

APPLE IIE (128K) IIC, IIGS 109.95
IBM PC & Compatibles + 3.00 S&H \$112.95

Send check or money order to:
SPORTS SOFTWARE ASSOCIATES
P.O. Box 458, Hingham, MA 02043
(617) 749-7880

Circle 18 on Reader Service Card.

LASER 128

EX/2 3.5 \$439
EX/2 5.25 \$399
EX 5.25 \$369

128 Color System.....\$510

LASER 128 w/RGB Color, Printer Cable, Word Processor
Amber System.....\$399



III LASER



Free Software With Any System

LASER Authorized Repair Center & Educational Dealer.....	LASER 128.....	329
	LASER Amber Monitor.....	89
	Special - AppleWorks 3.0.....	149
	Mouse for Laser & I/c.....	45
	SupraModem 2400 baud External.....	119
	LASER 5.25 drive...89 Daisy 5.25...99 Daisy 3.5...159	
	LASER 14" RGB color monitor + green + tilt & swivel...219	
	Apricot serial to parallel converter I/c...45 I/c+, gs...49	
	Universal Disk Controller: connect 3.5 Drive to I/c.....49	
	80 col 128K card for I/c...25 Laser 128 RAM card...25	

1-800-726-7086 LASER & Apple Experts

RAM for LASER & Apple...\$25 256K-120ns set of 8 chips

LASER 190A Printer...\$195 ImageWriter Compatible

Call for lowest shipping charge. School PO's, COD & Charge accepted.

Perfect Solutions (407) 471-7786
3701 Savoy Lane, Suite 106-D West Palm Beach, FL 33417

Circle 59 on Reader Service Card.

Teacher Designed

Student Tested

EDUCATIONAL SOFTWARE

Apple II Family - Simple Operation - Color - Animation - Sound
Remedial - Personalized - Certificates of Completion - Printouts

Learn Spelling Rules

Study Your Word Lists

SPELLING TUTOR

Teachers Enter Their Own Name, Class Level, & Word Lists

Change a Tedious Task to Fun

MULTIPLICATION TABLES TUTOR

Compete Against The Clock

Study At Home

Buy 2 Get 1 Free

\$49.50 each or three of the same title for \$99.00

The 5th of July Productions
122 Sunrise Drive
North Massapequa, NY 11758
(516) 293-8694

Circle 52 on Reader Service Card.

LASER 128 \$339.00
LASER 128 Refrb. Sys... \$369.00
LASER 128 E-X \$369.00
LASER 128 EXII-5.25 ... \$399.00
LASER 128 EXII + 3.5 ... \$439.00

12" Monochrome 96 UDC Card 75
 13" Magnavox RGB/COM 259 256K Memory (EX) 40
 Laser 145 (Epson) 169 Monitor Stand 29
 Laser 190 (Epson) 199 Keyboard Protector 24
 Laser 190 (Apple) 199 Joy Stick 25
 Laser 190 (Apple Serial) 245 Mouse 59
 Laser 190 Pull Tractor 45 2400 Modem 155
 Star NX-1000 199 Modem Software 75
 Star Rainbow 259 PC Viewer 629
 Ribbons (Black) 4 (6) Apple II Serial Card 85
 Laser 128E Memory Card 35 Apple II Parallel Card 59
 Laser 3.5" Drive 185 Laser RGB Monitor 219

NEW SCIENCE PROSPECTS

Your full Laser® Computer Service Center
 1200 Blalock Ln., Ste. 380, Houston, TX 77055
 713-464-8303

School orders welcome

Circle 173 on Reader Service Card.

FRENCH GERMAN ITALIAN
EuroWorks™ v3.0
PORTUGUESE SPANISH v2.0

Type accented foreign text quickly and simply with the classic AppleWorks® word processor. Then, from inside AppleWorks, EuroWorks prints your foreign text on an ImageWriter® or compatible printer.

Foreign word processor files may include every character on your American keyboard plus 13 French, 7 German, 10 Italian, 13 Portuguese, or 10 Spanish: just two sensible keystrokes per foreign character.

EuroWorks requires an Apple DMP; ImageWriter I, II, or LQ; Scribe; an MT85/86; or a Seikosha SP-1000AP printer. EuroWorks is compatible with, but does not require, the TimeOut™ series from Beagle Bros, Inc.

EuroWorks v3.0 for AppleWorks v3.0
 EuroWorks v2.0 for AppleWorks v2.0 or v2.1

French...\$24 Spanish...\$24
ALL FIVE...on one disk...\$39

USA, Canada, Mexico postpaid; others add \$3

AppleWorks®, ImageWriter® by Apple Computer, Inc.

Check, MO, Net-30 School PO, Visa, MC
The S.A. AuTeur Co: A66
 P.O. Box 7459 Beaverton, OR 97007
 (503) 645-2306



Circle 185 on Reader Service Card.

BIBLE RESEARCH SYSTEMS

Thousands of customers use our software and Bible text for KJV or NIV. Create your own concordances by searching for word and phrase combinations. Immediate display or print of any portion of the Bible. Also available: a Greek transliterator and topical concordances. For ProDos, Macintosh & MS-DOS.

Bible Research Systems
 2013 Wells Branch Pkwy. #304
 Austin, Texas 78728
 (512) 251-7541 (Tech Support)
 (800) 423-1228

Circle 87 on Reader Service Card.

APPLEWORKS ↔ IBM

CROSS-WORKS 2.0 can exchange AppleWorks data files with the most popular MS-DOS programs:

NEW! AppleWorks ↔ Microsoft Works
 AppleWorks Word Proc. ↔ WordPerfect
 AppleWorks Spreadsheet ↔ Lotus 1-2-3
 AppleWorks Data Base ↔ dBase III, IV, etc.

In seconds, CROSS-WORKS copies files either way between your Apple II and IBM PC, and translates the file formats. Word Processor files maintain underlining, margins, centering, etc. Spreadsheets transfer data and formulas! Transfers ASCII text files too. Includes universal 19,200 baud cable to connect IIe (with Super Serial Card), IIc, IIcPlus & IIGs to PC, XT, AT, PS/2 & compatibles. Also supports modem transfers. Both 5¼ and 3½ inch disks included.

"...Look no further. SoftSpoken's CROSS-WORKS carries the biggest stick in the file translation/transportation business... Rating: ★★★★★" — InCider July, 1989

CROSS-WORKS™ \$99.95 + Shipping & Hand.
 30 Day money-back guarantee! School P.O.s welcome.

☎ (919) 870-5694 for free information.



AppleWorks 3.0
 Compatible!

SoftSpoken
 P.O. Box 18343
 Raleigh, NC 27619

Circle 127 on Reader Service Card.

COLOR RIBBONS & PAPER

Colors: Black, Red, Blue, Green, Brown, Purple, Yellow

Ribbons: price each	Black	Color	T-Shirt Ribbons
Apple Image, I & II	\$3.75	\$4.50	\$6.50
Apple Image, II 4-Color		\$6.75	\$10.00
Citizen GSX140	\$4.50	\$5.50	\$7.50
Citizen GSX140, 4-Color		*	
Epson MX-80	\$3.75	\$4.50	\$6.75
Okidata 182/192	\$5.50	\$7.50	\$6.00
Panasonic 1180/1124	\$5.75	\$7.75	
Star NX 1000	\$3.75	\$4.75	\$6.75
Star NX 1000 4-color		\$6.75	\$10.00

T-Shirt (Heat Transfer Ribbons)

Colors: Black, Red, Blue, Green, Brown, Purple, Yellow

COLOR PAPER

Color Paper	200 shts assorted	
Bright Pack:	9½ x 11	\$10.90/pk
Pastel Pack:	9½ x 11	\$ 8.90/pk
Color Certificate Paper:	100 sheets	\$ 9.95/pk
Color Banner Paper:	45 ft./roll	\$ 8.95/roll

Min. orders: \$25.00. Minimum S&H: \$4.00. Call for other ribbons and supplies. Price and spec. are subject to change w/o notice.

RAMCO COMPUTER SUPPLIES

PO Box 475, Manteno, IL 60950 U.S.A.
 USA 800-522-6922 or 815-468-8081
 (Canada) 800-621-5444

Circle 7 on Reader Service Card.

Protects while you type!



- Remains in Place while you type.
 - Protects from dust, spills, smoke, ashes, staples.
 - Soft, Flexible, retains normal keyboard feel.
 - Washable, Durable High-Tech Polymer lasts years.
 - Hundreds of Models. PCs, laptops, clones.
 - Office • Home • Factory • Classroom • Laboratory
- List Price \$29.95. Please call or write for free color brochure. Dealer inquiries encouraged.

Safeskin™
 KEYBOARD PROTECTOR

Merritt Computer Products, Inc. 5565 Red Bird Center Drive
 Suite 150, Dallas, Texas 75237(214) 339-0753 • FAX (214) 339-1313
 In Canada call 1-800-663-1061

Circle 4 on Reader Service Card.

APPLE!!!
 II, II+, IIE, IIC, & IIGS



For Shareware

Shareware & Public Domain Software

Hundreds of Programs
 from \$1.50

Programmers: Gemini is seeking quality Apple software for our forthcoming commercial range. We would be pleased to review your submissions for inclusion on a royalty or outright purchase basis. Send submissions to the Duvall address below.

Call today for our
 20-Page Catalog!

Toll-free:
 1-800-346-0139

Gemini™
 Marketing, Incorporated

P.O. Box 640, Duvall, WA 98019-0640

Circle 38 on Reader Service Card.

Choice Computer Products

PO BOX 8432, CEDAR RAPIDS, IA 52408
CUSTOMER SATISFACTION IS OUR #1 PRIORITY

AUTHORIZED **AE** APPLIED ENGINEERING® DEALER
FACTORY INSTALLED / WARRANTED RAM

PC TRANSPORTER	280	PHASOR	105
SINGLE TRANS DRIVE	182	DATALINK 2400	168
DUAL TRANS DRIVE	273	DATALINK EXPRESS	175
IIGS KIT	35	SERIAL PRO	98
IIE KIT	28	PARALLEL PRO	70
RAMWORKS III 256K	140	BUFFER PRO 32K	77
RAMFACTOR 256K	175	COLORLINK	91
RAMCHARGER	126	H.D. POWER SUPPLY	56
GS RAM 256K	119	AE 5 1/4" DISK DRIVES	105
GS-RAM ULTRA 256K	154	AE 3 1/2" DISK DRIVES	203
GS RAM + 1MEG	238	AE 3.5 CONTROLLER	56
RAMKEEPER	154	CONSERVER	70
RAM EXPRESS II 256K	140	TRANSWARP IIE	84
TIMEMASTER	70	TRANSWARP GS	280
SONIC BLASTER	91	VULCAN 20	490
AUDIO ANIMATOR	168	VULCAN 40	630

OTHER FINE PRODUCTS

KENSINGTON SYSTEM SAVER IIGS	75	AMR 3 1/2" DISK DRIVE	195
KENSINGTON SYSTEM SAVER IIE	75	BEAGLE BROS. TIMEOUT	CALL

For the Lowest Prices on all AE Products Call 319-396-2306 (9 am to 9 pm)

MasterCard, Visa, COD, P.O. & Checks Accepted

Prices subject to change

APPLE MEMORY CHIPS

Small Ad, Small Prices

- ★ 256K Chip Set \$25.00
- ★ 256KX4 Chip Set \$19.00
- ★ 128K ZIP (PC Transporter) \$35.00
- ★ 1MB Chip Set \$68.00
- ★ Chinook 4000 4 MB card w/1MB \$169.00
- ★ SE 1 MB card for IIC w/256K \$110.00
- ★ SE 1 MB card for IIE w/256K \$105.00
- ★ 5 year warranty

So what are you waiting for?

CALL TOLL-FREE
1-800-776-6260



COD



1031 E. Battlefield
Suite 221 B
Springfield, MO 65807
Phone: (417) 883-6261
FAX: (417) 883-2584

Circle 17 on Reader Service Card.



CANADIAN COMPUTER OUTLET INC.



CHINOOK

CT-20 \$799.00
CT-40 \$959.00
CT-100 \$1449.00
Includes Apple SCSI
Canadian Funds

Educational discounts available.
For orders only call COLLECT

(416) 849-0737

or write for a free catalog.

Your source for low price, high quality Apple
and IBM Compatible Computer products.
Dealer inquiries welcome.

P.O. Box 7081

OAKVILLE, ONTARIO L6J6J5

Circle 116 on Reader Service Card.

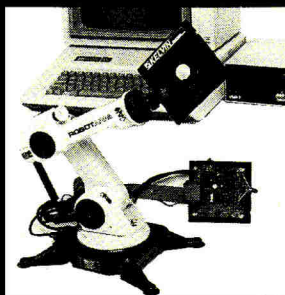
EXPLORING ROBOTICS

TECHNOLOGY
ACTIVITY

\$199

COMPLETE
SYSTEM

- Robotic Arm
- 2 Joysticks
- Power Supply
- K.I.S. Interface Module
- Demonstration Video
- Software



IBM or APPLE II, II+, IIE, GS COMPATIBLE

UPGRADABLE - ADDS THE ABILITY TO CONTROL
AN ADDITIONAL 4 DC MOTORS UP TO 1 AMP EACH
FOR PROBLEM SOLVING ACTIVITIES SUCH AS
CONVEYORS, ELEVATORS, PLOTTERS & ROBOTIC CARS.

KELVIN Electronics
7 Fairchild Avenue, Plainview, NY 11803
(516) 349-7620 FAX (516) 349-7830

Circle 57 on Reader Service Card.

ZIP CHIP

4 MHz — \$89.95

8 MHz — \$119.95

The Zip Chip accelerates the Apple II series (II, II+, IIE, IIC) plus compatibles up to 4-Times normal speed. It uses no slots as it replaces the CPU and is compatible with virtually all software. Accelerates all main memory and up to 2 Meg auxiliary memory. inCider's number 2 product of the year in 1988.

MONEY BACK GUARANTEE — Try it Risk-Free for 30 days with an ironclad, unconditional, no-questions-asked money back guarantee. If dissatisfied for any reason, return it to us for an immediate full cash refund.

SHIPPING FROM STOCK — We ship product from inventory on hand so there is no delay in receiving your Zip Chip.

***LOWEST PRICE GUARANTEE**

If you find a nationally advertised lower price for the 4 MHz Zip Chip, we will better it—guaranteed. Send ad with advertised price, publication and date for verification.

Check & money orders to: COMPUTER ENHANCERS, 2905 Davison Road, Flint, MI 48506. VISA, MASTERCARD & COD orders call 313-232-1825. Add \$5.00 shipping, insurance & handling. MI residents add 4% sales tax.

Circle 252 on Reader Service Card.

RIBBONS

1-800-331-6841

1-513-252-1247
FAX 513-252-4429

Over 350 types
Volume Discounts Available
★ ★ Satisfaction Guaranteed ★ ★

	BLACK	COLORS
APPLE IMAGEWRITER	2.40	2.95
APPLE 4-COLOR	—	5.50
DIABLO HT II M/S	2.25	—
EPSON LX-80/90	2.10	3.25
EPSON MX-FX 80	2.50	4.50
EPSON MX-FX 100	3.50	4.50
IBM PROPRINTER	3.50	—
NEC P1, 2, 6	4.50	—
OKIDATA 182-192	3.50	4.50
PANASONIC 1080	3.50	4.50
PANASONIC 1124	4.95	5.95
STAR NX-1000	3.25	3.95
NX-1000 4-COLOR	—	7.50

DAYTON COMPUTER SUPPLY

a division of Den-Sys Corp.

1220 Wayne Avenue, Dayton, Ohio 45410

EST.: 1979

TERMS: C.O.D. MC, VISA, DISCOVER

Circle 134 on Reader Service Card.

2 POWERFUL SOFTWARE PROGRAMS from

COMPLETE MATHEMATICAL PROGRAMS for
HIGH SCHOOL and UNIVERSITY STUDENTS
or WORKING PROFESSIONALS



GSNumerics

for the APPLE IIGS COMPUTER

- SCIENTIFIC CALCULATOR • Atomic Weight & Number • 196 Unit Conversions • Automatic Function Parsing • Complex Math • 64 Functions.
- POLYNOMIAL & NON-POLYNOMIAL OPERATIONS • Solve for y • Slope • Area • Roots • Integrate & Differentiate Polynomials.
- x - y REGRESSION • Linear • Log • Exponential • Power.
- SYSTEMS OF LINEAR EQUATIONS • Real or Complex, up to 10 x 10.
- MATRIX OPERATIONS • Add • Subtract • Multiply • Scalar Multiplication • Transpose • Inversion • Determinant • Real or Complex up to 10 x 10.
- COMPLETE FILE OPERATIONS
- GRAPHICS • Polynomials • Non-polynomials • x-y Data • Regressions • Graph Magnification • Overlay Two Functions • Overlay Function and Derivative • Overlay Function and Integral.

Circle 60 on Reader Service Card.

MacNumerics

for the Macintosh Computer

The NEW MacNumerics has all the basic functions and features of GSNumerics PLUS...

- POLYNOMIAL OPERATIONS • Enter In Polynomial Form • Enter In Factored Form • Enter As A Factor Power Expansion • Factor Polynomials With Real And Complex Factors.
 - GRAPHICS • Compute And Display Real Roots • Compute And Display Area Between Two Points • Compute And Display Common Solutions • Compute And Display Area Between Two Functions.
 - SHOW COMPUTATION STEPS
- TWO POWERFUL TOOLS FOR TEACHING AT THE HIGH SCHOOL & UNIVERSITY LEVELS
For complete information contact:
Spring Branch Software, Inc.
P.O. Box 342 • Manchester, IA 52057
Phone: (319) 927-6537

Circle 3 on Reader Service Card.

FOOTBALL • BASEBALL

SPORTS FANS...
THE SPORTS SIMULATIONS YOU HAVE
BEEN WAITING FOR ARE HERE!

3 IN 1 FOOTBALL

• with Stats Compiler for each player and team • you choose from 14 offensive plays and 6 defensive formations • includes 180 college teams and the 28 Pro teams from the '89 season
PL US 174 great college and 189 great pro teams of the past

FULL COUNT BASEBALL

• Includes all 26 teams from the most recent and 52 great teams from the past • 29 man rosters • Ball park effects • Stats Compiler automatically keeps all player and team stats as well as past schedule results. • Complete boxscore to screen and/or printer after each game. • One player vs. computer manager, two-player, and auto-play options. • Input your own teams, draft or trade players from teams already included. • You choose the starting lineups, batting order, relief pitchers, plus game decisions like when to hit away, bunt for a hit, sacrifice, steal, hit & run, bring in the corners or the entire infield, take an extra base, DH option and more!

FULL COUNT Standings & League Leader Program \$14.99

Send check or money order for \$39.99 each.

Visa and MasterCard accepted on phone orders only.

Please add \$2.00 for postage and handling.

LANCE HAFFNER GAMES

P.O. Box 100594 • Nashville, TN • 37224 • 615/242-2617

Circle 226 on Reader Service Card.

24 TERMINAL EMULATIONS

Softerm 2, an advanced communications package, includes 24 terminal emulations such as:

- DEC VT52, VT100, VT102
- IBM 3101-20 (block mode)
- HP 2622A • VIP7801, 7803
- DG D200 ... and many more.

Guaranteed Compatibility!!

Supports Script Files, Disk Capture, Softkeys, ProDos (floppy), DOS, CP/M, Pascal, & most vendor boards/modems.

Comes with Keyboard enhancer.

For the Apple II, II+, IIe, IIc, IIgs.

\$195 MC-VISA-COD

SEIFTRONICS

1-800-225-8590

Call for information

(719) 593-9540

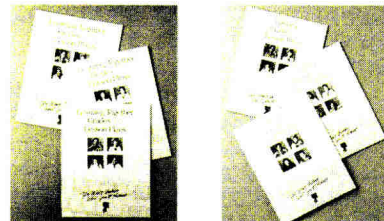
(719) 548-1878 FAX

Telex 450236

Circle 96 on Reader Service Card.

Hundreds of Lesson Plans to help you teach with computers in your classroom

To help you use computers in your classroom, Computer Learning Foundation offers nine books with exemplary lesson plans written by teachers from the Computer Learning Month contests. Each book is 64 pages or more & includes a quick reference chart to identify lesson plans by subject area, grade level and type of software used.



The best of the lesson plans received in 1987 contests including all curriculum areas

Edition I Lesson Plan Books:

Title	Item Number	Cost
K-5	L8901-051	\$6.00
6-8	L8901-052	\$6.00
9-12	L8901-053	\$6.00

The best of the lesson plans received in 1988 contests. Lesson plans involve cooperative learning.

Learning Together Lesson Plan Books:

K-5	L8901-061	\$6.00
6-8	L8901-062	\$6.00
9-12	L8901-063	\$6.00



Specialized Lesson Plan Books:

Special Education	Item Number	Cost
L8901-071		\$6.00
Early Childhood Education		
L8901-091		\$6.00
Telecommunications in the Classroom		
L8901-081		\$10.00

The Foundation is the official host of Computer Learning Month® every October and is dedicated to advancing computer competency among youth by assisting parents and teachers.

To order materials, send a check (U.S.\$) to the address below. Add \$2.50 for handling and 50¢ per book, [\$1.00 per book in Canada] for shipping.

For more information or to order materials write to:



Computer Learning Foundation-Dept. I
PO Box 60967
Palo Alto, CA
94306-0967

FREE 15 DISKS FREE FULL OF APPLE SOFTWARE

TRY US! - Get 15/5.25" disks full of our best selling software - FREE!

Games, Education, Graphics, Utilities, Finance, plus our catalog on a disk. Also available - 6/3.5" disks for Apple GS

PAY ONLY \$5.00 FOR SHIPPING

SATISFACTION GUARANTEED!

INTERNATIONAL SOFTWARE LIBRARY
ORDER TODAY - CALL

619 942-9998



since 1985



Circle 23 on Reader Service Card.

MACROS

The UltraMacros Primer teaches you everything you need to know to use TimeOut UltraMacros. The lessons in this book describe how to install UltraMacros, how to capture keyboard macros, how to write compiled macros, and much more. 250 pages, including dozens of examples and suggestions. Author Mark Munz is on the staff at Beagle Bros. \$19.95 (plus \$3 s/h). Visa and M/C accepted.

National AppleWorks Users Group

Box 87453, Canton, Michigan 48187

(313) 454-1115

Satisfaction guaranteed or your money back.

Circle 55 on Reader Service Card.

AzTech Computer

(602) 938-1160

Memory Expansion

GS-RAM Plus 1 Meg	\$219	Print Shop GS	\$37
RamCard GS 1Meg	\$139	Print Shop IIc	\$35
RamKeeper	\$149	Print Shop Graphics	\$19
RamWorks III 256k	\$159	8/16 Paint	\$49
RamFactor 256k	\$199	VCR Companion	\$37
		Graphics Studio	\$49
Hard Drives & Floppies		Paintworks Gold	\$49
Vulcan 20 Hard Drive	\$539	Deluxe Paint II	\$75
Vulcan 40 Hard Drive	\$649	Fantavision	\$45
Vulcan 100 Hard Drive	\$1239	DazzleDraw	\$45
External 32MB w/SCSI	\$499	Appleworks 3.0	\$189
External 48MB w/SCSI	\$549	Appleworks gs	\$209
External 60MB w/SCSI	\$799	AW 3.0 Companion	\$29
AE 3.5" Drive	\$209	Timeout Deskttools	\$29
1.44Meg Upgrade	\$42	Timeout Reportmaster	\$29
5.25" Drive Delay-Chains	\$109	Timeout Superfont	\$39
Other Hardware		Timeout Ultramacros	\$39
Transwap gs	\$289	ProTerm	\$79
Transwap III	\$169	Anchor 2400E Modem	\$149
Audio Animator	\$179	Printer/Modem Cables	\$19
Sonic Blaster	\$99		
VisionPlus GS	\$229		
PC Transporter w/k	\$349		
AE Conservor	\$79		
Turbo Mouse 406	\$129		
CH Roller Mouse	\$89		
Printer Apple Compatible	\$219		

Circle 65 on Reader Service Card.

NEW! EDUCATIONAL SOFTWARE

for your Apple //c, //e, and //gs.

CORE microsystems presents the Composition Primer, a student's guide to writing the most common English paper, the composition. Ideal for junior high, high school, and college students. Don't be the last one in your class to have one. For free information, send a self addressed, stamped envelope to the following address:

To order, send cash, check, or money order for \$16.95 to:

CORE microsystems
P.O. Box 657, Ozark, AL 36360.

Postage Paid. 5 1/4 floppy disk only.

Circle 98 on Reader Service Card.

Ribbons

FACTORY FRESH RIBBONS

Ribbon	Black	Color
Apple Imagewriter I, II	\$ 2.25	\$ 2.95
Imagewriter II 4 color		\$ 4.95
Imagewriter II 4 color Heat transfer	\$ 9.95	
Imagewriter LQ (Black and 4C)	\$ 8.95	\$13.95
Panasonic 1124	\$ 3.50	
Epson MX/FX/RX80	\$ 2.50	\$ 3.50
Epson MX/FX/RX100	\$ 3.50	\$ 4.00
Star NX1000	\$ 3.25	\$ 3.95

For Orders of less than 6, please add .75¢ each.

Hundreds more.

Colors (BLUE, RED, GREEN, PURPLE,)

-PREMIUM IS ALL WE SELL!

Shipping/Handling \$3.50 per order (over \$50 we pay S/H).

Free box of 10 diskettes with orders over \$100.00 (specify 5.25 or 3.50). New York residents please add sales tax.

School, hospital and govt. PO's welcome.

-MONEY BACK GUARANTEE

ISLAND COMPUTER SUPPLY

305 Grand Boulevard
Massapequa Park, New York 11762
(516) 798-6500

Public Domain

PUBLIC DOMAIN & SHAREWARE

Big 48 page catalog with descriptions of many programs Over 40 programs on some disks. Program disks cost as low as \$1.99 each. Thousands of programs available. Our catalog gives you descriptions of many programs, not just a program name. Our seventh year. No membership fee to pay. Software programs in all fields, Education & School, Games, Art & Graphics, Astronomy, Business & Finance, Chemistry & Biology, Electronics, Ham Radio, Math & Statistics, Music & Sound, Appleworks™ templates, plus much more. Something for everyone no matter what your age or occupation. Send only \$2 for big 48 page catalog sent by return First Class Mail.

COMPUTER BUDGET SHOPPER (CBS)

2203 Park Ave., Suite 17
Cheyenne, Wyoming 82007

APPLE PUBLIC DOMAIN DISKS

Request free catalog or send \$2 for sample disk & catalog (REFUNDABLE). Categories include education, utilities, games, business, Print Shop graphics, shareware, EAMON and more. Buy as low as \$1.00 per disk. A \$20 order gets 4 free disks of your choice. NEXT DAY SHIPPING! We have been distributing Public Domain programs since 1986 and will continue to provide timely, courteous responses to all inquiries. Purchase Orders Welcomed!

**CALOKE INDUSTRIES (Dept. SK)
P.O. Box 18477
Raytown, MO 64133**

BEST VALUE IN APPLE PUBLIC DOMAIN

Over 900 disks, packed, organized and MENU-DRIVEN with only the best PD and Shareware. Our library is continually updated and now includes many of the latest releases for the Apple IIGs! We emphasize quality and service and provide NEXT DAY shipping. Our disks are only \$1.00 each and include all categories (Utilities, Education, Business, Games, PRINTSHOP GRAPHICS, Religion, Appleworks templates, Pascal, Eamon, and more). Programs available in 5.25 and 3.5 format. BLANK DISKS, RIBBONS, and more also available at discount prices. No membership fee! Send \$2.00 for a descriptive catalog and demo disk to:

**CHRISTELLA ENTERPRISE
P.O. Box 483
St. Clair Shores, Michigan 48080**

Insurance

INSURES YOUR COMPUTER

SAFEWARE provides full replacement of hardware, media, and purchased software. As little as \$49 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).

**SAFEWARE, THE INSURANCE AGENCY INC.
2929 N. High St.
P.O. Box 02211
Columbus, OH 43202
(800) 848-3469 Nat;
(614) 262-0559 (OH)**

Networking

NETWORKING SOLUTIONS FOR APPLE COMPUTERS

The Server /// Network allows you to share software and printers among up to 32 Apple // family computers. The Server /// provides instant, simultaneous access to multiple software programs, and serial/parallel printers. The Server /// does not require network software. Also available are

- VideoNet! Instantly view any student's screen and more
- Sprinter! Connect up to 8 computers to up to 4 printers

Juliana Associates, Inc.

**RD28 Box 385
York, PA 17404
(717) 792-4105**

Software

PROJECT MANAGEMENT PLUS, AND DESIGN

EVERYBODY'S PLANNER (Apple II+, IIe, IIc, IIc+, IIGs, IBM), the only full-featured project manager for Apples. PERT charts have projects up to 5 years, 54 tasks, 216 resources, optional costing, critical path, early & late, start & finish dates, 8 reports and graphs. Includes FLOWCHART with 19 shapes, 3 fonts: \$99.95. 13 more **Reports:** \$39.95. Enhance your projects with **WELCOME!** for databases of project milestones, tasks, resources, etc. \$79.95. **SPECIAL:** all 3 programs: \$199. **DESIGN YOUR OWN HOME: ARCHITECTURE, INTERIORS, or LANDSCAPE** Apple II: \$69.95, IIGs: \$89.95, IBM, MAC: \$99.95. **DESIGN YOUR OWN TRAIN:** Apple II, Mac: \$49.95, IBM: \$59.95. **RUN YOUR OWN TRAIN:** Apple II: \$34.95. **ELECTRONIC DRAWING:** Apple II, IBM \$49.95. **ADVENTURE OF LEARNING:** Apple II: \$69.95. Check/Visa/MC.

**ABRACADATA
PO Box 2440 Dept. DD
Eugene, OR 97402
Orders: 800-451-4871
503-342-3030**

FAMILY ROOTS, LINEAGES, TREE CHARTS

From our collection of software to keep track of your family, choose one to fit your needs and pocketbook! Our software handles gobs of data for each of millions of people. Print pedigree and descendants charts, group sheets, person sheets, indices of names, address labels, more. Do screen tracing and searches. Compatible with your word processor. Call for a FREE catalog. Satisfaction guaranteed! Prices start at \$49. All Apples, Macs, PCs, and more.
MC/VISA/AMEX

QUINSEPT

**PO Box 216
Lexington, MA 02173
617-641-2930 (Mass.)
800-637-7668 (USA & Canada)**

Dr. Zap's Price Munchers!

Tired of looking through 100's of Ads for the best priced products? Take the work out of finding the lowest prices on the hardware and software you really want. Apples, Lasers, HARDDRIVES, Modems, Printers, Software, etc. . . . Over 1500 items listed! . . . From dozens of vendors . . . Uses AppleWorks database (specify version when ordering). Disk 5.25" or 3.5" . . . \$15 . . . Includes shipping.

CIPHER-TEC SYSTEMS, INC.

**P.O. Box 55261
Tulsa, OK 74155-1261
(2360 S. Florence Ave., Zip 74114-1837)
(918) 663-6935**

GEOS CARTOON CLIP ART DISKS!

Each disk has 40 or more geoPaint cartoons of both general and seasonal interest, and at least one font. Available now are:

#1	Nov-Dec	\$7.00
#2	Jan-Feb	\$7.00
#3	Mar-Apr	\$7.00
#4	May-Jun	\$7.00
#5	Jul-Aug	\$7.00
#6	Sep-Oct	\$7.00
#7	Nov-Dec	\$7.00
#8	Jan-Feb	\$7.00
#9	Mar-Apr	\$7.00
#10	May-Jun	\$7.00
	PUNTOONS (visual puns)	\$7.00
	TRAVEL CARTOONS	\$7.00

Send check or money order to:

**CARTOON SAMPLER
Dept. A
7048 Michigan Street
Elwell, MI 48832**

CARDMASTER DEALS AGAIN

Another masterpiece for the //GS. **SOLITAIRE VOLUME II:** Eight new and exciting games. ACCORDION-CORNERS-BELEAGUERED CASTLE-GOLF-PATIENCE-FIVE PILES-CALCULATOR-POKER.

SOLITAIRE/CRIBBAGE:

KLONDIKE (1&3 at a time)-PICTURE FRAME-PYRAMID-MONTE CARLO and the best CRIBBAGE program available anywhere. Outstanding color graphics, lots of options, including color change, static files, and our famous alarm clock are standard features. Both programs require Apple //GS, 512K, mouse & 3.5" drive. \$34.95 ea.

Apple II, IIc, IIe owners:

Original Solitaire/Cribbage and Computer Gin Rummy, less options, 5/4 drive. \$19.95 ea.

PUBLISHED BY COMPUTREK

Distributed Exclusively by Golem Computers
PO Box 6698

Westlake Village, CA 91360

(800) 248-0363

CA (805) 499-7785

Mon.-Fri. 7am-6pm

Sat. 9am-4pm Pacific Time

Computers & Supplies

SUPER DEALS ON APPLES!
BUY ** SELL ** TRADE
USED ** NEW

Apple IIc \$349
Apple IIe Lowest
Apple IIgs Lowest
All other Apple Systems CALL
Imagewriter I \$275
Imagewriter II \$349
Apple 3.5" Unidisk 800k \$269
AMR 3.5" 800k IIc+/IIgs . . \$182
45 MEG Removable HD \$579
20 MEG External HD \$265
40 MEG External HD \$419
All Mac Systems CALL
Peripherals & Software CALL
Price List & PD Catalog \$.50 SASE

Also open evenings & weekends

M.P.-Computer Micro Systems

P.O. Box 1141

Dept. ICAP

Mountain View, CA 94042

(415) 968-9026

(415) 968-0509 (FAX)

REPAIRS BY MAIL!!

Two business day turnaround, work guaranteed for up to one year.

IIe MLB Swap: \$110+\$12 s/h—1 year guarantee.

II, II+, IIe Power Supply Replacement: \$75—1 year guarantee.

IIc MLB Swap: \$90+\$12 s/h—1 year guarantee.

Disk Drive II Rehab: \$75+\$7.50 s/h—6 month guarantee.

NJ residents add 6% sales tax.

Hardware supplies also available. School District orders welcomed. Write or call us for details.

We also buy dead Apples, Franklins, Lasers.

ARMINIUS PUBLICATIONS

& PRODUCTS

P.O. Box 1265/8519

Orchard Ave.

Merchantville, NJ 08109

(609) 662-3420

If you have a used Apple IIe or IIc, preferably equipped with an echo speech synthesis board, I'd like to hear from you. I am a blind shut-in and am looking for someone who would be willing to donate a simple personal computer to help me with the task of writing a book. It would be used principally for word processing duties. Any offers would be greatly appreciated; please call or write me at:

Richard Jastrow

5909 W. 6th St.

Los Angeles, Ca. 90036

Phone: (213) 938-5347

Music

ELECTRONIC MUSIC--MIDI ANY APPLE

Apple II+, IIe, MIDI Card 1x2 channels \$79, GS MIDI Opcode 1x3 Serial \$79. Sequencing Software: MasterTracks Jr. GS \$79, MT PRO GS \$269, MasterTracks \$159, Dr. T's KCS V. 2.0 IIe/II+ \$159, GlassTracks \$89, Super Sequencer GS, IIe \$199, Apple II or GS MIDI Music Pack: MIDI Interface & Cables & Software \$169. Music Printing Software \$99. Sound Editor/Librarian: Casio CZ Rider \$89, Yamaha DX/TX7 \$129. Kids MIDI Software for note reading/ear training/fingering \$39-\$79. Coda Music Ed 5-Pack \$179. 5' MIDI Cables \$7.95. Books \$2.50 S/H each: *A Guide to Computer Music*, 2nd edition \$19.95; *Electronic Music Dictionary* \$16.95; *MIDI for Musicians* \$17.95; *Music and the Mac* \$16.95. Audio Animator \$179.00, IIe/GS Ram \$159.00, Transwarp \$299.00, Vulcan 20 Meg \$489.00, Casio Polyphonic full-size MIDI Keybrd. with speakers \$389, or Kawai PH50 MIDI Keybrd. \$379. MIDI Software for any level user: Apple II, Mac, C-64/128, IBM, Atari, Schools Welcomed.

SOUND MANAGEMENT

P.O. Box 3053

Peabody, MA 01961

Check, MO, VISA, MC, School P.O.

Call (800) 548-4907 orders USA

Call (508) 531-6192 MIDI catalog and foreign countries only

Entertainment

WIN THE LOTTERY TODAY!

LOTTO PICKER™ works with your computer to improve your odds of winning million \$ jackpots by exploiting hidden biases in your States lottery games. Increase your win rate in every Lotto game worldwide! For IBM, Apple II, & C64. \$39.95 (+\$2.55 sh). 3.5" disk add \$5. NY res. must add tax.

GE RIDGE SERVICES, INC.

170 Broadway, Suite 2011C

New York, N.Y. 10038.

ORDERS: 1-800-835-2246 x121.

Info 1-718-317-1961

Designed especially for teachers!
Ten Easy-to-use Templates from inCider!

Classroom Management Disk for AppleWorks 3.0

Reduce class preparation time! Manage your classroom more effectively! Make your teaching life more productive with the power of AppleWorks 3.0 and *inCider's* Classroom Management Disk. Ease the paperwork crunch for good, and build a convenient "data bank" of lessons, tests, reports, grades, statistics, and more!

It features specially designed templates, ready-to-run as they are, or modify them as you choose. Each disk comes with a documentation manual that will guide you quickly and easily through these useful, convenient templates:

-
- Homeroom Database
- On-Screen Drill
- Grade Equivalent
- Lesson Plan
- Planning Calendar
- Letter Form
- Test Bank
- Test Construction Kit
- Gradebooks
- Quiz Machine
-

Only \$29.97! That's less than \$3.00 per template!

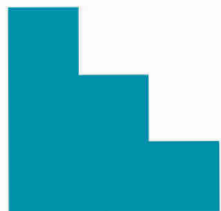
Foreign Airmail, add \$3.95
AppleWorks is a registered trademark of Apple Computer, Inc., licensed to Claris Corporation. Requires AppleWorks 3.0.

●
ORDER NOW!
CALL TOLL-FREE
1-800-343-0728
(inside NH: 924-0100)
inCider Magazine
80 Elm St
Peterborough, NH 03458

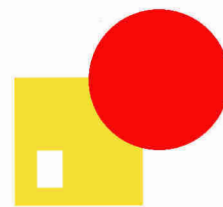
CAZ7

Use *inCider's* Classified Section to showcase your Apple II products. Contact Diane Maguire at 1-800-441-4403 for further details.

In with the New: Broderbund's New



PRINT Shop



That ever-popular desktop-publishing program, The Print Shop, has gotten a facelift. Broderbund's **New Print Shop** boasts more features than its predecessor, with the same easy-to-use interface. Now this new-and-improved version should attract legions of converts and rekindle the interest of established fans.

We wrote about The New Print Shop in August 1989 (What's New, p. 17) after it was first announced, and a year later it's finally here. Was it worth the wait? See for yourself: It'll crank out beautiful greeting cards, invitations, announcements, stationery, letterheads, banners, certificates, signs, posters, and calendars in glorious living color.

The new program's roster of enhancements includes higher-resolution graphics, preview mode, combination graphics and fonts, and special effects such as flipping, resizing, and 3-D, with multiple page printing, better print quality, and multihued graphics.

Although you can't use the projects you created with the older edition of The Print Shop, you can run its pictures, borders, and fonts



Improving on a classic: adding color and a host of other major enhancements within the same easy-to-use interface.

through the new program's graphics converter — just once, then use those elements as you please.

"It's hard to believe that the folks at Broderbund could improve on something like The Print Shop. After all, why mess with success?" says Review Editor Lafe Low. "But they've certainly done a nice job. The New Print Shop is more flexible and feature-laden than any previous edition of the program, yet it's just as easy to use."

"With a program that has sold as well as The Print Shop, it makes sense for the Broderbund developers to want to enhance it," says Senior Editor Paul Statt. "They'll probably do well with the upgrades alone."

If you purchased your copy of The Print Shop after May 25, 1989, the upgrade is free. If your copy is older than that, the upgrade will cost you \$20. (See the phone number listed below for upgrade information.) If you

have The Print Shop GS, you don't need to worry about upgrading, as the GS version already contains the multi-colored graphics and text features of this new 8-bit edition.

Broderbund is publishing three graphics libraries to accompany The New Print Shop: a School and Business Edition, a Sampler Edition, and a Party Edition. Each package includes more than 100 pictures, borders, fonts, and full-panel graphics for use with The New Print Shop and sells for \$24.95. The New Print Shop isn't copy protected, so you can install it (along with any extra graphics collections you use) on your hard drive.

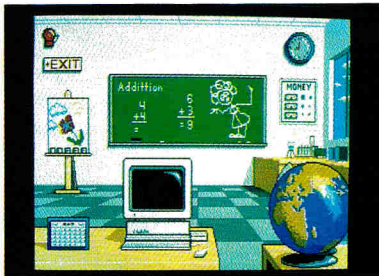
The New Print Shop is priced at \$49.95, from Broderbund Software, 17 Paul Drive, San Rafael, CA 94903-2101. For upgrade information, call the New Print Shop hotline at (800) 999-3256, or (800) 521-6263 if you're an educator interested in school editions or lab packs. □

Editors' Choice singles out one product each month that the inCider editors feel is a significant addition to the Apple II family of products. The products evaluated in Editors' Choice are among the most recent releases and may not be available yet for retail distribution.

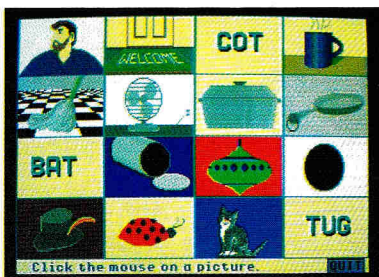
ANNOUNCING . . . 3 more GS programs that STAND UP and SHOUT!

Talking Schoolhouse *now* has 18 programs that take full advantage of the Apple IIGS with real human voice and super high-res graphics. No speech board is required.

Our 3 Newest Programs . . .



Talking Classroom offers a thrilling assortment of multisensory learning activities in the areas of time, money, science, map, and calendar skills.



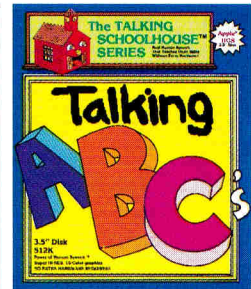
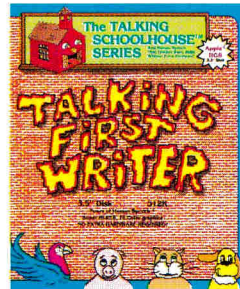
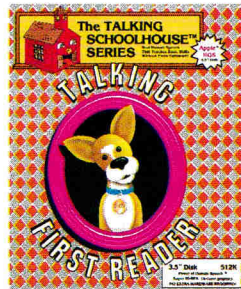
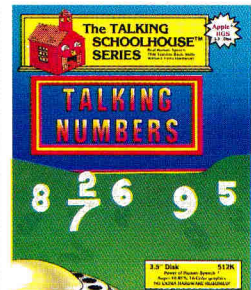
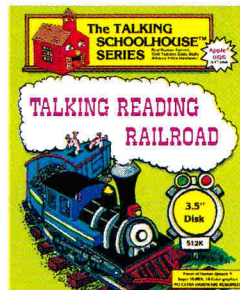
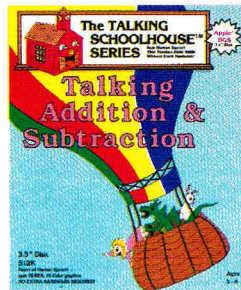
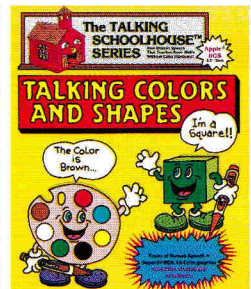
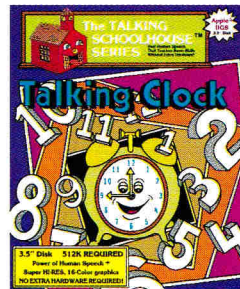
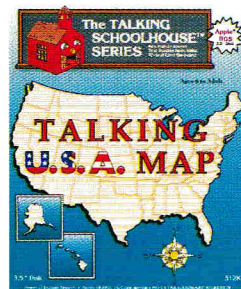
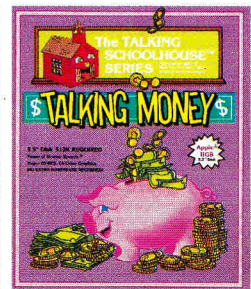
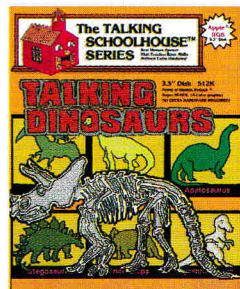
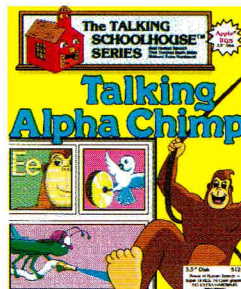
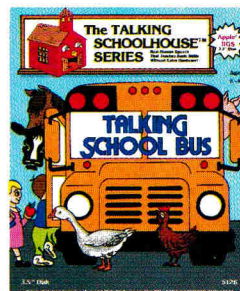
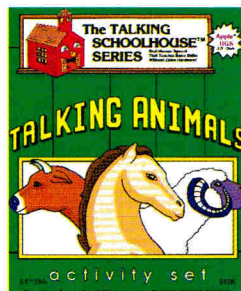
Talking First Words uses voice and animation to introduce children to nouns and verbs.



Talking Multiplication & Division provides a human voice to help kids with basic math skills.

These new programs join the 15 others listed here to form the Talking Schoolhouse Series, which educators and parents across the country are hailing as the most outstanding software available for the IIGS. IBM PS/2 and TANDY 1000 versions will be ready for shipment shortly.

The suggested retail price for each program is \$49, or \$59 for the School Edition (with backups). To order or obtain information contact your dealer or call (800) 672-6002.



Toll Free Hotline (800) 672-6002
ORANGE CHERRY/TALKING SCHOOLHOUSE SOFTWARE
Dept. I, P.O. Box 390, Pound Ridge, NY 10576



EYESORE VS. EYE PROTECTION

As today's monitors get bigger and brighter, anti-glare filters become less of an option and more of a necessity.

The right filter can combat eye fatigue, help eliminate headaches, even reduce overall body stress.

Yet, the irony is that something so good for your eyes can be such an eyesore.

In fact, most filters look like they belong to someone else's system.

The fit is sloppy. The colors don't match. The materials are different.

Kensington has a different idea.

Instead of making a filter that will fit on any monitor, we make filters

that will only fit a *specific* monitor.

An example is our Maccessories® SE Anti-Glare Filter.



It looks so much a part of the SE, you would think it was designed by the same people who designed the SE.

The styling is complementary. The color identical. Even the same material is used.

And unlike generic filters, the fit is perfect. So light passes through the filter, never around it.

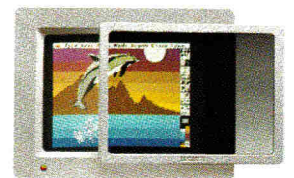
Kensington uses only optical quality glass with a ceramic anti-reflection and scratch-resistant coating.

The result is a 96% reduction in glare. And an improvement in contrast and clarity of up to 20 times.

In short, the most advanced eye-protection system you can find today—it even filters out VLF and ELF radiation and dissipates static.

Kensington has custom designed screens for the Mac, Mac Plus, Mac SE, Apple IIGS, as well as for the entire Mac II family of large screen monitors.

For a free brochure, and the dealer nearest you, call 800-535-4242. In New York call 212-475-5200.



KENSINGTON®