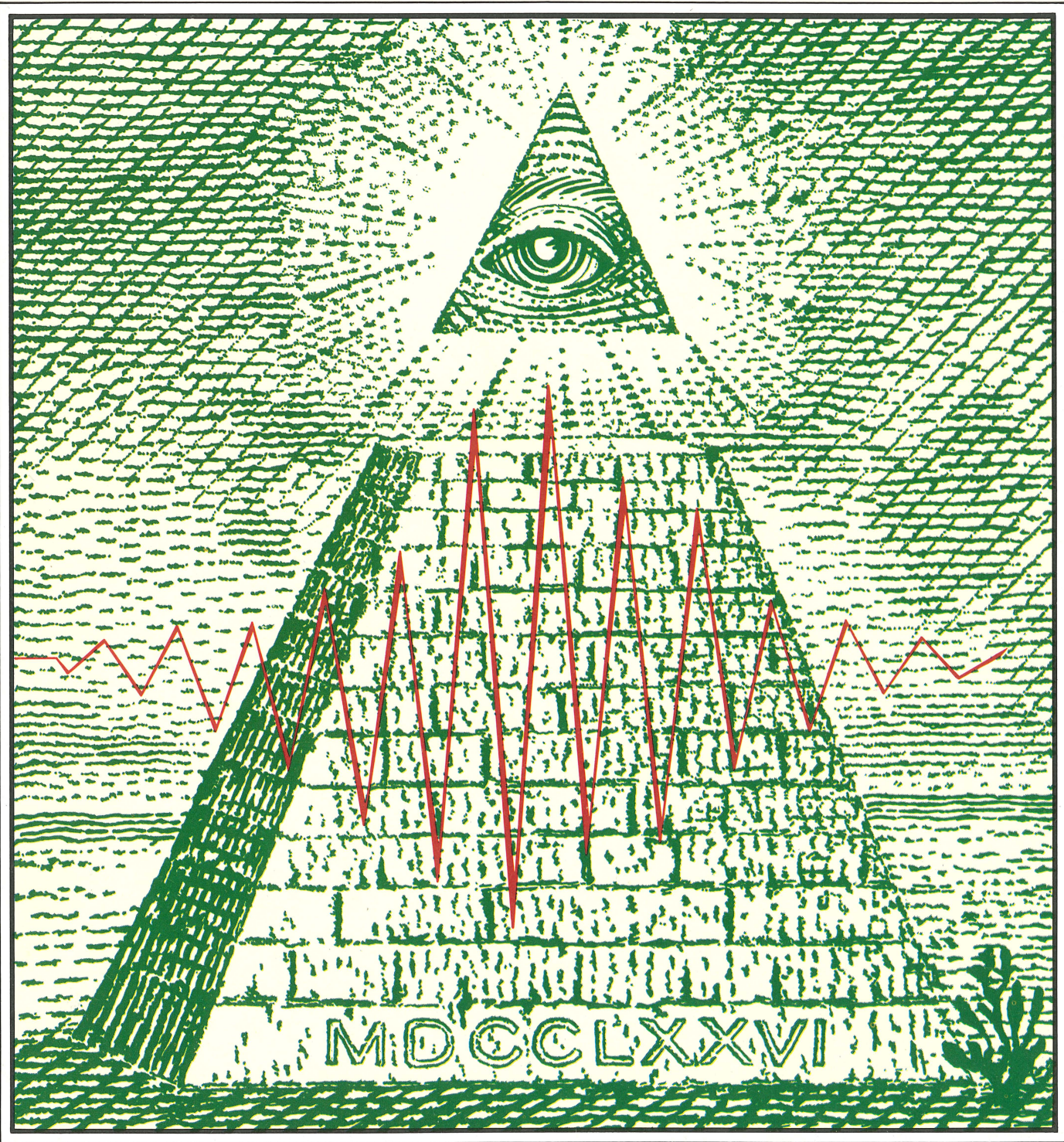


# Peelings II™



THE MAGAZINE OF APPLE  
SOFTWARE AND HARDWARE EVALUATION

*Beginning This Issue STOCKMARKET PROGRAMS FOR YOUR APPLE®*



**BEGINNER COLUMN "The Anything Machine"  
CHAPTER THREE: "Applesoft"**

**RH** ELECTRONICS, INC.

COPYRIGHT © 1981 · PATENTS PENDING  
 566 IRELAN, BUELLTON, CA 93427  
 (805) 688-2047

**COMPUTER PRODUCTS**  
 DESIGNING • MANUFACTURING  
 ELECTRONIC ENGINEERING

“COOL IT”



**SUPER FAN II™** FOR YOUR APPLE II\* COMPUTER **\$74.95**  
**SUPER FAN II™** WITH ZENER RAY OPTION **\$109.00**

- TAN OR BLACK COLOR • QUIETEST FAN ON THE MARKET
- INCREASED RELIABILITY — SAVES DOWN TIME AND REPAIR CHARGES
- REDUCES HEAT CAUSED BY EXTRA PLUG-IN CARDS

**ZENER RAY™ TRANSIENT VOLTAGE SUPPRESSOR**  
 INCLUDES FAIL SAFE WARNING LAMP SYSTEM

OUR BUILT IN ADVANCED DESIGN UNIT GIVES:

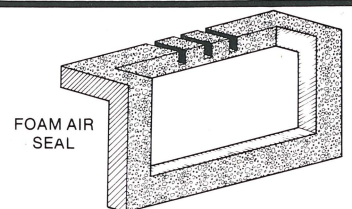
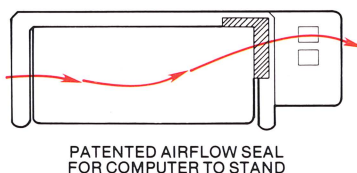
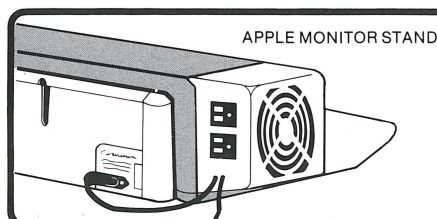
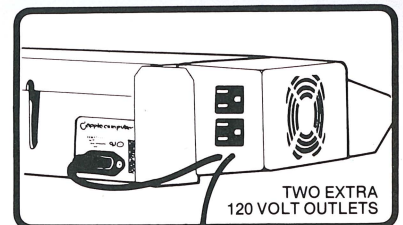
- DRAMATIC COST SAVINGS** — STOPS ANNOYING DOWN TIME
- INSURANCE FROM VOLTAGE SPIKES - GLITCHES**
- DANGEROUS VOLTAGE SPIKES CAN JEOPARDIZE YOUR COMPUTER SYSTEMS**
- PROTECT COMPUTER - DISK DRIVE - PRINTER AND MONITOR**

NO CUTTING WIRES • WON'T VOID WARRANTY, JUST PLUG IN SUPERFAN II WITH ZENER RAY  
 \*Registered trademark of Apple Computer Inc. ONE YEAR WARRANTY • VISA/MASTERCARD

ALSO AVAILABLE FROM

**RH** ELECTRONICS, INC.

**GUARDIAN ANGEL**  
 AN UNINTERRUPTABLE POWER SOURCE  
**\$595**



# artsci<sup>INC</sup>

artsci<sup>INC</sup>

where art and science work for you

ANNOUNCES

## MAGIC WINDOW II

word processing system

Artsci, Inc. is proud to announce a new word processor — MAGIC WINDOW II. While retaining all the ease-of-use characteristics that made MAGIC WINDOW™ the user's favorite, MAGIC WINDOW II includes many advanced features.

Most importantly, MAGIC WINDOW II supports all popular screen display sizes. It is, of course, compatible with your APPLE'S standard 40-column display. It will also operate with any 80-column board that supports Pascal 1.1 standard. And finally, available for MAGIC WINDOW II, is Artsci's 70-column upper- and lower-case video driver and it's a lot faster than most 80-column boards!

Features include:

- 40, 70 or 80-column display modes
- 160 characters maximum line length
- Search and replace
- Shift-key modification compatibility
- Paragraph glue and justification
- Underlining support feature
- Goof-proof text safety system
- New comprehensive instructional reference manual
- Full compatibility with entire MAGIC SERIES
- Two master diskettes

MAGIC WINDOW II will be available July 30, at a retail cost of \$149.95. MAGIC WINDOW owners can receive a factory discount if their warranty registration card is on file, or by returning the pages of their MAGIC WINDOW manual.

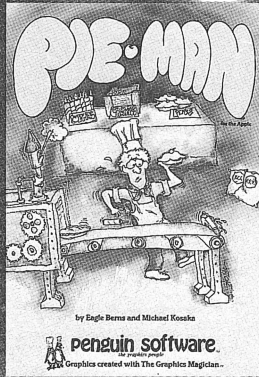
MAGIC WINDOW II will be available at your local software store or directly from Artsci.

To order: Call 213/985-5763

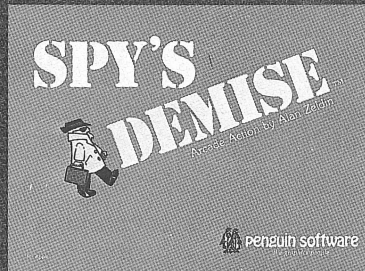
10432 burbank boulevard ▲ north hollywood, california 91601 ▲ 213/985-2922



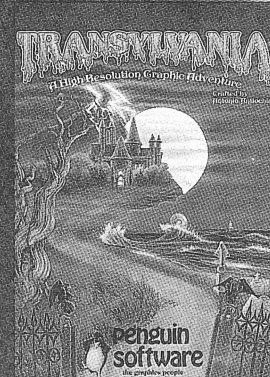
# LOOK WHAT YOU CAN GET FOR \$19.95!



Chaos in the bakery  
as you contend with  
a cantankerous  
conveyor belt in an  
effort to make pies.

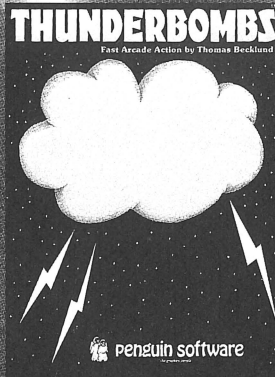


See if you can sneak past the  
security guards in this best-seller.



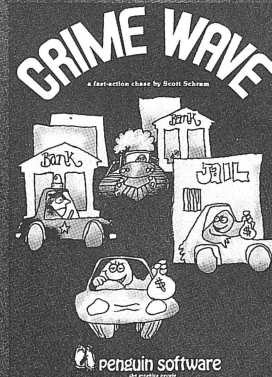
"Best graphics ever  
in a hi-res  
adventure ..."

—Softalk



## NEW RELEASES

Run a gauntlet of deadly  
alien sharpshooters.



The criminal element has run amok.  
Can you round them up?

We believe games should be fun and that the price of games shouldn't dampen that fun. The growth of the market over the past couple of years leads us to believe that \$19.95 may work now as a reasonable game price, so we're trying it for the next six months, and if we're right, longer. This policy does not just apply to new games, but to ALL our games, including our past and current best-sellers! Our bet is that we'll sell more and that the increased sales will offset the decreased income per product. If so, more people get to play our games, and we still make enough to keep developing newer and better software.

As our customers know, at Penguin Software we take a great deal of care and pride in our products. This change in our pricing in no way affects our standards of quality. We pioneered the removal of copy-protection from applications software last year in an effort to give you a better product. This year we are trying again to lead the way in putting the customer first.



# penguin software

the graphics people

(312) 232-1984 830 4th Avenue, Geneva, IL 60134

Dealer Hotline: (800) 323-0116, retailers only, please.

Available at your local computer store. Dealer and distributor inquiries welcome. Visa / MasterCard accepted.

**Publisher** Peelings II, Inc.

**Associate Editors**

Edward Burlbaw  
John Martellaro  
John Mitchener

**Contributing Editors**

Tom Little  
Michael Weasner

**Administrative Assistant**

Pamela Carmody

**Director Marketing  
& Communications**

Rebecca Winecup

**Editorial Assistants**

Jane Trego  
Jack Moran  
Ruth Moran

**Circulation Director**

Lorie Browne

**SUBSCRIPTION RATES**

9 issues (1 year)	\$21.00
18 issues (2 years)	\$38.00
Sample Copy	\$ 4.00
Back issues	\$ 4.00

**Canada, Mexico, APO, FPO,  
(First Class)**

9 issues	\$36.00
Back issues	\$ 5.00

**South America & Europe,  
(Air Mail)**

9 issues	\$48.00
Back issues	\$ 6.00

**All Other Foreign, (Air Mail)**

9 issues	\$57.00
Back issues	\$ 6.00

All remittances must be in U.S. funds and drawn on U.S. bank.

**Cover Art:** Richard D. Bishop

**Credits:** Printing: Meredith Corp., Albuquerque, N.M.

Apple and Applesoft are registered trademarks of Apple Computer, Inc.

**Copyright ©1983 by Peelings II, Inc.** All rights reserved. Material in this publication may not be stored or reproduced in any form without permission. Requests for permission should be directed to Rights and Permissions Editor, Peelings II, P.O. Box 188, Las Cruces, NM 88004.

**ISSN: 0744-2475.** Peelings II is published monthly except June, Aug., and Oct. by Peelings II, Inc., 2260 Oleander, Las Cruces, NM. Second class postage paid at Las Cruces, NM and additional mailing offices.

**Telephone:** (505)526-8364 **The Source** TCT 120

**Postmaster:** Send address changes to Peelings II, P.O. Box 188, Las Cruces, NM 88004

**Correspondence:** Send all regular mail to Peelings II, P.O. Box 188, Las Cruces, NM 88004. U.P.S. Address: 2260 Oleander, Las Cruces, NM 88001. New product information and other editorial correspondence should be sent to the attention of Pamela Carmody. Dealer inquiries should be sent to the attention of Lorie Browne. Change of address, and all subscription correspondence should be addressed to Peelings II, P.O. Box 625, Holmes, PA 19043. For address changes please include your old address as well as new, and enclose, if possible, an address label from a recent issue.

# Peelings II<sup>TM</sup>

**THE MAGAZINE OF APPLE  
SOFTWARE AND HARDWARE EVALUATION**

Volume 4, Number 3, 1983

**STOCK MARKET ANALYSIS PROGRAMS**

- 5 Introduction
- 7 Stock Price Forecast  
*published by J R Software*
- 7 The Permanent Portfolio Analyzer  
*published by C. R. Hunter and Associates*
- 9 Market Maverick  
*published by Financial Software*

**BEGINNER COLUMN: The Anything Machine**

- 10 Chapter Three: Applesoft

**COLUMN:**

- 18 Cut and Dried

**MISCELLANEOUS**

- 19 Guild Apple II Stand  
*Guild Musical Instruments*

**UTILITIES**

- 20 David-Dos  
*published by David Data*
- 23 ProntoDOS  
*published by Beagle Bros*
- 24 Diversi-DOS 2-C  
*published by DSR, Inc*
- 26 SpeedDOS  
*published by Softkey Publishing*
- 26 PIG-DOS 2.0  
*published by Big Pig Software Co*
- 28 DOS Enhancers Comparison Chart
- 29 Apple Mechanic  
*published by Beagle Bros*
- 33 Typefaces  
*published by Beagle Bros*
- 35 VISIBLEND  
*published by Micro Lab*

**EDUCATIONAL**

- 36 Story Machine  
*published by Spinnaker Software*
- 40 Bumble Games  
*published by The Learning Co*

**WORD PROCESSOR**

- 41 Bank Street Writer  
*published by Broderbund Software*
- 44 Word Processor Standards Update
- 44 New Word Processing Standards

**RECREATION**

- 48 The Compiler Writer  
*published by Zeuss Software Praxis*
- 50 Pinball Construction Set  
*published by BudgeCo.*
- 52 Repton  
*published by Sirius Software, Inc*

**DEPARTMENTS**

- 4 Authors
- 4 Peelings Ratings
- 4 Reader Notices
- 52 Advertiser Index

# THE AUTHORS

**Sandy Abernathy**, who taught elementary school for thirteen years, now teaches courses in microcomputer applications and management technology at New Mexico State University. In addition, she presents workshops on educational applications of microcomputers for teachers and administrators and uses her Apple for word processing and consulting projects. She holds a B.S. in Biology, a M.A.T. in Elementary Education and a Ph.D. in Educational Management and Development. Her hobbies include fishing, camping, swimming, reading, and using her Apple.

**Edward Burlaw** is the regional manager for Science & Technology Corp. His background is in physics, electronics, and mathematics. He has a B.S. in physics, an M.S. in mathematics, an M.S. in physics and a Ph.D. Edward enjoys snow skiing and electronics.

**William K. Daugherty** is a Professor of Accounting and Business Computer Systems at New Mexico State University. Dr. Daugherty has a Ph.D. in Business Administration from the University of Texas at Austin. He is also a Certified Public Accountant and a Certified Information Systems Auditor. In his spare time, he enjoys collecting stamps and working on his own geneology.

**Montgomery Lee** is a U.S. Air Force Captain currently assigned to the Dept. of Defense Shuttle Program Office in Los Angeles as a Manager for Shuttle Payload Flight Readiness. He is also an F-4 pilot. He has a B.S. in mathematics and astronautical engineering and an M.B.A. His hobbies are science fiction and photography.

**Tom Little** is a senior at New Mexico State University working on a B.S. with a dual major: physics and computer science. He is also the administrator of the computer center's UNIX system. Tom's hobbies are growing irises and writing science fiction (none yet published however.)

**John Martellaro** is an operations research analyst for TRASANA, White Sands Missile Range working in computer graphics and combat simulation models. He has a B.S. in astrophysics and an M.S. in physics. John enjoys computer chess, science fiction, astronomy and soaring.

**John Mitchener** is a Personnel Management Specialist at White Sands Missile Range. He is a former Electronics Warfare Analyst for the U.S. Army and has a B.S. in psychology. John's hobbies are ballooning, cooking and ham radio.

**Larry Ross** is an educational consultant and Director of *Computer Input* in Thousand Oaks, CA. He works with public and private schools, as well as individuals, setting up educational software packages and giving instruction on their use.

**Alan Shalette** is president of Shalette & Company, Inc., a Chicago-based management consulting firm. The firm provides market, product, business and operational systems planning assistance for clients mainly in the finance industry. He holds a B.S. (ChE) and an M.B.A. Alan's outside interests include astronomy, photography, camping and reading.

**Michael Weasner** is a U.S. Air Force Captain and a fighter pilot/instructor with multiple FAA ratings. He is currently assigned to the Air Force's Space Division in Los Angeles where he is manager of the Computer Resources Division in the Launch Vehicles Program Office. Mike holds a B.S. in astrophysics. Besides flying, his interests include space exploration and computers.

# Peelings Ratings

Peelings Ratings are a letter grade designed to indicate an overall impression of the product. It is a measure of how well the publisher did the job he intended to do taking into consideration comparison to other similar products, price to performance, ease of use, documentation, and sophistication.

We stress that you should not skip a review or disparage a program because it receives a low rating. The rating alone can never tell the whole story. Only reading the entire review will give you all the information you need. For this reason, the rating should never be quoted alone without reference to text of the review.

The Peelings II rating categories follow: Some example criteria are given for the categories, but they are not meant to be all inclusive.

**AAA** - Absolutely astounding software. We have seen one program in two years that fits this category.

**AA** - Top notch, superb. Programs in this class generally use the most sophisticated programming techniques and have excellent documentation.

**A** - Very good. Software in this class incorporates very good programming techniques and has clear and informative documentation.

**B** - Good. Software in this class may have minor errors or be slightly flawed, it may be lacking in thorough documentation, or it may just be unexciting.

**C** - Average. Software of a mediocre nature. There may be a lack of good programming concepts or lack of good error trapping. It may be a repeat of other work, or have a low performance/price ratio.

**D** - Below Average. Software with a blatant disregard for the user in terms of programming design, unacceptable documentation, or unacceptable price to performance ratio.

**F** - Unacceptable. Software of such poor value or usability that it should not be marketed.

# READER NOTICES

## READER FEEDBACK

*Peelings II* intends to do comprehensive articles on data base programs and word processors in the near future. These will be the usual reviews with revised and expanded standards. In addition, however, we would like to publish short letters or articles from users of these programs. We are particularly interested in user experiences, attitudes, and observations concerning these kinds of programs (please include the version number of the program). We are also very interested in user experiences with unconventional hardware configurations and compatibility problems and/or successes.

## LOOKING FOR AUTHORS

*Peelings II* would like to remind you that we are looking for qualified authors who can write software and hardware reviews. If you would like to see your evaluations of Apple software and hardware published in *Peelings II*, write or phone Pamela Carmody and ask for our author package.

Peelings II  
Attn: Pamela Carmody  
P.O. Box 188  
Las Cruces, NM 88004  
505-526-8364

# Stock Market Computing

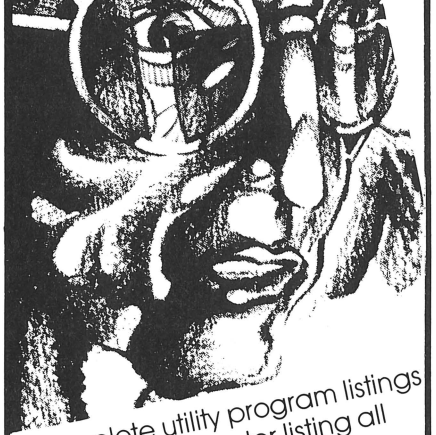
Recordkeeping, calculating, and analyzing, when masses of data are involved, are tedious, time consuming tasks which most of us have little inclination, or time to do. We now see some relief from this onerous situation for just as the engine has extended man's physical ability to do work, the electronic computer has extended his mental ability and enabled him to perform routine tasks much faster and far more accurately than was ever possible before computers appeared on the scene. Now it is practical to apply complex, analytical techniques which were formerly impractical because of the amount of data and the number of calculations required.

Application of computers to assist in making decisions about investments is a natural for the alternatives are almost limitless and the information available is overwhelming. Computer software packages designed to perform recordkeeping and analytical tasks with regard to investments and potential investments are beginning to hit the software market in large numbers. Programs to be reviewed are arriving at *Peelings II* almost daily. Some do only a few recordkeeping and computational tasks and contain no investment advice or underlying investment theory. Others provide extensive recordkeeping services, automatic updating of data files, use exceedingly complex quantitative techniques and have an underlying theoretical base. Most are directed to common stock investments, a few to real estate or other kinds of investments. Some are oriented to decisions regarding individual investments. Others are concerned with the overall mix or portfolio of investments.

With this issue, *Peelings II* begins a series of reviews of investment programs. Initially common stock investment programs will be emphasized because there are more of these than for other types of investments. All common stock investment techniques are based on one of two distinct approaches—fundamental or technical analysis. Fundamental analysis seeks and uses information about the company that issues a stock—competitive strengths and weaknesses, market, earnings, stock prices and any other information that will help to determine “true value” of the stock. Comparing true value to current value (current price) reveals stocks that are over or under priced and after considering other information, may lead to an indication of the appropriate investment decision. Technical analysis, the more controversial but for many, the more appealing approach, is based upon trends. It uses quantitative techniques and charts for analyzing and detecting changes in trends and making buy/sell decisions. The term “chart readers” is often applied to technicians, sometimes in a derogatory manner. Both schools have their ardent defenders and point to their successes as evidence of the efficacy of their techniques.

In our reviews, we will focus primarily on the software package itself—the functions that it performs, documentation, error detecting and handling, and any other factors that may impact on the user confronted with the problem of getting the package up, running and doing the things it is supposed to do. We will describe, within practical limits, what the programs do and how they do it. In some cases a few paragraphs is sufficient. In others, all the pages in the issue would not be enough. Two programs reviewed in this issue, Stock Price Forecast by J R Software and Market Maverick by Financial Software, Inc. represent respectively both extreme cases. While we may make general statements about the theory or philosophy underlying a particular system, no part of our rating is based on these aspects of the program. Ongoing research in universities, brokerage firms and other financial institutions produces a continuous stream of doctoral dissertations, master's theses, books and articles on new techniques and evaluations of existing techniques. Personally, I would not use any computer program or investment technique without first having a good understanding of the technique itself and then tempering any decision indicated by the technique with as much common sense as I could muster. With regard to claims to success, keep always in mind that it is possible to find situations that will support almost any investment technique regardless of how ridiculous it may be. □

When bites aren't enough,  
**CORE** gives you more.  
“All About Utilities”  
Reviews of current utility software



Complete utility program listings also a foldout poster listing all utility data.  
**CORE**, the quarterly that fills its pages with all the information on a single topic. **CORE** carries expert columns and general interest articles in each journal. Subscribe now and also receive the **HARDCORE COMPUTIST** eight times a year. Get in on an open discussion of every facet of the Apple including how to do and undo copy protection, make backups of locked software, use various copy utilities.  
**HARDCORE** is available only through this ad. In all, receive both **CORE** and **HARDCORE** one issue a month for only \$20.00.

**SUBSCRIPTION**  
\$20 U.S.A., \$29 CANADA, \$33 MEXICO,  
\$42 ELSEWHERE  
DEPT. N-1  
P.O. BOX 44549 B  
TACOMA, WA 98444  
(206) 581-6038  
SAMPLES U.S.A. \$5 ELSEWHERE \$8  
U.S. FUNDS ONLY  
NO CREDIT CARDS

NAME \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
CITY \_\_\_\_\_ STATE \_\_\_\_\_  
ZIP \_\_\_\_\_

# POWERTEXT. THE ONLY FULLY AUTOMATIC WORD PROCESSING SYSTEM FOR YOUR APPLE II.

Now even hunt-and-peck typists produce perfectly formatted letters... memos... presentations... scripts... automatically.

## NOW... A COMPLETE SELECTION OF HIGH-PERFORMANCE FEATURES IN TODAY'S MOST ADVANCED WORD PROCESSING TOOL.

The professionals who use PowerText tell us it's changed their whole concept of word processing.

Because this is the system that goes far beyond the write/edit/print/file capabilities of other word processors.

PowerText produces documents that look exactly as you want them to look... *automatically*. From everyday business letters to the most complicated presentations and reports you can devise.

You define the basic formats. PowerText stores them in its style files.

So when you write, you just bat out the words and never worry about where they go on the printed page.

That's PowerText's job.

You just tell PowerText, "I want a letter," and you get a letter... and envelope. With every element just where you want it to be.

Ask for a memo and you get a memo. Ask for a dramatic script and you get a dramatic script...

OK, that's one big PowerText *plus*: the automatic formatting capability that can save you untold time and effort.

But there's still more. A full selection of high-performance features to make your word processing faster, easier, more *automatic* than any system you've ever seen...

Total control editing.

Automatic indents and numbers for outlines, with system-assigned Roman and Arabic numerals, and alphanumerics.

A disk-based editor: file sizes limited only by disk space.

The system automatically maintains a backup copy of the file being edited.

User-definable function keys.

Up to 7 levels of "nested" editing to let you suspend editing one file and move to another.

"Paint mode" editing allows vertical typing for diagrams.

## ALL THIS IS AUTOMATIC IN EVERY KIND OF DOCUMENT YOU WRITE.

- Margins
- Indents
- Spacing
- Title page
- Envelope, label
- Justification
- Centering
- Variable pitch
- Pagination
- Table of contents
- Headers and footers
- Footnote Numbers
- Intelligent page breaks

## PLUS MANY OTHER VALUABLE FEATURES.

- Built-in form letter capability
- Boxed copy
- Print macros
- Up to 14 columns
- Boilerplate inclusion
- Optional word-by-word cursor move
- Vert. and horiz. border lines
- No limit to document length
- 132-character lines
- Superscripts, subscripts
- Column and line adjustment capabilities
- And much more.

## NEW 10-LESSON TUTORIAL.

Our new, streamlined 10-lesson tutorial makes learning PowerText a snap. You'll master it quickly, as you discover how easy and straightforward it is to use. And your system also includes a complete reference manual.

## FULL 5-YEAR WARRANTY.

PowerText does everything we say it will do. If it should ever fail to perform as specified, Beaman Porter, Inc. will fix it at no charge, anytime within 5 years after you've bought it.

## SYSTEM REQUIREMENTS.

PowerText is a self-contained, bootable system, that supports both serial and parallel printer interfaces. You'll need your Apple II with 64K, 2 disk drives, and a printer.

## COMPLETE APPLE II POWERTEXT SYSTEM SOFTWARE PLUS TUTORIAL AND MANUAL \$299.

SPECIAL! PowerText *plus* easily-installed PowerCase chip for Apple II upper/lowercase and shift key capability, just \$329.95.)

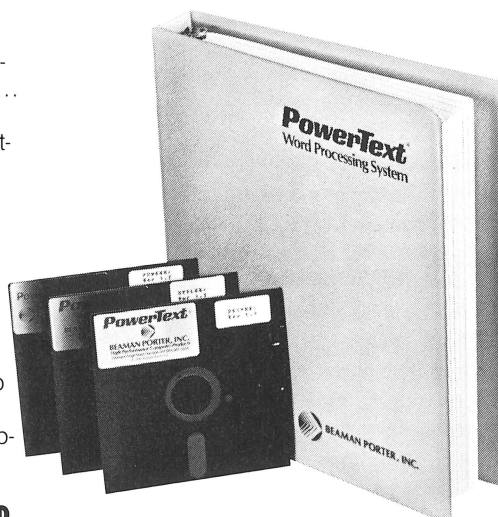
(PowerText for Apple II and III users who have Apple Pascal, \$199.)

(PowerText is also available for IBM PC. Write for information.)

Tutorial/manual alone for any version: \$25.

Available from selected dealers. Or order directly from Beaman Porter.

VISA and MasterCard accepted. NY State residents add appropriate sales tax.



### BEAMAN PORTER, INC., DEPT. STA-3

Pleasant Ridge Road  
Harrison, NY 10528

- Send \_\_\_\_\_ complete PowerText system(s) for Apple II @ \$299.  With PowerCase upper/lowercase chip \$329.95.
- I have Apple Pascal. Send \_\_\_\_\_ complete PowerText system(s) for  Apple II or  III @ \$199.
- Send tutorial/manual only, for \_\_\_\_\_ version @ \$25.

(NY State residents add appropriate sales tax)

My check or money order for \$\_\_\_\_\_ enclosed.

Or bill \$\_\_\_\_\_ to my:  
 MasterCard  Visa

(MasterCard only list 4 digits above your name \_\_\_\_\_)

Card No. \_\_\_\_\_ Exp. Date \_\_\_\_\_

Name \_\_\_\_\_

Street \_\_\_\_\_

City, state, ZIP \_\_\_\_\_

**PowerText**  
BEAMAN PORTER, INC.  
High Performance Computer Products

Pleasant Ridge Rd. Dept. STA-3  
Harrison, NY 10528 (914) 967-3504



# STOCK PRICE FORECAST

---

by J.R. Erler  
J R Software  
P.O. Box 693  
Florissant, MO 63032  
(314) 741-6907

\$95.00 + \$3.00 S&H  
Unlocked

Rating C-

*Reviewed by William K. Daugherty*

## INTRODUCTION

As the name implies, the purpose of Stock Price Forecast is to help an investor make stock buy-and-sell decisions by forecasting future stock prices -- both highs and lows. It is intended to be the first in a series of programs directed toward the average investor according to its author. The programs apply multiple regression techniques to five variables; cash flow, earnings and dividends per share, indices of industrial production, and a prime rate to find an equation that best fits historical data about a company. This equation then is used to predict future high and low values for the price of the stock. Next year's prices can be predicted on the basis of historical financial and economic data or historical data plus user supplied estimates of a company's future cash flows, earnings, and dividends. Up to twenty years of data can be stored for each company. This data must be entered through the keyboard and can be changed and updated by selecting the amend files option from the main menu. A program is also provided under this option to adjust financial data for stock splits.

## EVALUATION

The twenty-seven page manual that comes with the package is well written. Instructions are clearly written and the user is shown in the manual what he should see on the screen as each set of instructions are executed. The user is led through an extensive example using data about the EXXON company which comes on the program disk. Basically all the programs do is store data and make forecasts using multiple regression techniques, and they do this very well.

My low rating of package is based on several factors -- some relating to the programs themselves and some relating to data used in the programs. Error handling leaves something to be desired. For example, when asked to supply the name of a company for which a forecast is to be made, an incorrect answer causes the program to abort and return to BASIC. Generally, once an option has been selected there is no way to cancel it. One must proceed to do what he indicated he wanted to do or hit reset and rerun the program. Financial data about a company can be reviewed and changed. The prime rate and industrial performance statistics cannot be seen but they can be updated. Furthermore, the statistics used in the programs are not defined and their source is not given. A statement on page one indicates that yearly updating will be required, and that J R Software will provide assistance in making this change, but does not mention how this will be done or how much it will cost.

In summary, programming deficiencies, unknown numbers used in calculations, vague promises of assistance don't offset good documentation. The program gets an average rating in my books. □

*The evaluation of this package is based solely on characteristics of the package itself. Neither Peelings II nor the reviewer expresses any opinion upon its fitness for any particular use or purpose. Judgement in these matters rests solely with the user. □*

# THE PERMANENT PORTFOLIO ANALYZER

---

C.R. Hunter and Associates, Inc.  
1527 Northwood Drive  
Cincinnati, Ohio 45237  
513-761-9322

\$295.00  
Unlocked

Rating: AA

*Reviewed by William K. Daugherty*

I liked this one from the beginning when it played a few bars from "I'm Just Wild About Harry" to the end when it displayed a poem reminding me to make a backup copy of the disk and wished me a good day. A couple of cute gimmicks doesn't earn an AA rating, however. This package has excellent documentation and programming and produces well-designed reports on the screen and/or on paper.

What is a portfolio analyzer? A portfolio is simply a group of assets held for investment. A portfolio might contain stocks, bonds, bullion, currency, real estate, treasury bills, postage stamps, antiques or any number of other types of assets held by an investor with the expectation of realizing income while the assets are held and/or profits when the assets are sold. The extent to which these expectations are ultimately realized depends on a number of factors including the mix and proportions of each asset held and the economic conditions that exist through the time period while the assets are held.

The Permanent Portfolio Analyzer provides an investor, or potential investor, several processing options to assist in the analysis and management of one or more investment portfolios. The analyses and projections are based on the investment strategy of a widely-known author and investment advisor, Harry Browne. In a nutshell, this strategy involves the use of five inflation scenarios ranging from a level rate of inflation at about the current rate to a sudden and traumatic deflation leading to negative price inflation rates. Mr. Browne has devised what he considers to be the ideal mix and proportions of assets to hold

**HBJ**

# score high on the SAT™

## Computer SAT

Available for:

- 48K Apple II Plus and Apple IIe
- TRS-80 Model III

A complete program for Scoring High on the Scholastic Aptitude Test

Combines Computer Software, Review Textbook and User's Manual Into the Most Comprehensive SAT Study Program Available.

- Makes studying for the SAT **easy and enjoyable**.
- Builds test-taking skills quickly in planned systematic program.
- Simple and easy to use **even for those with no computer experience**.

### Special Features

- 1000 Electronic Vocabulary-Building Flash Cards
- 540 Specially-Designed Computerized Drill Items

### Complete Textbook

"How to Prepare for the SAT" 470 pages.

- Four Full-Length Exams — enter answers in computer for instant scoring and diagnosis.
- Complete review of verbal and math categories found in exams.
- Strategies for answering **every kind of question**.

### User's Manual

Simple clear instructions take you step-by-step through the entire Computer SAT program.

### Computer Software

- Scores and times your performance.
- Calculates College Board equivalent score.
- Diagnoses your strengths and weaknesses in 15 key areas of study.
- Prescribes specific drill and review on computer and in the textbook to improve your score.
- Strengthens and builds your vocabulary and math comprehension.

### Educator's Edition Available

Conduct group sessions with this unique package of software and textbooks with detailed instructor's guide. 4 Sets of Software (4 Disks per Set), 20 textbooks, and 20 user's manuals.

**HBJ**
**Harcourt Brace Jovanovich, Inc.**

L-4-83

Dept. Computer SAT, 1250 6th Avenue, San Diego, CA 92101

**YES**, please send me \_\_\_\_\_ Computer SAT® @ **\$79<sup>95</sup>** each.

Quantity \_\_\_\_\_ for my  48K Apple II and Apple II Plus or Apple IIe.  TRS-80 Model III

Please add \$2.00 for handling (UPS delivery guaranteed). Please add applicable state and local sales tax. (Institutions must send purchase order to be billed.) Offer restricted to Continental USA and Canada.

Method of Payment:  Check  Money Order  MasterCard  American Express  
 Charge My:  Visa

**FOR CREDIT CARD ORDERS CALL TOLL-FREE 800-543-1918**

(In California call collect (619) 699-6335)

Acct # \_\_\_\_\_ Exp. \_\_\_\_\_

Signature \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

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

Please send more information:  The IBM COMPUTER SAT®  The Educator's Edition Package @ \$395.00 ea.  
 The Computer GRE

for investment purposes for each of these scenarios. This program contains two sets of recommendations for each scenario — one for the go-for-broke investor who is willing to assume a high degree of risk for potential big payoff and another for a more conservative investor who prefers to assume less risk for a smaller payoff somewhere down the line.

A user may create an ideal portfolio by selecting Option #2 from the Main Menu, entering the dollar amount to be invested, indicating whether he wants a go-for-broke portfolio or a balanced portfolio and indicating the inflation scenario for which the portfolio is to be created. For example, if the amount to be invested is \$100,000, a go-for-broke portfolio is selected and the deflation scenario is indicated, the program will suggest the following investments:

Silver Coins	25.00%	\$ 25,000
Treasury Bills	25.00	25,000
Treasury Bonds	50.00	50,000
<b>Totals</b>	<b>100.00%</b>	<b>\$100,000</b>

The same amount invested in a balanced portfolio under the assumption of level inflation will result in:

Gold Bullion	18.00%	\$ 18,000
Silver Bullion	16.00	16,000
Silver Coins	2.00	2,000
Swiss Fr. W/Int.	7.00	7,000
Leveraged Stocks	25.00	25,000
Real Estate	10.00	10,000
Cash	1.00	1,000
Treasury Bills	10.00	10,000
Treasury Bonds	18.00	18,000
Long-Term Debt	-7.00	-7,000
<b>Totals</b>	<b>100.00%</b>	<b>\$100,000</b>

By selecting Option #1 from the Main Menu an investor may enter his current portfolio (the assets he now owns) and store it on diskette. An evaluation of that portfolio may be obtained by entering current prices for the assets in the portfolio and selecting Option #3 — Print Portfolio Balance Sheet/Evaluation. The result will be a report listing each asset, its current value, its purchase price, unrealized gain/loss, percentage of change in value, and its percentage of the total portfolio as measured in current market values. Option #4 produces a ten-year projection under any of the five inflation scenarios, compares the actual investment mix with the ideal mix and computes a difference to be bought or sold. Option #5 allows you to make changes or additions to your portfolios. If you don't like Harry Browne's assumption about inflation rates — no problem. Option #6 allows you to change them. You could keep Harry's on one disk and yours on another and use them all. "What if" analyses involving hypothetical changes in your portfolio or in assumptions about inflation rates, future investment prices, are done quickly and easily. If you change your mind after selecting an option, CTRL-C will take you immediately back to the main menu.

The twenty-two assumption tables used by the programs are printed in the instruction manual which contains a total of forty-seven pages. Each menu option and report is clearly explained and a sample portfolio is provided to practice on. Screens are illustrated with the explanations. A copy of Harry Browne's Special Report — "Creating & Analyzing a Permanent Portfolio" is included with the manual.

This one is top notch in all categories and should be considered by a serious investor.

*The evaluation of this package is based solely on characteristics of the package itself. Neither Peelings II nor the reviewer expresses any opinion upon its fitness for any particular use or purpose. Judgement in these matters rests solely with the user.*

# MARKET MAVERICK

---

by John A. Koehler  
Financial Software, Inc.  
11401 Westridge Circle  
Chardon, Ohio 44024  
216-338-6811 or 800-392-2669

\$175 without Monthly Newsletter and Updating Service.

\$295.00 with a one year subscription to the Newsletter and Updating Service.

\$25.00 for a demonstration package including a complete manual. This charge will be credited toward the purchase of the programs.

Unlocked

Rating: A

## *Reviewed by William K. Daugherty*

Market Maverick is promoted as "A Proven Stock Selection Tool for Raising Investment Returns" and, according to the user's manual, is adapted from a model developed by a brokerage firm in the mid-1960s. Various statistics are quoted in marketing literature and in the user's manual as support for its validity as an investment tool. My rating of Market Maverick is based on my evaluation of the system itself as a software package and not upon the underlying assumptions or calculations performed by the programs.

The primary purpose of Market Maverick is to perform a valuation analysis of a group of stocks contained in a Data Base stored on a Maverick Data Disk. The key figure in this analysis is the Target Value. This is the amount that the stock should be selling for at the present. To the extent that its current price is more or less than its target value, the stock is over or under priced. A stock that is significantly over or under priced is expected to change in value so that its price moves toward its target or true value as a result of investors buying under-priced stocks and selling over-priced stocks. The Valuation Analysis report ranks stock investments by their potential for price appreciation. Advice on interpreting and using this information is provided in the user's manual.

To use the system it is necessary to create one or more data bases on a data disk. These data bases contain information about the Standard & Poor (S&P) 400 stocks and about the individual stocks included in each data base. S&P 400 information includes an assumed inflation rate, an inflation pass-through percentage — a factor computed from the Producer and Consumer Price Indexes (which is included in the computations as a measure of a corporation's ability to pass on higher costs to its customers), normalized earnings per share, and earnings volatility. Earnings volatility is a measure of risk that is based on variability of earnings around a trendline. The requirements for each stock in a data base are 1) an expected annual rate of growth in earnings per share, 2) the percent of dividends paid out in relation to earnings per share, 3) normalized earnings per share, 4) earnings volatility, and 5) current price. Financial

Software will provide an additional service not included in the Market Maverick price to update information in the data bases. This service includes a monthly newsletter and updating diskette (Maverick Manager) which contains the stock parameters for 905 stocks and the input data for the S&P 400. The updating service is not required to use Market Maverick. Other sources of the required information are suggested in the manual. Current prices can be input manually by the user or extracted from files saved by other investment programs. Market Maverick permits up to 255 different data bases, each containing information about as many as 200 stocks. One data disk can contain as many as eight data bases.

In addition to the Valuation Analysis, Market Maverick will provide a Sensitivity Analysis which allows the user to see what growth rate or level of earnings is implied in the current price of a stock. This analysis can be displayed or printed. A graphics option will plot and display price against growth rate or against earnings per share. Market Maverick comes with a ninety-page user's manual and one Maverick Manager updating disk.

The programs are easy to use. User documentation is excellent. On the right side of each page, operating instructions are given and operator responses explained; the computer responses are displayed on the left side. Using this format, the operator is walked through each operation step by step. Examples, sample printouts, and brief discussions of such topics as the stock market in general, group psychology, selling short, and buy/sell decisions are helpful.

Chapter VIII provides an explanation of the Market Maverick Model itself. The chapter begins with a discussion of risk measurement (MM uses earnings volatility rather than price volatility as a measure of risk) and the relationship of inflation to payout ratios, discount rates, and corporate returns on invested capital. Following this discussion is a series of illustrative calculations beginning with the calculation of a Market Price Earnings Ratio and ending with the calculation of the target value of an individual stock. The information sources and calculations are not as well documented and explained as the programs themselves. The brokerage firm that originally developed the model is not identified and there are no references to particular investment or valuation theories, but academicians and some professionals will probably recognize some of the ideas of Molo-dovsky, Whitbeck, Kisor, Holt, and others. A short glossary winds up the documentation. There is no index but there is a fairly detailed table of contents. Financial Software, Inc. has a toll-free number and the people at that number seem quite willing to answer questions about the programs.

As the "A" rating indicates, I like the package but I would not want it without the automatic update capability provided by Maverick Manager. Maverick Manager provides monthly data for 905 stocks at a cost, after the first year, of \$15.00 per month. The user must provide information for any stock that is not one of the 905 on the Maverick Manager disk. I suggest that you take advantage of the Demonstration offer before buying the whole package. □

*The evaluation of this package is based solely on characteristics of the package itself. Neither Peeling II nor the reviewer expresses any opinion upon its fitness for any particular use or purpose. Judgement in these matters rests solely with the user. □*

# THE ANYTHING MACHINE

by Tom Little

## Chapter Three: APPLESOFT

Applesoft is the standard programming language provided with the Apple II+ and IIe computers. It is a specific version of the BASIC programming language, which is the most widespread language for small machines.

This month's column will describe some of the "high points" of Applesoft. Some comments apply to nearly all common programming languages, while others apply to BASIC, or to Applesoft specifically. Many programming languages have the same basic (pardon the pun) features, although the details are different.

### INTERPRETATION

Any programming language is really nothing more than a translator, which takes instructions written in some (hopefully) human-intelligible form (such as BASIC command), and translates these into a sequence of specific machine instructions which activate the hardware of the computer. Programming languages may differ from one another in both the human-intelligible instructions they are capable of translating, and in the manner in which the translation takes place.

Applesoft (and most other forms of BASIC too) is a special kind of translator called an *interpreter*.

This means it acts as a direct intermediary between the programmer and his machine. The programmer types in an instruction; Applesoft relates it to the machine which executes it; then Applesoft waits for the next instruction from the programmer. For this reason Applesoft is called an *interactive language*.

For example, consider the following dialog between a programmer and the Applesoft Interpreter:

Applesoft prints its prompt, "J". This shows that it is ready to translate the programmer's next instruction.

The programmer types "PRINT 5+3". "PRINT" is one of the instructions, a command in the BASIC language, which Applesoft can translate, and it has a specific meaning: find the value of the expression following the word "PRINT" and print it on the screen.

Applesoft finds the value of "5+3" and prints it: "8". Since its task is complete, it again prints the prompt, "J".

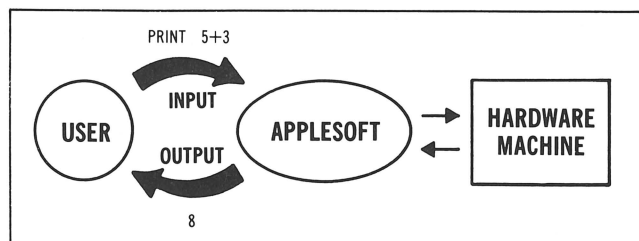


Figure 1

The programmer now types "HOME", which is an Applesoft command (it may not be the same or even available in other versions of BASIC) which means to clear the screen.

Applesoft clears the screen in response to "HOME", and prints its prompt, now at the upper left corner, which is a good place to start printing on a clear screen.

And so it goes. The idea is that the Applesoft Interpreter is able to execute any of the large selection of commands listed in the manual. And it can do this immediately when the programmer types the command.

Of course this is not usually what we have a computer for. It is desirable to write programs, complex sequences of commands that can be stored and executed as a unit, rather than one command at a time.

Applesoft allows the programmer to write a program interactively, similar to typing in commands, but with important differences.

If the programmer types "PRINT 5+3", Applesoft will print the answer, as described above. However, if he or she types "10 PRINT 5+3", the "PRINT" command will not be executed, and only the prompt will be printed. The "10" is a *line number*, and it directs Applesoft to store the command in memory as part of a program rather than executing it. This is similar to doing business by mail. As soon as you find that the company you're dealing with has attached a number to your name, you can bet that something irreversible has happened and that your name will not be overlooked in the future. Likewise, the program line "10 PRINT 5+3" is here to stay in the computer's memory.

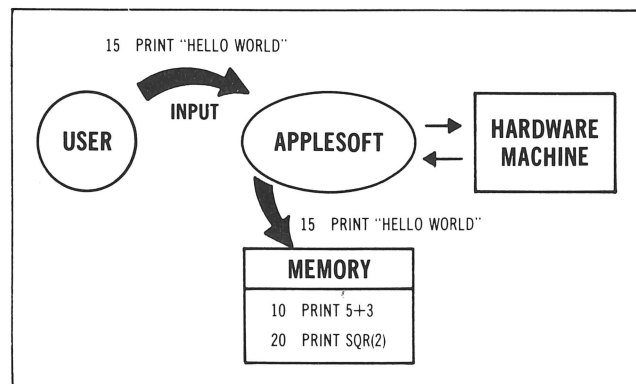


Figure 2

When the programmer types "RUN", Applesoft executes each program line in memory, following the order of the line numbers. Consider the following programming session. Things printed by Applesoft are shown in boldface type:

```
] 10 PRINT 5+3
] 20 PRINT SQR(2)
] 15 PRINT "HELLO WORLD"
] LIST
10 PRINT 5+3
15 PRINT "HELLO WORLD"
20 PRINT SQR(2)
] RUN
8
HELLO WORLD
1.41421356
]
```



Having Computer problems?

Paws for the solution.



**BUSINESS**

**CONTINENTAL**

	Retail Price	Wildcat Price
CPA I Gen. Ledger	250.00	187.46
First Class Mail	74.95	56.21
Home Accountant	74.95	56.21

**MICROLAB**

Invoice Factory	199.95	149.96
Payroll Manager	300.00	225.00
Wallstreeter	300.00	225.00

**MICROSOFT**

Multiplan-Native Apple	275.00	200.00
------------------------	--------	--------

**SOFTWARE DIMENSIONS**

Accounting Plus II (G.L., A.R., A.P., Inv.)	1250.00	875.00
---	---------	--------

**VISICORP**

Desktop Plan	250.00	187.50
--------------	--------	--------

Visicalc 3.3	250.00	187.50
--------------	--------	--------

Visischedule	300.00	225.00
--------------	--------	--------

Visitrend/Visiplot	300.00	225.00
--------------------	--------	--------

Word Processing, cont. Retail Price Wildcat Price

**ART-SCI**

Magic Pak	225.00	168.75
Magic Window II	149.95	112.46

**HAYDEN**

Piewriter	149.95	112.46
Piewriter 80 col.	149.95	112.46

**ON-LINE**

Screenwriter II	129.95	97.46
Screenwriter Pro	199.95	149.96
The Dictionary	99.95	74.96

**SENSIBLE**

Sensible Speller	125.00	93.75
------------------	--------	-------

**SILICON VALLEY**

The Word Handler	199.00	150.00
------------------	--------	--------

**GAMES**



**BRODERBUND**

Choplifter	34.95	26.21
Seafox	34.95	26.21

**DATAMOST**

Aztec	39.95	29.96
Casino	39.95	29.96
County Fair	29.95	22.46
Pig Pen	29.95	22.46
Snack Attack	29.95	22.46

**H.A.L. LABS**

Sheila	25.00	20.00
Supertaxman II	25.00	20.00

**INFOCOM**

Starcross	39.96	29.96
Zork I, II or III	39.96	29.96

**ON-LINE**

Cannonball Blitz	34.95	26.21
Frogger	34.95	26.21
Lunar Leeper	29.96	22.46
Time Zone	99.95	75.00
Ultima I	39.95	29.96
Ultima II	59.95	44.96

**SIR-TECH**

Knight of Diamonds	34.95	26.21
Wizardry I	49.95	37.46

**SYNERGISTIC**

Bolo	39.95	29.96
Crisis Mountain	34.95	26.21
Escape from Arcturus	34.95	26.25
Nightmare Gallery	34.95	26.21
Wilderness Campaign		15.00



**EDUCATION**

Retail Price Wildcat Price

**EDU-WARE**

Algebra I, II or III	39.95	29.96
Compu-Read	29.95	22.46
Counting Bee	29.95	22.46
SAT Word Skills	49.00	36.75

**KRELL**

Full Logo	179.95	147.00
-----------	--------	--------

**LEARNING COMPANY**

Bumble Games	59.95	44.96
Bumble Plot	59.95	44.96
Gertrude's Secrets	74.95	56.21
Juggles Rainbow	44.95	33.71

**SPINNAKER**

Facemaker	34.95	26.21
Snooper Troops #1	44.95	33.71
Story Machine	34.95	26.21

**TERRAPIN**

Terrapin Logo	150.00	120.00
---------------	--------	--------

**ZEITGEIST**

Invader Attack	49.50	37.13
Space Mouse	49.50	37.13

**TERMS & CONDITIONS**

There is a \$2.00 shipping fee on all software and a 2% fee on hardware and supplies with a \$2. minimum. No overseas shipments. Texas residents add 5% on all products except software. Immediate shipment with money order, cashiers check or charge card. Allow 10 days for personal checks to clear. Prices and availability subject to change without notice. Send for free catalog with complete listing of product line.



Wildcat Computing, Inc.

1160 Park Boulevard  
Plano, Texas 75074  
(214) 424-3582.

**WILDCAT**  
**WORD PROCESSING**

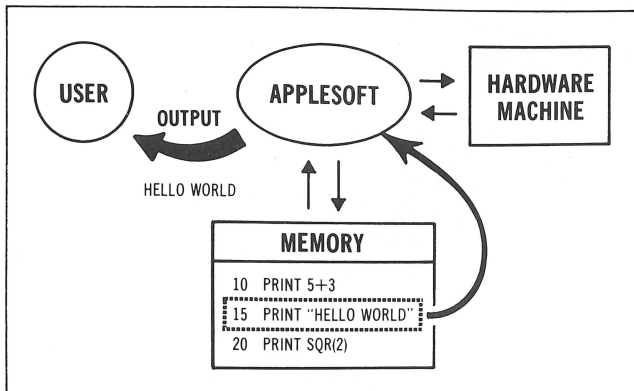


Figure 3

The first three lines show the programmer entering program lines into memory. The lines are not executed, but stored for execution when he later types "RUN". The "LIST" command is used to view the program as it currently exists in memory, with all the lines in the proper numerical order. "RUN" then causes these lines to be executed. After Applesoft runs the program, it again presents its prompt, awaiting further instruction.

This program may be saved onto the disk by typing, for example, "SAVE WORTHLESS". Here "WORTHLESS" is the name our modest programmer has given to his creation. Having been saved this way, the program may be brought back into memory at a later time (even if the computer has been turned off in between) by "LOAD WORTHLESS".

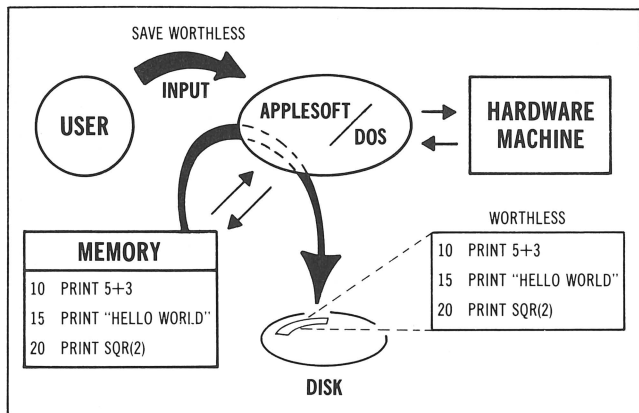


Figure 4

All programming languages have features which allow the "transfer of control." This means that a program may be written so that its individual lines need not be executed strictly in the order of the line numbers. Consider this example:

```
10 PRINT "TYPE A NUMBER"
20 INPUT N
30 IF N=0 THEN GOTO 10
40 IF N>1 THEN PRINT N*N
50 IF N<1 THEN PRINT -N
60 PRINT "THE END"
```

Several important ideas are illustrated in this short program. First, the command "INPUT" causes Applesoft to print a "?" prompt, and waits for the user to type something at the keyboard. "INPUT N" means that the user's response to the "?" prompt is interpreted as a number and assigned to the variable

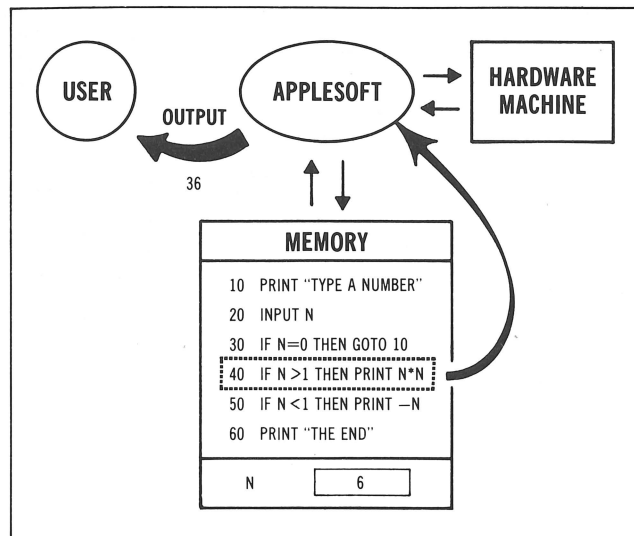


Figure 5

"N". A variable is a place in the computer's memory. In this case we would say that the name of the variable is "N" and its value is the number which the user typed in response to the "INPUT" prompt, "?". Lines 30 through 50 compare the value of "N" with certain other numbers (0 and 1). The "GOTO" command causes Applesoft to execute the given line number next, rather than one which would come next numerically. Using GOTO, whole sections of a program may be executed more than once or even skipped over entirely. To show how this program works, consider this example run:

```
] RUN
TYPE A NUMBER
? 0
TYPE A NUMBER
? 6
36
THE END
]
```

In order to understand why this program runs the way it does, it is necessary to "play Applesoft" and execute each line in your head or on paper. Tracing through a program in this way is the single most helpful activity in learning a programming language. In order to understand the results displayed above, a complete understanding of the INPUT, GOTO, and IF commands is needed. If you're new to Applesoft, you should attempt such a trace, using the example given.

It may seem as though only a very few of all the Applesoft commands listed in the manual have been covered so far. This is true. However, most of the central concepts of programming in Applesoft BASIC have been treated. Armed with an understanding of what Applesoft really does when executing a program, a person can achieve a high level of programming proficiency just from study of the Applesoft manual.

Other programming languages have different commands and different styles of translation, but the principle of a program stored in memory and executed sequentially is universal. This is why learning a second programming language is so much easier than learning the first. The giant leap is learning to "think like a machine," executing one instruction at a time, blindly following "the flow of control."

We turn now to some specific features of Applesoft BASIC.

# NEVER INVEST IN SOFTWARE AGAIN!

unless you can “test” it first, from  
United Computer’s SOFTWARE RENTAL LIBRARY

You can now RENT the most popular software available for just  
**15%** of Manufacturers’ Retail Price

- Eliminate the risk—rent first!
- All purchases are 20% Off of Manufacturer’s Suggested List
- 100% of rental fee applies toward purchase
- Rentals are for 7-days (plus 3 days grace for return shipping)

There are now 2 different plans to choose from:

Join the **Game Group** for only \$50.00 per year and receive your first computer game rental **FREE**. Then rent as many games as you like for only 15% of Mfrs. Sugg. Retail Price.\* Minimum order, 3 game rentals

Join the **Business Group** for only \$125.00 per year and receive your first rental **FREE**. Then rent as many business application programs as you like for only 15% of Mfrs. Sugg. Retail Price.\*

## REMEMBER, THESE ARE NOT DEMOS, BUT ORIGINAL UNRESTRICTED SOFTWARE PROGRAMS

(complete with manuals in original manufacturers’ packages)

### To Immediately Order, or for more information:

Money Orders or credit cards



Checks allow 2 weeks

\*plus postage and handling. Some programs may require 2-4 weeks delivery.

#### BUSINESS HOURS

Mon-Fri: 8:30-5:30  
Saturday: 8:30-2:00  
Pacific Time Zone

Toll Free CALL 1-800 992-7777

In California CALL 1-800 992-8888

In L.A. County CALL 1-213 823-4400

## NUMEROLOGY

Computers compute. Given this tautology, we may ask how accurately and quickly they can do it.

The accuracy of the numbers which a programming language uses depends on the amount of memory set aside for each number. This doesn't mean that acquiring more memory will increase accuracy, however, since a given programming language will deal with numbers of a certain length, and will just have room for more of them if there is more memory available.

Applesoft stores its numbers in floating-point format. In this case, this means that any number between about ten to the negative thirty-eighth power and about ten to the positive thirty-eighth power may be used by Applesoft. This is a large enough range for most applications.

However, the precision of the number is only about nine digits, regardless of how large or small the number is. Thus if you are keeping business records and you show a net loss of \$10 million or so, Applesoft may not be able to store the number with total accuracy to the last cent.

A worse problem is that calculations tend to reduce the accuracy of numbers. To take a more exciting scenario, a net profit of \$1 million or so could lead to an inaccuracy if used to calculate income tax. Unfortunately, Applesoft cannot be counted on to err either too high or low with any consistency.

There are ways to sneak around accuracy problems (you can do just about anything to a computer if you're sneaky enough). However, the price for using elaborate programming gimmicks is usually execution speed. And Applesoft is slow enough as it is. This is hardly noticed in a garden-variety program, but a scientific application with much calculation may seem to take an unreasonable amount of time. Part of the reason for this slowness is Applesoft's interpretive nature: it must examine each instruction and painstakingly translate it into machine language before executing it.

If computing is what your computer is for, it is a good idea to know both the features and limitations of numeric computation in the language you are using. And remember that it is the programming language (usually), and not the computer hardware, that determines the machine's computational prowess.

## A PIECE OF STRING

Computers need not compute. Given this contradiction, we may ask what else it is they do.

One very important type of information which programming languages can usually deal with is text. That is, letters, numbers, punctuation and so on, as might be found on a printed page. The oldest programming language, FORTRAN, still has not really adjusted to this idea. Applesoft BASIC, though, has no problem. Besides handling numbers, it can handle strings. Strings are strings of characters. ("A", "4", "H", and "." are characters, "HELLO WORLD", "#1", and "APPLE "] are strings. A character can also be considered a string of length one.) Applesoft permits strings with names (string available), so that a running program may alter a string in deep and mysterious ways. Strings can be combined, rearranged, taken apart, shortened, lengthened, and altered with special Applesoft commands.

So there is really nothing supernatural about a word processor or a data-base manager, which are simply programs that manipulate strings instead of numbers.

Here is an example of a program which uses strings:

```
10 A$ = " "  
20 PRINT "TYPE ANY WORD"  
30 INPUT W$  
40 A$ = A$ + " " + W$  
50 PRINT A$  
60 IF W$ = "STOP" THEN GOTO 10  
70 GOTO 20
```

The strings in this example are used much like the numbers in the previous one: the INPUT statement gets a string from the user's typing, and one string can be compared with another using an IF statement. However, there are also differences. Here "+" does not mean addition (arithmetic manipulation of letters is meaningless). Instead "+" is used to join (or *concatenate*) two strings together. Can you determine what this program does before actually running it?

## PRETTY AS A PICTURE

Yes, but what about video games?

One of the Apple's selling points when it was young was its beautiful graphics. The Apple could not only display graphs, charts, and drawings, but it could do so in color, and animation was even possible.

The principles of computer graphics on most systems are based on the notion of Cartesian coordinates. The screen is considered to be a grid of intersecting vertical and horizontal lines. At every intersection is a "pixel", which may be black or white or some other color. So a graphics display can be easily designed on graph paper.

The Apple has two different graphics modes, called high-resolution (hi-res) and (shock!) low-resolution (lo-res). In hi-res mode, the screen is a rectangular grid of 280 columns by 192 rows. So there are 53,760 distinct pixels on the hi-res screen. Each pixel may be black. If it is in an even-numbered column it may also be either violet or blue. If in an odd-numbered column, green or orange. However bizarre this seems the designers of the Apple were trying to get the most colorful display possible with limited memory (it was expensive then), and they did well in terms of this objective.

The lo-res screen has only 40 columns and 48 rows. However, each pixel (they are so large it is more appropriate to call them "blocks") may be any of 16 colors. Lo-res graphics are no longer in vogue these days because most Apples have enough memory to use the hi-res graphics without worry.

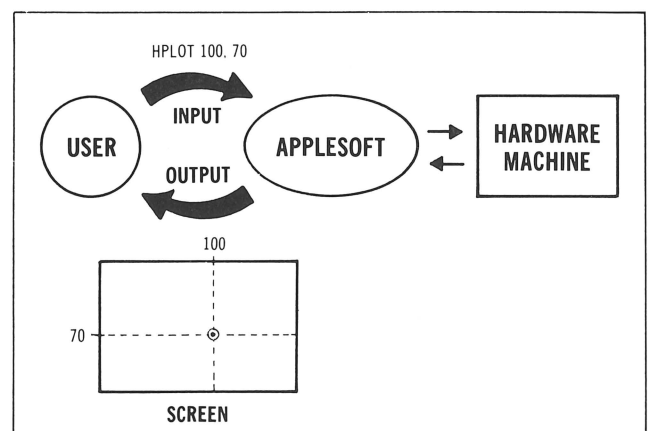


Figure 6



"Doing" graphics from Applesoft consists essentially of deciding what color each pixel should be, then plotting it in that color. The color can be set by the Applesoft command "COLOR=" ("HCOLOR=" for hi-res), followed by a numeric code for the color to be used. A point may then be plotted using "PLOT" ("HPLOT" for hi-res), followed by the x and y coordinates of the point. There are also commands to draw lines between points and draw predefined pictures ("shapes") on the hi-res screen.

The Apple cannot easily display text and graphics together. This is a source of some frustration to programmers, who often resort to "drawing" text on the hi-res graphics screen by plotting groups of points that form characters.

Here's a quick program for learning the Apple's hi-res coordinate system:

```
10 HGR
20 HCOLOR=3
30 HOME
40 VTAB 21
50 PRINT "ENTER X"
60 INPUT X
70 PRINT "ENTER Y"
80 INPUT Y
```

```
90 HPLOT X,Y
100 GOTO 50
```

Like the string program, this one will go on forever unless you turn off the computer, type CTRL-C, or press the RESET button. I believe programs should be assertive and survival-oriented.

This month's column has had two purposes. The first was to present some important features of Applesoft BASIC in a way that does not presuppose general knowledge of programming languages. The second was to bring together some of the concepts applicable to all programming; of these the most important (this is, of course, subjective) is the idea of sequential execution of program lines, and the use of IF and GOTO to alter this normal pattern of execution. This and the concept of a variable, or storage location, are fundamental tools in learning to "think like a machine."

In upcoming columns, some of the topics touched on this month (such as graphics) will be treated in more detail. A column will be devoted to the Pascal programming language and its differences and similarities to Applesoft.

Before leaving the world of Applesoft, it will be necessary to discuss the multi-tentacled beast which pervades this world: DOS, the Disk Operating System, and it is the next stop on the itinerary. □

## How to Choose the Best Modem For Your Apple®

Features:	Hayes Micromodem II™	Novation Apple Cat II™	SSM Apple ModemCard™
110/300 baud operation	Yes	Yes	Yes
Half/Full Duplex	Yes	Yes	Yes
Auto-Dial/Auto-Answer	Yes	Yes	Yes
Fits completely inside Apple	No	No	Yes
Operates without additional serial interface	Yes	Yes	Yes
Touch-Tone® Dialing	No	Yes	Yes
'Single-Modem-Chip' Reliability	No	No	Yes
Audio Monitor	No	No	Yes
Self Testing	Yes	Yes	Yes
Warranty period	2 yr	1 yr	2 yr
Suggested Retail Price	\$379	\$389	\$299

Trademarks: Micromodem: Hayes Microcomputer Products, Inc. Applecat II: Novation. ModemCard: SSM Microcomputer Products Inc. The Source: Source Telecomputing Corporation, a subsidiary of the Reader's Digest Association. Dow Jones News/Retrieval: Dow Jones & Company, Inc. Apple is a registered trademark of Apple Corporation.

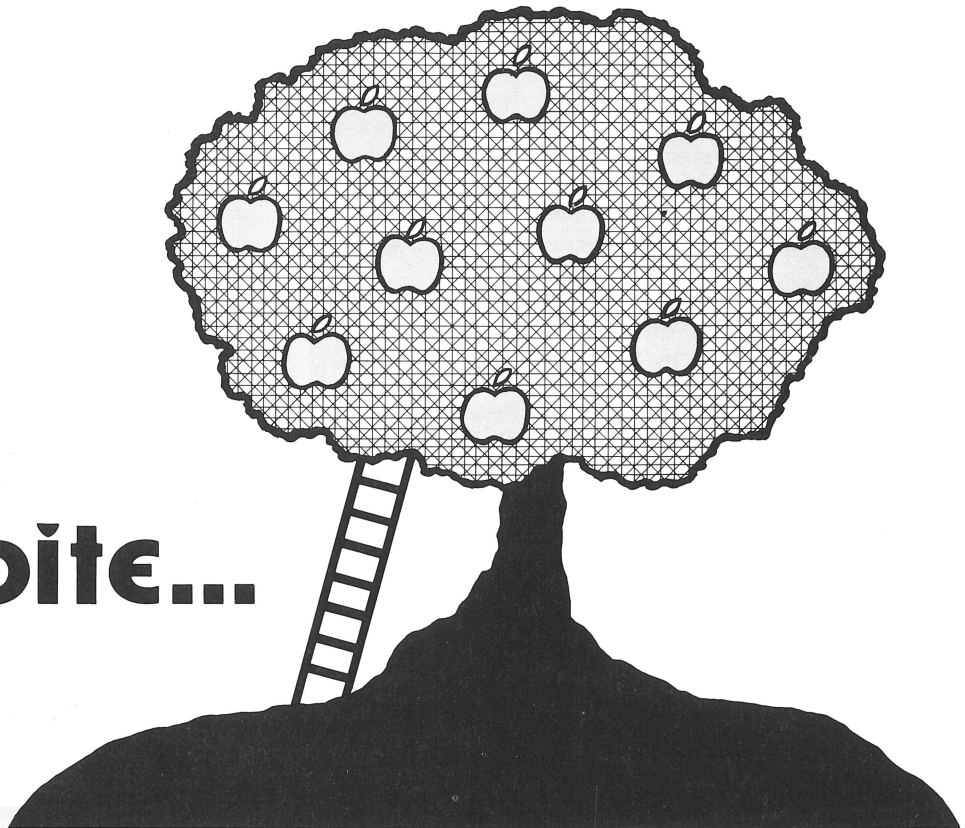
**Count the Yes-es.** SSM's Apple ModemCard: the most advanced features for the least money. No external equipment required. All other modems are now obsolete.

And with SSM's Transend software, your Apple can send electronic mail or talk to other computers or information services such as the Source<sup>SM</sup> and Dow Jones News/Retrieval<sup>®</sup>. (The ModemCard is also compatible with software for the Micro-modem II).

The SSM ModemCard: The only choice for choosy Apple owners. Available from your local computer dealer. Satisfaction is guaranteed. Or your money back.



SSM Microcomputer Products Inc.  
2190 Paragon Drive, San Jose,  
CA 95131 (408) 946-7400,  
Telex: 171171 SSM SNJ



**Take a bite...**

# ...of Apple Orchard!

Your Apple will love you for subscribing to APPLE ORCHARD! An official publication of the International Apple Core, APPLE ORCHARD has all the information you need for your Apple. In addition to outstanding feature articles, we present new product information, product and book reviews, program listings, articles and news from member clubs (maybe yours!), and IAC information, including club listings, sponsor listings, and upcoming events.

Please enter a subscription to APPLE ORCHARD for:

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE \_\_\_\_\_ ZIP \_\_\_\_\_

Annual Subscription Rate: \$19.50 for 9 issues  
 Canada, Mexico, APO, and FPO addresses: \$27.00  
 Overseas and other foreign surface postage: \$36.00

Check or money order enclosed       VISA       MasterCard

No. \_\_\_\_\_ Exp. \_\_\_\_\_

Reply to: **Apple Orchard Subscriptions**  
**908 George Street**  
**Santa Clara, CA 95050**

**Subscribe today!**  
**You . . . and your**  
**Apple . . . won't want**  
**to miss a single**  
**issue!**

# NEW Beagle Bros Unlocked Utilities!

## NEW! DOUBLE-TAKE ONLY 34.95

2-WAY-LIST/MULTIPLE UTILITY  
BY MARK SIMONSEN

LISTS & CATALOGS SCROLL UP and DOWN, making file names & program lines much easier to access. Arrow-keys control scroll direction. NEW LIST FORMAT lists each program statement on new line— FAST program trace/de-bugging.

VARIABLE-DISPLAY shows all of a program's strings & variables with current values. CROSS-REFERENCE shows line nos. on which each variable/string appears. Better RENUMBER/APPEND lets you merge programs (not just end-to-end). Applesoft AUTO-LINE-NUMBER as you type. Instant Hex/Dec Converter, Program Stats, Cursor Eliminate/Redefine, Free Space-On-Disk...

(Includes Peeks/Pokes Chart)

Apple Mechanic's Hi-Res type routines are usable in your programs WITHOUT LICENSING FEE! Just give Beagle Bros credit on your disk and documentation.



ONLY 29.50

## APPLE MECHANIC SHAPE-WRITER/BYTE-ZAP UTILITY BY BERT KERSEY

SHAPE EDITOR: Keyboard-draw shapes for hi-res animation in your programs. Design Proportionally-Spaced TYPEFACES with special characters. Six fonts on the disk. Listable demos show how to use shape tables to animate games, graphics and professional Charts & Graphs.

BYTE-ZAP: Rewrite any byte on a disk for repair or alteration. Load entire sectors on the screen for inspection. Hex/Dec/Ascii displays and input. Complete instructions & experiments for making trick file names, restoring deleted files, etc.

MORE: Useful music, text and hi-res tricks for your programs. Educational documentation.

(Includes Peeks/Pokes Chart & Tip Book\*5)

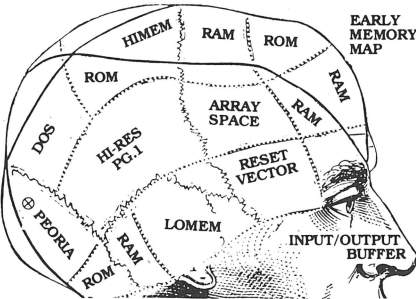
## TYPEFACES ONLY 20.00

FOR APPLE MECHANIC

26 NEW FONTS for Apple Mechanic programs. All sizes of fully-editable characters.

BEAGLE MENU: Display only filenames you want from YOUR DISKS (e.g. only Applesoft or only Locked files) for one-key selection.

(Includes Peeks/Pokes Chart & Beagle Menu Utility)



## UTILITY CITY ONLY 29.50

21 UTILITIES ON ONE DISK  
BY BERT KERSEY

LIST FORMATTER prints each program statement on a new line. Loops indented with printer page breaks. A great de-bugger! Also...

MULTI-COLUMN catalogs for printouts, auto-post Run-number & Date in programs, put invisible commands in programs, create INVISIBLE file names, alphabetize/store info on disk, convert decimal to hex or INT to FP, renumber to 65535, append programs, dump text-screen to printer...

MORE TOO: 21 Programs Total, a best-seller! (Includes Peeks/Pokes Chart & Tip Book\*3)

All Beagle Bros disks are Unlocked and Copyable, giving you the MOST for your Software Dollar. Don't settle for less!



4315 SIERRA VISTA / SAN DIEGO, CA 92103  
619-296-6400

"APPLE" is a registered trade mark of You-Know-Who.

## DOS BOSS ONLY 24.00

DISK COMMAND EDITOR  
BY BERT KERSEY & JACK CASSIDY

RENAME COMMANDS & ERROR MESSAGES: "Catalog" can be "Cat"; "Syntax Error" can be "Oops" or anything you want. Protect your programs; unauthorized save-attempt can produce "Not Copyable" message. Also LIST-prevention and one-key program-run from catalog.

CUSTOMIZE DOS: Change Disk Volume heading to your message. Omit/alter catalog file codes. Fascinating documentation and tips; hours of juicy reading and Apple experiments.

ANYONE USING YOUR DISKS (booted or not) will be formatting DOS the way you designed it.

(Includes Peeks/Pokes Chart & Tip Book\*2)

## NEW! FLEX TEXT ONLY 29.50

70-COLUMN-TEXT WITHOUT HARDWARE  
BY MARK SIMONSEN

PRINT VARIABLE-WIDTH TEXT on the hi-res screens with normal Applesoft commands (including Htab 1-70). Normal, expanded & compressed text on same screen— no hardware!

ADD GRAPHICS TO TEXT or vice-versa. Run existing programs under Flex Text control. Easy to use and compatible with PLE® and GPLE®.

DOS TOOL KIT® FONT compatibility, or use Flex Text fonts. Select up to 9 fonts with ctrl-key commands. Print/List/Catalog in any style! Custom TEXT CHARACTER EDITOR included.

REQUIRES MONITOR, not TV; (Includes Peeks/Pokes)

## BEAGLE BAG ONLY 29.50

12-GAMES-PLUS ON ONE DISK  
BY BERT KERSEY

COMPARE BEAGLE BAG with any one-game locked-up game disk on the market today. All 12 games are a blast, the price is right, the instructions are crystal clear, AND the disk is copyable. You can even change the programs or list them to LEARN, and see what makes them tick.

TWELVE GAMES from the Applesoft Ace, Bert Kersey— TextTrain, Slippery Digits, Wowzo, Buzzword, Magic Pack... A GREAT VARIETY of games that tap your Apple's flexibility. Excellent review in January 83 Softalk (page 148).

BEAGLE MENU TOO: See "Typefaces" disk. (Includes Peeks/Pokes Chart & Beagle Menu Utility)

## FRAME-UP ONLY 29.50

HIGH-SPEED DISPLAY UTILITY  
BY TOM WEISHAAR

MAKE PROFESSIONAL PRESENTATIONS of existing hi-res, lo-res & text frames. FAST hi-res loads in 2½-seconds! Paddle or Keyboard-advance frames. UNATTENDED SHOWS optional— each pic arranged & pre-programmed to display from 1 to 99 seconds. TEXT SCREEN EDITOR lets you create b/w text "slides". Add type "live" from keyboard during shows. Send copies of presentations-on-disk to your friends and associates.

(Includes Peeks/Pokes Chart)

## NEW! ProntoDOS+ ONLY 29.50

HIGH-SPEED DISK UTILITY  
BY TOM WEISHAAR

Put HIGH-SPEED DOS in your Apple's normal memory. Language Card or Ite high-memory—

Function	Normal	Pronto
BLOAD HI-RES IMAGE	10 sec.	3 sec.
LOAD 60-SECTOR PROGRAM	16 sec.	4 sec.
SAVE 60-SECTOR PROGRAM	24 sec.	9 sec.
BLOAD LANGUAGE CARD	13 sec.	4 sec.

(TEXT FILES: No Change)

BOOT PRONTO disk or your updated disks. Create new high-speed disks with normal INIT command. Compatible with ALL DOS COMMANDS and almost ALL of your programs.

LANGUAGE CARD or Ite high-memory can hold DOS— 10,000 Extra-Bytes of program space!

MORE DISK SPACE: ProntoDOS frees-up 15-extra-sectors per disk, almost one full track!

PLUS: Auto-Free-Disk-Space, New "TYPE" Command displays Text Files, and much more...

(Includes Peeks/Pokes Chart)

## ALPHA PLOT ONLY 39.50

HI-RES GRAPHICS/TEXT UTILITY  
BY BERT KERSEY & JACK CASSIDY

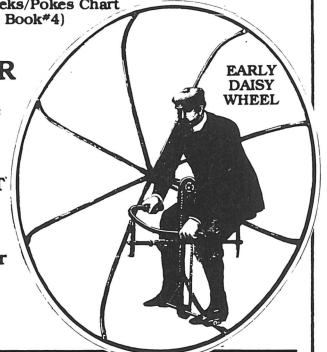
DRAW IN HI-RES, on 2 pages, using keyboard OR paddles/joystick. View lines before plotting. Mixed-colors and reverse (background opposite). Fast circles, boxes and ellipses; filled or outlined.

COMPRESS HI-RES PICS TO 1/3 DISK-SPACE. Superimpose pages or re-locate any rectangular image area anywhere on either hi-res page.

HI-RES TEXT: Proportional spacing, adjustable character size and color, upper & lower case, no htab/vtab limits, sideways typing for graphs.

(Includes Peeks/Pokes Chart & Tip Book\*4)

GOTO YOUR Apple Software Store for Beagle Bros disks. If they don't have what you want, tell them to GET ON THE STICK by phoning Beagle Bros, 619-296-6400, or ANY Apple SOFTWARE DISTRIBUTOR.



## TIP DISK #1 ONLY 20.00

100 TIP BOOK TIPS ON DISK  
BY BERT KERSEY

100 LISTABLE PROGRAMS from Beagle Bros Tip Books 1-4. Make your Apple do things it's never done! All programs changeable for experimentation. Includes our Apple Command Chart with ALL Applesoft, Integer & DOS Commands! (Includes Peeks/Pokes AND Apple Command Charts)

RUSH the following disks by First Class Mail:

- |  |   |
|--|---|
| <input type="checkbox"/> Alpha Plot . 39.50  | <input type="checkbox"/> Pronto-Plus 29.50    |
| <input type="checkbox"/> A.Mechanic 29.50    | <input type="checkbox"/> Tip Disk*1 . 20.00   |
| <input type="checkbox"/> Beagle Bag . 29.50  | <input type="checkbox"/> Typefaces . 20.00    |
| <input type="checkbox"/> DOS Boss . 24.00    | <input type="checkbox"/> Utility City . 29.50 |
| <input type="checkbox"/> Double-Take 34.95   |   |
| <input type="checkbox"/> Flex Text ... 29.50 | <input type="checkbox"/> Add me to mail list. |
| <input type="checkbox"/> Frame-Up ... 29.50  | <input type="checkbox"/> I'm already ON it.   |

AT YOUR APPLE DEALER NOW!  
Or order directly from Beagle Bros—



Visa/MasterCard/COD, call TOLL-FREE  
Nationwide: 1-800-854-2003 ext. 827  
California: 1-800-522-1500 ext. 827  
Alaska/Hawaii: 1-800-854-2622 ext. 827

OR mail U.S. Check, Money-Order or Visa/MC\*  
to BEAGLE BROS., 17th-Floor  
4315 SIERRA VISTA, SAN DIEGO, CA 92103

Add 1.50 First Class Shipping, any-size order.  
Overseas add 4.00. COD add 3.00. California add 6%.  
ALL ORDERS SHIPPED IMMEDIATELY

# CUT AND DRIED

by John Martellaro

*This issue begins a new column of rantings, ravings and highly personal opinions by one of your humble Peelings II editors. He has been given a free hand to express his personal views which may or may not reflect those of the magazine.*

In the V4 N1 issue of Peelings II, I discussed some potential candidates for the next generation microcomputer language. Some well known languages have evolved through the years that have solved specific problems and gained a strong following. However, these languages are considered neither friendly enough nor modern enough to meet the needs of novice users entering the microcomputer age of the 1980's.

Most will agree that highly abstract and symbolic languages developed for expert users are not practical for the average user. Languages like C, APL, and Forth, while powerful and popular, are not going to get widespread popular support. Pascal, developed in the late 60's before the age of cheap memory, has failed to reach a consensus for an update and universal format that meets the needs of microcomputer users. The syntax of Pascal seems vexing and arbitrary. Continuing reader surveys indicate that through 1982, a small fraction of Apple II users program in Pascal while the majority continue to program in BASIC.

FORTRAN has available extremely sophisticated compilers that produce efficient code. FORTRAN 77 has been updated to address many of the objections that have been leveled against it during the years. FORTRAN is in many ways not very different from BASIC in the physical appearance of the source code, but the structural differences are striking. FORTRAN is overkill for small programs, yet it is inadequate for larger projects. The sharing of large blocks of data among many subroutines is extremely tedious with COMMON statements. The logical compares are archaic: IF(A.EQ.B.) instead of the simpler IF A = B. Continuation statements are inconvenient. The FORMAT. statement problem never has been completely solved due to the requirements for compatibility with previous versions. Line numbers instead of character labels are a carry over from older days. Ragged arrays are impossible as are mixed type arrays, and the attribute/entity formalism of SIMSCRIPT is sorely missed. In sum, FORTRAN will continue to be used by scientists and industrial users, but it will never catch fire on personal computers.

Some of the statements I made in part one of this series about CBASIC were not entirely correct. It is its compiled big brother CB-80 that is fast. After looking at CBASIC, I have concluded that it is not the answer either. While it has long variable names, character labels, and a more structured approach, it has syntactic irregularities and severe limitations on the nesting of IF statements. A review of CBASIC is coming, and I will report on CB-80 when we can get a copy for review.

The January 1983 issue of BYTE magazine has an article on the proposed ANSI BASIC standard. It seemed to me from reading the article that there are those who want BASIC to grow to the point where it rivals FORTRAN. There are those who want to keep BASIC simple. The fundamental problem is defining a BASIC that is a standard, yet includes graphics and number format extensions. These features, more or less, depend on

the available hardware. In my opinion, efforts to produce a standard BASIC that will gain acceptance in the market place will fail. Eventually, there may arise a university standard for a teaching BASIC to be implemented on large computers, but the special features and functions of various microcomputers will always dictate irregularities in the BASIC implemented on the TRS-80 and the Apple II. Many have lamented that the TRS-80 version of Microsoft's BASIC came to have 16 bit integers and double precision real numbers which are missing in Applesoft. There was only so much one could fit into a 10K interpreter in 1976. Apple's requirement for High Resolution graphics probably supplanted the special number handling features made available in the TRS-80 BASIC. In 1983, a 40K BASIC interpreter is entirely realistic. Hewlett-Packard does it routinely and they have a powerful BASIC for their HP-9845 desktop computer.

Like FORTRAN, BASIC will never go out of style. It will get incrementally better but will never change sufficiently to address its major shortcomings. Regretably, we are not likely to see a new generation of fast but powerful BASICS from the major microcomputer companies for several reasons. The Apple II points out how the tables have turned. In 1977, we were simply happy to have a computer. The hardware was the telling and selling factor. Now, the enormous software written for the 6502 has forced Apple to produce an 8 bit computer that runs this wealth of software. A new BASIC would not have an immediate market potential unless there were some compelling reason for software companies to begin writing in this language. The market place is big and getting bigger. New customers to the market place probably don't care that Applesoft is an obsolete language or that the 6502 is an obsolete microprocessor. They have the eyes of babes and they are happy enough to have lots of excellent software, slick manuals and a thoroughly, repeat thoroughly, debugged system.

In part one of this column (V4N1), I mentioned that I have been programming in a particularly nice language that meets most of my criteria for a good language. Those standards will be discussed in a future column. An excerpt from this language (SIMSCRIPT) was quoted. (It was first correctly identified by Carol Jacoby of Long Beach, California.) While SIMSCRIPT turns out to be enormously useful for most applications, it is also a formidable language both in the memory and disk storage requirements and in the scope of the language. I hope that someday it will be available on a powerful 68000 based micro with hard disks. Until then, we will need a beginners all purpose language that is both faster than BASIC, more flexible, yet equally easy to learn.

With the assumption that there is no current language that meets all the needs of a new to intermediate microcomputer user in the mid 1980's, then the next question to ask is: "What are the forces for change that might create this language?" Clearly, standards committees, mired as they are in so much conflicting input, are not likely to be forerunners of such change. Nor are large microcomputer companies, in general, likely to be interested in fundamental changes to the status quo. (Apple's development of the Lisa is a noted exception.) Despite the fact

TO SUBSCRIBE or RENEW YOUR SUBSCRIPTION

Please See Postage-Paid Subscription Cards Attached

MasterCard & VISA Orders / Dealer Inquiries

For Your Convenience Use This 24hr / Day Toll-Free Number

800-345-8112 (In Pennsylvania: 800-662-2444)

f producing enor-  
the spark and vi-  
gs happen. Some  
bs in their garage  
r a solution to his  
in another area,  
ture rockets but  
mples and many  
g vision of an in-  
change in a par-

fe enough): an in-  
a new microcom-  
ventional wisdom.  
that will, because  
orm every dreary  
nguage will not be

designed to be compatible with anything. It will not have to meet government specifications. It will not adhere to the traditional norms taught in computer science. It will be written for a specific microprocessor and it will make that particular microprocessor enormously successful. The language will be one person's dream of what a personal, friendly, fast, and natural microcomputer language ought to be. When it appears, it will probably be criticized and derided by the experts because it doesn't meet their particular standards. But people will start using it and loving it. I will even predict that his name will become so famous that it will be part of the new language's name. It will make the author enormously rich and famous.

Here you are sitting on a modern microprocessor, perhaps 128K of memory, some disk drives and a printer. A scientist of the 1950's would turn green thinking about the enormous power you have at your fingertips. And here you sit playing Chopflifer.

Get to work. □

## Stand

also be aware of is that once installed, it is mildly inconvenient to undo everything for access to the inside of the Apple II. If you are constantly removing peripheral cards or otherwise need instant access to the innards of the Apple, it is more work to unravel everything.

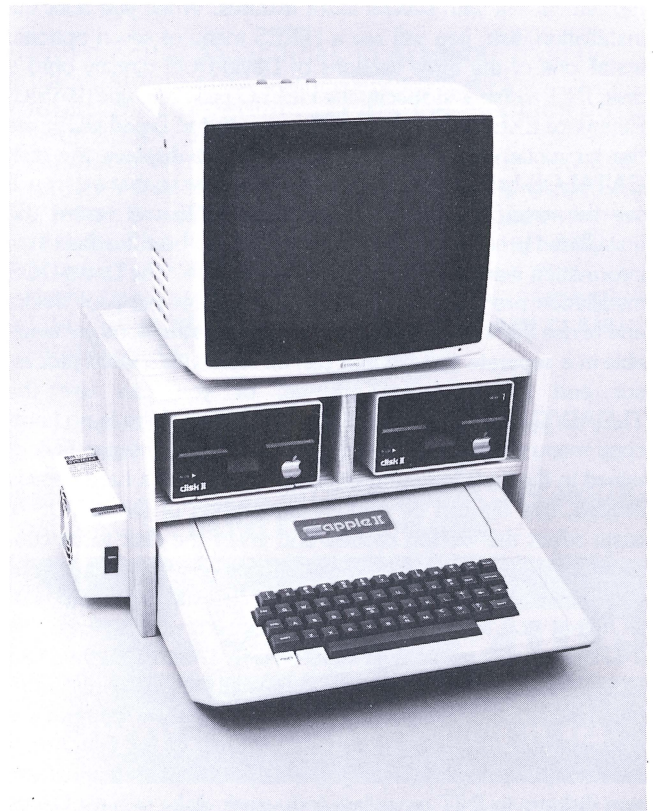
I am greatly pleased with the quality, appearance, and convenience of this stand. In these days of less than excellence in many manufactured goods, it is nice to see a product that measures up to the perfection of the computer it surrounds. □

nd is a solid wood  
ovide an aesthetic  
able platform for a

e (see the accom-  
oversize 12 inch  
e two disk drives.  
to give up the con-  
pple II. The Guild  
sturdier and better  
micromodem since  
he plastic monitor  
stand has cutouts  
uper Fan II. There  
ventilation. It is a

s the quality of the  
this stand makes  
ride of craftsman-  
any or ash, your  
ightly beveled and  
like glossy varnish  
. My personal feel-  
stand just do not  
does. It comes al-

some sort of anti-  
ng that you should



# CUT AND DRIED

*This issue begins a new column of rantings, ravings and highly personal opinions by one of your humble Peelings II editors. He has been given a free hand to express his personal views which may or may not reflect those of the magazine.*

In the V4 N1 issue of Peelings II, I discussed some potential candidates for the next generation microcomputer language. Some well known languages have evolved through the years that have solved specific problems and gained a strong following. However, these languages are considered neither friendly enough nor modern enough to meet the needs of novice users entering the microcomputer age of the 1980's.

Most will agree that highly abstract and symbolic languages developed for expert users are not practical for the average user. Languages like C, APL, and Forth, while powerful and popular, are not going to get widespread popular support. Pascal, developed in the late 60's before the age of cheap memory, has failed to reach a consensus for an update and universal format that meets the needs of microcomputer users. The syntax of Pascal seems vexing and arbitrary. Continuing reader surveys indicate that through 1982, a small fraction of Apple II users program in Pascal while the majority continue to program in BASIC.

FORTRAN has available extremely sophisticated compilers that produce efficient code. FORTRAN 77 has been updated to address many of the objections that have been leveled against it during the years. FORTRAN is in many ways not very different from BASIC in the physical appearance of the source code, but the structural differences are striking. FORTRAN is overkill for small programs, yet it is inadequate for larger projects. The sharing of large blocks of data among many subroutines is extremely tedious with COMMON statements. The logical compares are archaic: IF(A.EQ.B.) instead of the simpler IF A = B. Continuation statements are inconvenient. The FORMAT statement problem never has been completely solved due to the requirements for compatibility with previous versions. Line numbers instead of character labels are a carry over from older days. Ragged arrays are impossible as are mixed type arrays, and the attribute/entity formalism of SIMSCRIPT is sorely missed. In sum, FORTRAN will continue to be used by scientists and industrial users, but it will never catch fire on personal computers.

Some of the statements I made in part one of this series about CBASIC were not entirely correct. It is its compiled big brother CB-80 that is fast. After looking at CBASIC, I have concluded that it is not the answer either. While it has long variable names, character labels, and a more structured approach, it has syntactic irregularities and severe limitations on the nesting of IF statements. A review of CBASIC is coming, and I will report on CB-80 when we can get a copy for review.

The January 1983 issue of BYTE magazine has an article on the proposed ANSI BASIC standard. It seemed to me from reading the article that there are those who want BASIC to grow to the point where it rivals FORTRAN. There are those who want to keep BASIC simple. The fundamental problem is defining a BASIC that is a standard, yet includes graphics and number format extensions. These features, more or less, depend on

by John Mart

the available hard dard BASIC that fail. Eventually, teaching BASIC t special features a always dictate ir TRS-80 and the A version of Micros double precision : There was only s 1976. Apple's re ably supplanted available in the T preter is entirely r they have a po computer.

Like FORTRA incrementally bett its major shortco new generation o microcomputer c points out how th happy to have a selling factor. Nov has forced Apple wealth of software market potential t software compar market place is b market place prof language or that t have the eyes of b of excellent softw thoroughly, debug

In part one of been programmin most of my criteri discussed in a fu (SIMSCRIPT) wa Carol Jacoby of turns out to be enc a formidable lang requirements and in day it will be avai hard disks. Until t guage that is both easy to learn.

With the assu meets all the need in the mid 1980's the forces for cha standards commit input, are not like large microcompu ested in fundam development of th



**800-345-8112**

(In Pennsylvania: 800-662-2444)

**MasterCard & VISA Orders / Dealer Inquiries**  
**For Your Convenience Use This 24hr / Day Toll-Free Number**

**TO SUBSCRIBE or RENEW YOUR SUBSCRIPTION**  
**Please See Postage-Paid Subscription Cards Attached**

that teams at large companies are capable of producing enormous technological innovations and products, the spark and vision of an individual is often what makes things happen. Some notable examples have been Wozniak and Jobs in their garage creating the Apple II, Dan Bricklin yearning for a solution to his business courses and creating VisiCalc, or, in another area, Robert Goddard experimenting with miniature rockets but dreaming future space travel. In these examples and many others, it is usually the near fanatic and driving vision of an inspired individual that makes a fundamental change in a particular area of endeavor.

I will make this prediction (which seems safe enough): an individual working alone will have a vision for a new microcomputer language. He will throw out all the conventional wisdom. Working alone, he will create a new language that will, because of the crispness of his vision, simply outperform every dreary language born of a committee or group. The language will not be

designed to be compatible with anything. It will not have to meet government specifications. It will not adhere to the traditional norms taught in computer science. It will be written for a specific microprocessor and it will make that particular microprocessor enormously successful. The language will be one person's dream of what a personal, friendly, fast, and natural microcomputer language ought to be. When it appears, it will probably be criticized and derided by the experts because it doesn't meet their particular standards. But people will start using it and loving it. I will even predict that his name will become so famous that it will be part of the new language's name. It will make the author enormously rich and famous.

Here you are sitting on a modern microprocessor, perhaps 128K of memory, some disk drives and a printer. A scientist of the 1950's would turn green thinking about the enormous power you have at your fingertips. And here you sit playing Choplifter.

Get to work. □

---

## Guild Apple II Stand

---

**Guild Musical Instruments**  
**225 Grand Street**  
**Elizabeth NJ 07202**  
**201-351-3002**

Mahogany \$69.95 including freight  
Ash 54.95

*Reviewed by John Martellaro*

The Guild Musical Instruments Apple stand is a solid wood stand that fits over an Apple II in order to provide an aesthetic looking enclosure for the disk drives and a stable platform for a display unit.

My motivation for acquiring this furniture (see the accompanying photograph) was that my slightly oversize 12 inch monitor did not fit comfortably on top of the two disk drives. The configuration was unstable, and I refused to give up the convenience of having the drives on top of the Apple II. The Guild stand went a long way towards providing a sturdier and better looking support for my monitor and Hayes micromodem since its shelf is 16.5 inches wide. In contrast to the plastic monitor stand that Apple Computer supplies, the guild stand has cutouts on both sides just the right size for an R.H. Super Fan II. There is plenty of space around the disk drives for ventilation. It is a sensible and convenient design.

The best part about the stand, however, is the quality of the workmanship. The company that makes this stand makes musical instruments, and I detect a certain pride of craftsmanship in the construction. It is solid mahogany or ash, your choice. The fittings are flush. The edges are lightly beveled and sanded. There is no detectable finish. I do not like glossy varnish and prefer the texture and look of bare wood. My personal feeling is that the metal varieties of this type of stand just do not have the pleasant look and feel that wood does. It comes already assembled.

The only criticism I have is the lack of some sort of anti-scratch pad on the feet of the stand. One thing that you should

also be aware of is that once installed, it is mildly inconvenient to undo everything for access to the inside of the Apple II. If you are constantly removing peripheral cards or otherwise need instant access to the innards of the Apple, it is more work to unravel everything.

I am greatly pleased with the quality, appearance, and convenience of this stand. In these days of less than excellence in many manufactured goods, it is nice to see a product that measures up to the perfection of the computer it surrounds. □



# DOS Enhancers Update

In *Peelings II*, Vol. 4, No. 1, we presented in-depth reviews of five DOS enhancers plus a preliminary review of David-DOS. *Peelings* has received the final version of David-DOS and its updated review will be presented along with ProntoDOS, Diversi-DOS 2-C, SpeedDOS and PIG-DOS. A summary chart of all enhancers reviewed to date follows the reviews.

## DAVID-DOS

by David Weston

David Data  
12021 Wilshire Blvd., Suite 212  
Los Angeles, CA 90025  
213-478-7865

\$39.95

Rating: AA

*Reviewed by Michael L. Weasner  
and Edward Burlbaw*

### DAVID-DOS

David-DOS is a fast LOAD/BLOAD (RUN/BRUN) DOS enhancement but with several extra features. When you boot the installation disk, you will see a HIRES menu of seven options: install one of the three versions of David-DOS directly onto a disk; INIT a disk and specify the HELLO program type (BASIC, Binary, or EXEC); add the DATE command to David-DOS; see the instructions; and exit. The exit option displays the disk CATALOG before exiting; an excellent choice so that a user will see the extra files available. A CALL 4096 will restart the installation program if no other program has been loaded. This information was left out of the documentation. The David-DOS installation program is entirely loaded in from the boot tracks and hence there is no installation file. The instructions are available in a separate text file that can be read with a word processor and formatted for printing, or you can use the TLOAD/TLIST commands discussed below. There is no hard-copy manual with David-DOS since the documentation is contained in the installation program (or text file). If a hard-copy is needed, this file can be printed. Installation of David-DOS is easy: select the version desired and insert the disk to be converted. The patches will be made directly to the disk. Some of your own DOS patches may be compatible with those of David-DOS but you should try it on a backup first. You can also INITIALize a disk with David-DOS version 1. Either method can be continued for as many disks as desired or you can return to the menu or exit. If you are using a forty-track drive, you can run a program on the diskette to patch a copy of the installation diskette (it is unlocked) and then use this version of the installation diskette to INIT or update forty-track disks to have David-

DOS. The installation program is single drive only, but since the entire program is contained in memory, there is no need to have the installation diskette in the drive once it is booted unless you need to change the INITIALization process from 35 to 40 track versions or back. The forty track installation diskette will update thirty-five track disks without problems. One could have wished for a multi-drive installation capability, but none is really required.

Once you have David-DOS on your disks you can use its features. If you have exited the installation program, David-DOS version 1 is still in memory and you can check it for compatibility with your programs. Version 1 has all the extra commands and disk free-space displayed each time a disk is CATALOGed. By the way, there is an alternate way to get a CATALOG: just type a "/" and a RETURN. David-DOS interprets this as CATALOG and acts accordingly. I have found this an easy-to-remember option. If I have a question about the files on a disk I just use the "?" key without pressing the SHIFT key. Version 2 is exactly the same except the free-space option is removed. This was done because some software has problems whenever the DISK VOLUME header is modified. Version 3 has only the fast loading capabilities without the extra features. Speed increases with David-DOS are comparable to those of the other DOS enhancers. During the timings an insignificant speed increase was noted during SAVes (see the accompanying chart for details).

When you boot a disk containing David-DOS, you will see the added commands displayed on the forty-column screen while the rest of the boot process continues. These commands are:

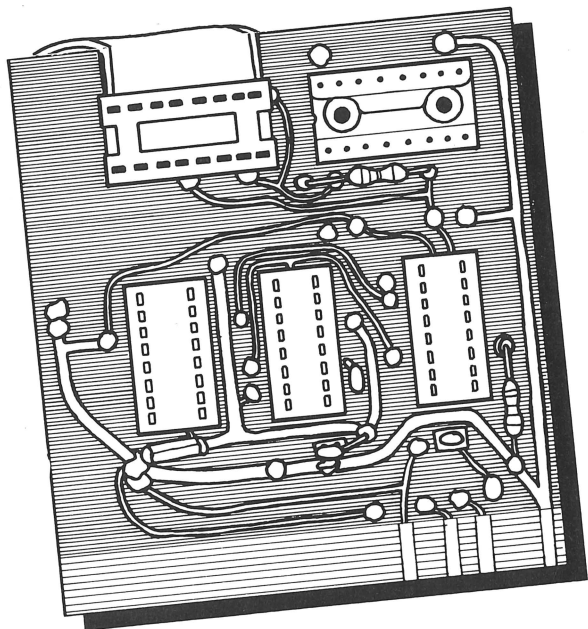
TLOAD — fast loads all text files (random or sequential)  
TLIST — lists the TLOADed file to the screen or printer  
DUMP — dumps HEX and ASCII to the screen or printer  
DISA — disassembles memory to screen or printer without the need to enter the monitor  
AL — displays (any) program address and length  
HIDOS — moves David-DOS to a RAM card in slot 0

The commands are all DOS commands and are usable from immediate or deferred mode. Booting David-DOS also searches for an INTEGER or Applesoft Firmware card in any slot making the alternate BASIC available without loading or POKEing if you have a firmware card. The TLOAD, TLIST, DUMP, and DISA commands can be expanded with A)ddress and/or L)ength in either decimal or hex. Scrolling speed can be con-



# SNAPSHOT™

Apple disk copy card



## THE FIRST . . . AND STILL THE BEST

PEELINGS II magazine compares SNAPSHOT with Wild Card and Crack-Shot:

*“Overall, with one of the supported RAM cards, **SNAPSHOT**, at \$109.95 is the best buy.”*

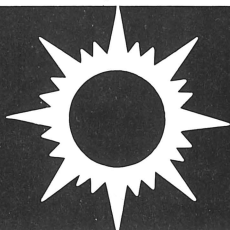
*“The copy procedure is perhaps the easiest and clearest of the three cards.”*

SNAPSHOT has been a best-seller in England since early 1982. It will copy any memory-resident program that runs on the 48K Apple. SNAPSHOT uses your 16K RAM card\* to interrupt a running program and dump the entire contents of 48K and registers to an **unprotected** backup disk. SNAPSHOT backs up programs that baffle nibble copiers like Locksmith without any complex parameter changes or trial-end-error hassle. And SNAPSHOT is still more effective, less expensive and easier to use than its imitators.

- You have full, normal use of your other hardware and software: you don't need to open the Apple's lid.
- Ideal for debugging or analyzing programs.
- Freeze-frame your game. Print the graphics on your Epson printer and resume play.
- Shooting down space invaders and the phone rings? Interrupt your game until later, or tomorrow. Save your high scores!
- Repeatedly interrupt and resume running programs.
- Faster and easier to use than nibble copiers or other copy cards.
- Full monitor capabilities to examine, modify, trace, single-step or disassemble any interrupted program . . . Print the graphics on your Epson printer.
- Suspend work with one program while you use another (for instance, interrupt word-processing a letter to look up an address in database, then resume the letter exactly where you left off.)
- Move protected programs to hard disk or 8" disk; copy several programs onto the same disk.
- List "unlistable" Basic programs; make custom modifications.

SNAPSHOT has many more features for programmers, gamers, and more. Write for our info packet or leave your address and questions with our answering service at (413) 584-7600. We regret that we cannot return all calls.

**TO ORDER:** Mail check payable to Dark Star Systems. Add \$3 for shipping in the U.S. (\$7.50 to Canada; \$15 elsewhere). Mass. residents add \$5.50 tax. COD costs \$5 extra (not available outside U.S.). **Dealer Enquiries Invited.**



# DARK STAR SYSTEMS

P.O. Box 140, Dept. P, Amherst, MA 01004

\*One drive and 16K card required. Works with most popular cards, including Apple, Microsoft, Ramex, Digitek, MPC, RH Electronics, Orange, Franklin, etc. Other brands: specify when ordering. Works on Apple II and Apple II+, and Franklin 100 and 1000. Apple, WildCard, Crackshot, and Locksmith are reg. trademarks respectively of Apple Computer, EastSide Software, Pirate's Harbor and Omega Microware.

trolled through various keys at several rates from extremely slow to extremely fast. All outputs can be sent to the printer with a PR#1 (or appropriate slot) and then the command used. The TLOAD/TLIST option is only a "READ" but does have its uses for displaying instructions from a text file or previewing a text file. Since both random and sequential text files are supported, you are not limited by not knowing the record length. A "DUMP, A\$800" command provides a display like:

```
0800- 00 6D 08 01 00 AE 3A 97   .-HA...:
0808- 3A 44 24 DO E7 28 34 29   :D$Pg(4)
0810- 3A BA 44 24 22 50 52 23   ::D$"PR#
0818- 33 22 3A 58 DO 32 33 34   3":XP234
```

etc.

The hex codes are on the left with the ASCII conversion on the right. The benefit of having the DUMP command is easily seen if you need to modify a BASIC program. Normally you would have to use a utility program or go to the monitor with a CALL -151 to look at the hex and read conversion and BASIC token charts. But with the DUMP command the display provides all the necessary information (except the tokens) from BASIC. For example, if you want to change the "PR#3" to "PR#2" you can compare the left and right side of the display and see that if address 0818 were changed to a 32, then a "2" would result on the right. Enter the monitor with a CALL -151 and type 0818: 32 to make the change. Return to BASIC with a Ctrl-C. Your Applesoft program has now been changed and can be SAVED with the change. This example is very simple, but it illustrates the principle. You can make "illegal" statements in your programs in this manner. A "DISA, A\$3DO" command provides the following output:

```
03DO- 4C BF 9D   JMP   $9DBF
03D3- 4C 84 9D   JMP   $9D84
03D6- 4C FD AA   JMP   $AAAFD
03D9- 4C B5 B7   JMP   $B7B5
03DC- AD 0F 9D   LDA   $9D0F
```

etc.

This is similar to the output from the monitor L)ist command except that you are still in BASIC and you can control the speed of the scrolling as well as specify the starting address and the length. You can scroll through large sections of memory without the need to type the monitor "L" after each screenfull. You can pause the display with a key and continue by pressing any key (the speed of the scroll will be determined by the key you use). Besides giving the starting address and length of the last file LOAD/BLOAD/TLOADed (or last TLIST, DUMP, DISA), it can also be used as a quick decimal/hex conversion aid. For example, to find out what \$1000 is in decimal just perform these few key strokes:

```
DUMP, A$1000
```

and press RETURN as soon as the screen starts displaying. Then type:

```
AL
```

and the following will be displayed:

```
$1000 A4096
```

This method is accurate up to \$FFFF or 65535.

Typing HIDOS moves David-DOS into a RAM card in slot 0 and adds two more commands: FIND and DATE (if installed).

This frees 10K for program or data use. FIND can search for any hex string in 64K of memory and will display all addresses where the string was found. FIND normally searches just the motherboard address, but a patch is provided in the instructions to allow FIND to search a RAM card. DATE reads a Mountain Hardware clock and returns the month, day, and year. Some clocks do not work with this option, typically the multi-function card clocks even though they may be in Mountain Hardware format. Since all David-DOS commands can be executed from within a program, you can have your HELLO program move DOS to a RAM card without the requirement for a separate DOS mover program on the disk. With just three POKEs you can also have your program continue execution after moving DOS, whereas most DOS movers destroy any program in memory. This feature alone has made David-DOS my most used DOS.

The extra programs on the installation disk are for the convenience of the user. When run, they do such things as patch FID or RENUMBER for use with HIDOS, demonstrate how to move DOS or use any of the extra commands from within your programs. If you are an Apple PIE (or PIE Writer) lover, there are programs that will patch PIE to make it compatible with David-DOS. In fact, only programs that modify DOS seem to have problems with David-DOS. All DOS entry addresses have been left undisturbed, so some version of David-DOS should work with your programs. There is a universal patcher program that will take your input of a DOS patch and write it directly to the DOS on a disk. If you should find a problem with a program running under David-DOS, you will be pleased to know that David Data has demonstrated excellent customer support in attempting to correct problems whether a modification needs to be made to the DOS or the program.

In summary, David-DOS provides a faster DOS plus several highly useful added commands. If you don't have a hardware utility like The Inspector/Watson ROMs (reviewed in *Peelings II*, Vol. 4, No. 2) then the DUMP and DISA commands will be a welcome addition to your DOS. The other added features of David-DOS like "I" for CATALOG and the correct display of file lengths up to 65535 sectors and BSAVE lengths up to \$FFFF will also find their way into your heart. Even though David-DOS does not have a faster SAVE option and eliminates the INIT function of DOS, it earns the "AA" rating because of its "standardness" while adding powerful commands.

**CORRECTION:** In the preliminary review of David-DOS (*Peelings II*, Vol. 4, No. 1) I stated that there was a bug in the DOS in that the POSITION command had been disabled. This was an error; the problem resulted from PIE Writer modifying DOS commands for its own use. However, this did result in the patch programs for PIE.

**NOTE:** Using a sector skew of three descending (standard is two descending) seems to result in a further speedup of 2-5% with David-DOS. Disks with each possible descending skew were made using the INIT program of Bag of Tricks (reviewed in *Peelings II*, Vol. 3, No. 7). A Binary program and an Applesoft program were FIDded to each disk and timed under David-DOS. The three descending skew resulted in the slight speedup from two descending. All the rest of the skews had longer load times. If you feel it necessary to achieve the fastest possible load times you might try changing the sector skew with a utility such as Bag of Tricks or one of the magazine routines. No timings were made of saves. □

# PRONTODOS

by Tom Weishaar  
Beagle Bros  
4315 Sierra Vista  
San Diego, CA 92103  
619-296-6400

\$29.50

Rating: A+

*Reviewed by Michael L. Weasner  
and Edward Burlbaw*

## PRONTODOS

ProntoDOS is another DOS speedup utility that is simple to install on your disks and convenient to operate. No strange set-ups or unnecessary FIDing of files is required. Two methods of installation on disks are possible and will be discussed below. As with all Beagle Bros' software, ProntoDOS is unlocked.

Included in the package is Beagle Bros' "PEEKs, POKEs, and Pointers" chart. This is the excellent 11 x 14 inch chart included with many programs from Beagle Bros which is very useful to both programmers and nonprogrammers. When the registration card is returned you will be placed on Beagle Bros' mailing list and receive the Beagle Bros Bulletin, a fine newsletter plus catalog. It is enjoyable reading and at times presents some useful information. On the program disk is a HIRES demo that shows the speed increase of ProntoDOS by loading and displaying ten pictures in rapid succession. There is also the typical Beagle Bros advertisement program. Overall the quality is high and the undocumented programs that you will find on the program disk are fascinating if unusual.

The manual provided with ProntoDOS is a six-page, 5-1/2 x 8-1/2 inch foldout containing four pages of documentation. Since ProntoDOS makes only a few minor changes to DOS, there is very little that the documentation should cover and the manual covers it. There are short sections on installation, the features of ProntoDOS, and some limitations and cautions.

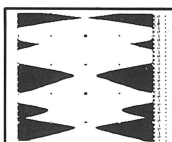
The first method of installation discussed in the manual is the simplest. Boot the ProntoDOS disk and then INITIALize as many disks as you need. ProntoDOS is, of course, in memory and can be used until another DOS is booted. Don't forget to type NEW before INITing otherwise you will have the ProntoDOS HELLO on each disk. You may want to load your own HELLO program before INITing. This method has one very interesting side benefit: you gain fifteen extra sectors. ProntoDOS makes more efficient use of tracks 0, 1, and 2 where DOS resides and thus frees all but sector 0 on track 2. The VTOC is accordingly corrected. Once a disk with this DOS is used, you should not use the MASTER CREATE program on the Apple System Master disk to remove ProntoDOS or you may overwrite data that has been placed on track 2. The second method of installation is to BRUN PRONTO CREATE on the program disk. Using this method you can select the option to VERIFY

after SAVE (slows down the SAVE process) and force language card reload on/off when DOS is rebooted. Both of these features are useful but perhaps the best part of installing ProntoDOS with this method is that you can boot any DOS, containing any patches you may have installed (free space, multi-column CATALOGs, text file dumps, etc.), and ProntoDOS will check to see if it is compatible with the nonstandard DOS. If not, you cannot proceed with installation. On the other hand, if ProntoDOS accepts the nonstandard DOS you will be able to install ProntoDOS in the current DOS in memory. After selecting the other two options you can then either install the modified DOS plus ProntoDOS directly on a disk or you can check it out first by trying it from RAM and then INITing disks. If installed directly onto a disk, the extra sectors are not freed.

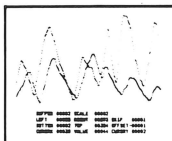
In tests with various programs, ProntoDOS appeared to be acceptable to most. Even PIE WRITER has no difficulties with it. A free-space option would make ProntoDOS better, but being able to check an already patched DOS and then patch it further is quite a bargain at \$29.50. As can be seen from the summary chart, ProntoDOS' timings are comparable (SAVE times were with VERIFY after SAVE off) to other DOS enhancers but ease of use and the ability to patch a nonstandard DOS make it an A+ program. (ed. note: A new version of ProntoDOS has been received. ProntoDOS will be revisited in a future issue.) □

## VERSATILE DATA REDUCTION, DISPLAY AND PLOTTING SOFTWARE FOR YOUR APPLE\* II

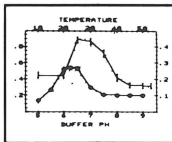
**STRIPCHARTER** — Turns your APPLE and Epson MX series printer into an economical 4-pen chart recorder. Prints and displays continuous 1 to 4-channel strip-charts of any length. Ideal for large data sets. Numerous user-selectable graphics options enhance output quality. Includes 5 demos on disk with 37-page manual **\$100**



**VIDICHART** — Proven tool for lab data management. Fast plots of 4 data sets with scrolling in 4 directions, zoom scaling on X and Y axes, 2 types of graphic cursors and on-screen STATUS REPORT, even plots A/D input while sampling. ADD, SUBTRACT, MULTIPLY, DIVIDE, INTEGRATE, DIFFERENTIATE, AVERAGE or NORMALIZE data sets with SIMPLE COMMANDS. Ideal for spectra, chromatograms, rate curves, etc. Includes SAMPLE DATA on disk with 28-page manual **\$75**

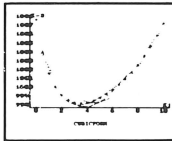


**SCIENTIFIC PLOTTER** — Draws professional-looking graphs of your data. You choose data format, length and position of axes, 20 symbols, error bars, labels anywhere in 4 orientations. Includes 5 demos on disk plus 30-page manual **\$25**



(For DIF file and Houston Instrument or H-P 7470A plotter adaptations, add \$25 for each option selected.)

**CURVE FITTER** — Select the best curve to fit your data. Scale, transform, average, smooth, interpolate (3 types), LEAST SQUARES fit (3 types). Evaluate unknowns from fitted curve. Includes 5 demos on disk with 33-page manual **\$35**



**SPECIAL: VIDICHART, SCIENTIFIC PLOTTER, CURVE FITTER on 1 disk **\$120****

Add \$1.50 shipping on all U.S. orders. VISA or MASTERCARD orders accepted.

\*Trademark of Apple Computer, Inc.



**INTERACTIVE MICROWARE, INC.**  
P.O. Box 771, Dept. 5 State College, PA 16801  
CALL (814) 238-8294 for IMMEDIATE ACTION

# DIVERSI-DOS 2-C

by Bill Basham  
DSR, Inc  
5848 Crampton Ct.  
Rockford, IL 61111  
815-877-1343

\$30.00

Rating: AA

*Reviewed by: Monty Lee and Edward Burlaw*

Diversi-DOS version 1-A was reviewed in *Peelings II*, Vol. 4, No. 1. This review will deal with the newest version, 2-C. Diversi-DOS 2-C is a significant improvement over the earlier versions because the bugs have been removed, and most of the weaknesses indicated in the earlier review have been corrected.

## DOCUMENTATION

The documentation is superb. As before, it and the instructions are supplied on the disk. Upon booting, you are given the option of viewing all or part of the instructions or printing them out. Again, the printout is only 40 column. However, the author provides you with the necessary corrections to the HELLO program which allow you to write all the instructions to a text file for later editing with your word processor. The only drawback is that the corrections are provided within the instructions to find this information. Again, it would have been better to include either the text file or an option for displaying the instructions from the menu.

The earlier review indicated that the instructions lacked enough detail. This time significantly more detail is given. In fact, an 80-column printout of the documentation will take about ten pages. The information provided outlines the actual operation of Diversi-DOS in better detail and provides information on modifying the various options.

The documentation is still lacking some information that I consider important. There is little information provided on some of the areas which Diversi-DOS patches. Thus those with their own user patches will have to experiment to determine which patches are compatible with Diversi-DOS. Additionally, although it is not mentioned in the documentation, Diversi-DOS will correctly display sector lengths in the CATALOG of greater than 255. Finally, compatibility with hard-disk systems is not mentioned, but discussion with the author indicates that Diversi-DOS is compatible.

## OPERATION

Operation of Diversi-DOS is identical to 1-A. Upon booting the unprotected disk, you are presented with the following menu:

- 1 - INSTRUCTIONS
- 2 - PUT DIVERSI-DOS ONTO A DISK
- 3 - RUN A PROTECTED PROGRAM
- 4 - MAKE COPIES OF THIS DISK
- 5 - MODIFY BUFFER ROUTINES
- 6 - BSAVE BUFFER FILE
- 7 - BSAVE DDMOVER FILE
- 8 - BSAVE PATCH FILE
- 9 - EXIT TO BASIC

Selecting Option 2 will update the DOS on an INITIALIZED disk. The one change here is that you now have the option of including a free-space patch instead of the random access text file improvement. Option 5 allows you to modify the keyboard and printer buffer routines. The documentation is in error in that it indicates that you must have the printer in slot 1 in order for the printer buffer to work, yet selecting this option will allow you to specify any slot for the printer. Testing indicates the the printer buffer will work with the printer in a slot other than slot 1.

Options 7 and 8 are new to Diversi-DOS 2-C. The DDMOVER file provides a program that moves DOS into the RAM card. Once DOS is moved, CATALOGING will provide a free-sector display each time. Also, a new command, PAD, exists which displays the address and length of the last loaded binary file. The one drawback to DDMOVER is that once DOS is moved, it no longer supports the INT command and thus requires Applesoft on the motherboard. This is incompatible with a DOS modified to support a ROM card in a slot other than 0. Obviously with DOS in the RAM card, that memory is not available for the BUFFER. Option 8 saves a binary file that, when run, updates the DOS on any disk to Diversi-DOS, just like option 2 from the menu.

Diversi-DOS is one of the few programs that improves file SAVE times, including BASIC, binary, and text files. Contrary to popular belief, it is possible to speed up the save times without degrading the integrity of SAVE. One way that Diversi-DOS does this is by writing the track/sector list of the file after the whole file is saved. Normal DOS updates this track/sector list each time a new sector is allocated resulting in frequent head movement and further delay. Diversi-DOS in an excellent programming technique buffers this information until the end of the SAVE. This by itself speeds up the SAVE without any degradation. A second way the File SAVE speed is improved is by reducing the disk drive motor start time down to one-half second versus the normal 1 second delay. This technique will work with about 99% of the drives on the market. Diversi-DOS comes with the default set to one second, but provides the information to decrease it to one-half second. This allows you to determine its compatibility with your drive. A third way to improve the speed is by changing the way DOS first reads in a sector and then compares the bytes with the program being changed. When you are saving a program, you do not care what was on the sector that DOS is about to write to. Eliminating this read will save time. The net result is that Diversi-DOS takes advantage of many ways to improve the speed in saving files without degradation.

The buffer routines have been significantly improved. The printer buffer has been expanded to work with more than nine

DIVERSI-DOS (TM)  
MASTER DISK - VERSION 2-C  
COPYRIGHT 1982 DSR, INC  
BY BILL BASHAM

different printer cards. Information is provided in the documentation describing how to add a printer card that is not listed. The keyboard buffer has been improved to work with more RAM cards, including the 128K cards, and has been modified so that it now partially works with program listings (CTRL-S works but CTRL-C does not). Whereas the buffer in version 1-A was not worth using, the buffer in 2-C offers considerable flexibility. One drawback is that the keyboard buffer does not work when you are using an 80-column card. As mentioned in the previous review of version 1-A, the printer buffer will disable the software features on the card. However, with 2-C Mr. Basham provides some POKEs you can do to retain the use a couple of the functions. One advantage of a software printer buffer is that it can be flushed (by CTRL-X CTRL-X) whereas the hardware buffers cannot.

The only remaining inconvenience in Diversi-DOS is with the error messages. As before, all DOS error messages have been replaced by DOS ERROR #XX, where XX corresponds to a code in the documentation. As much as I have used Diversi-DOS, I still find it necessary to refer continually to the codes. I would prefer to have the error messages displayed.

#### SUMMARY

Of all the DOS Enhancement packages reviewed in *Peelings II* to date, Diversi-DOS is the most powerful in terms of its capabilities coupled with its price. The only other DOS enhancer that

is comparable is David-DOS (reviewed in this issue) which adds a number of commands, but uses the INIT areas of DOS to do so. Diversi-DOS adds some significant features while maintaining the integrity of DOS, which makes it compatible with most unprotected software. Diversi-DOS is the only product to speed up all areas of DOS—LOAD/BLOAD, RUN/BRUN, SAVE/BSAVE, as well as the READ and WRITE of text files. Finally, the product offers considerable flexibility in being modifiable to fit the users needs. Overall, Diversi-DOS is an excellent product. □

### STOCK MARKET SOFTWARE

Increase your profits with OPTIONX™, the ultimate option analysis program for the Apple computer.

Extremely easy to use. For experienced option writers and speculators. Includes the Cleeton model and Bookstaber's extension of the Black-Scholes model. Automatic calendar, stock data base manager, recursive calculation of volatility, and much more. 65 page manual completely describes the program and the equations used. Requires DOS 3.3 and 48K.

Send \$145.00 for the program and manual. Return for full refund in 15 days if not satisfied.

Request free brochure describing OPTIONX™ and other sophisticated stock market software.

Crawford Data Systems  
P.O. Box 3000 - 561F  
Camarillo, CA 93011  
(805) 484-4159

CA residents please add 6% tax.



**Scooter's Ø-Force external socket saves wear and tear on computers and game ports**

Computer game port access can be a real pain with opening the computer every time and risking damage to fragile plug pins on joy sticks and paddles.

But Scooter's Ø-Force X-Port turns game port access into a real joy. Even repeated insertions of delicate game accessory plug pins are no problem with Scooter's high quality Ø-Force insertion socket. And Scooter's 3-foot cable allows the game port access to be re-located and easily mounted in a convenient user location.

So start making computer games a real joy with Scooter's Ø-Force X-Port and let the Ø-Force be with you.

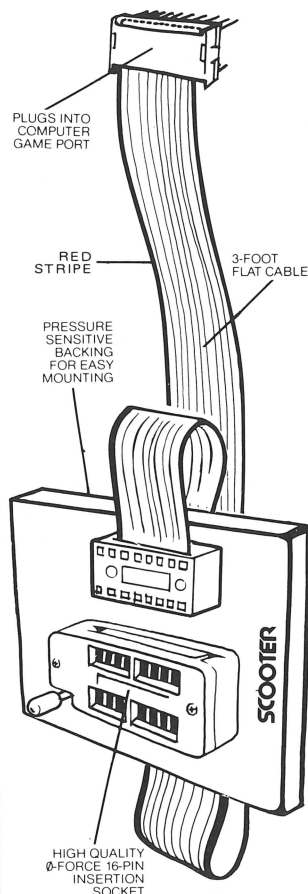
#ZFXP-3  
**\$20.00**  
(SUGGESTED RETAIL)

**Go for the green!**

**SCOOTER™**  
High Grade Electronic Components

If your favorite computer dealer doesn't have Scooter components yet, write to:  
ohm/electronics  
746 Vermont Ave.  
Palatine, IL 60067  
(312) 359-5500

**Let the Ø-Force be with you!**



- Extends game port outside computer with 3-foot cable.
- Prolongs life of game accessories with Ø-Force insertion socket.
- Mounts anywhere in seconds with pressure sensitive backing.
- Offers better performance and reliability with high grade components.

# SpeedDOS

---

by John Bridges  
SoftKey Publishing  
P.O. Box 44549  
Tacoma, WA 98444  
206-581-6038

\$19.95

Rating: B-

*Reviewed by: Monty Lee and Edward Burlbaw*

SpeedDOS has replaced HyperDOS, which was reviewed in *Peelings II*, Vol 4., No. 1. The review of HyperDOS also applies to SpeedDOS with some exceptions outlined below. All the timings for SpeedDOS are slightly slower than HyperDOS, but not significantly so. As with HyperDOS, SpeedDOS only speeds up Binary and BASIC program loading and not text files or SAVE times. The primary change with SpeedDOS is the addition of an option to place the 'speed' routine in the INIT area of DOS instead of lowering the buffers of DOS. The HyperDOS review stated that SoftKey would be releasing this SpeedDOS for the readers of *Hardcore*. This update was indeed provided in the *Hardcore Update 3.2* issue. There is no difference between the commercial product and the magazine listing. In fact, SoftKey has indicated their intention to discontinue the commercial sale

of SpeedDOS which was originally intended as part of a promotional campaign for *Hardcore Computing*. Consequently, users desiring to purchase SpeedDOS either need to obtain back issues of *Hardcore* from SoftKey or purchase disk #3 from the SoftKey library (unlocked). This means that future purchasers will actually be getting more than just SpeedDOS for \$19.95, which makes SpeedDOS the least expensive DOS enhancer reviewed to date.

The documentation is now one 8 1/2 by 11 inch printed page with only half of the material dealing with SpeedDOS operation. Since the product is so simple to use and does not patch DOS (except the INIT area if selected), further documentation is not needed. Unfortunately, the documentation claims a speed increase of 500%, which the timing table does not support. In fact, SpeedDOS corrects a bug that HyperDOS had, and in doing so, is actually slower than indicated by the initial figures.

The problem of overwriting HyperDOS with binary programs that reside just below DOS (like GPLE) has been eliminated with SpeedDOS by the ability to place the routine in the INIT area. If this is not a factor, you can still select to move the DOS buffer down.

SpeedDOS is relatively inexpensive — free to *Hardcore* subscribers, and one of several programs to those who purchase it. It is simple to use. The commercial product comes with the source code formatted for both the S-C and Big Mac assemblers. However, compared to the other DOS enhancers, SpeedDOS does the least, and thus the low rating. □

---

## PIG-DOS 2.0

---

W. Wolfgram & D. Kenny  
Big Pig Software Company  
20152 Viva Circle  
Huntington Beach, CA 92646

\$19.95

Rating: B

*Reviewed by: Monty Lee & Edward Burlbaw*

### INTRODUCTION

PIG-DOS is another DOS enhancement package designed to give you up to three times faster disk access. You are also given a free sector count every time you catalog plus the ability to 'HIDE' files on your disk with a new DOS command.

### DOCUMENTATION

PIG-DOS comes with a four page, 5 1/2 x 8 inch pamphlet plus a small insert sheet updating the documentation for version 2.0. As far as operation goes, the documentation is complete.

Unfortunately, there is no information given on the actual areas of DOS that PIG-DOS changes. The only inference is a comment that "we had to disable the INIT command." No other information is given indicating what other areas have been modified and to what extent, particularly the CATALOG area of DOS. For simple updating of disks, this information is not necessary, but for those users who have made other modifications to DOS, this information is essential. In addition, the documentation is in error or misleading about a couple of points. For example, it states that "fast saves are unreliable." This is not universally true since SAVES can be speeded up and still be just as reliable as normal DOS (see *Diversi-DOS* review). Also, the material states that no "trick" track/sector skewing is used. The implication is that using sector skewing complicates the ease of use and this is not so.

### OPERATION

To use PIG-DOS, just boot the unprotected master disk. You will be asked for the greeting program name, followed by the type of file (Binary, BASIC, or Text). Upon insertion of an initialized disk, PIG-DOS will modify the DOS on the disk. If the disk does not have a DOS on it, PIG-DOS will still write to the

# HUNTINGTON COMPUTING



**THE HUNTINGTON GANG** won't hold you up with high prices. We try to offer you the largest selection in the country at discount prices. Left to right, back row: Danny Huntington, Angela Huntington, Fred Huntington; front row: Barb Huntington (holding Dale Huntington) and Melody Huntington.

## SOFTLIGHTS

By Fred Huntington

There are so many new products to tell about that it's hard to know where to begin. Just remember, if its available for Apple or Atari, chances are we either have it in stock or can get it for you.

### NEW ATARI STUFF

Play Bingo on the Atari for only **\$9.94** cassette (#1580) or disk for **\$12.94** (#1581). The new In-Home keyboard (#1215) for the Atari 400 is a class piece of hardware on sale for **\$99.44**.

Synapse still is our top-selling company for Atari software. Slime, Claim Jumper, Picnic Paranoia, and Raptilian are just a few of those available for **\$29.64** on either cassette or disk.

### CLASS ACT: PENGUINE SOFTWARE

We always thought that Penguin Software was among the top available. Their graphics software is absolutely tops. If you read my article in the March **inCider**, you know what I think of high prices of software. Well, my friends at Penguin have done something about those high prices. They have dropped the prices of all their games to **\$19.95**. In addition they've taken some already good games and improved upon them. More for less! To celebrate, we're offering the following specials: #1756 Transylvania, #1761 Spy's Demise, and #1760 Pie Man all for **\$14.99** each! All are excellent games.

### A LEGEND IN THEIR OWN TIME

Legend makes some terrific memory expansion boards for the Apple

II - . We have special sale prices on their 64K and 128K boards. I have a 128K board in my personal computer and think it's great.

Apple Flasher is a nifty little program that allows you to present an Apple slide show. It's gotten great reviews and only costs **\$33.89**.

### EDUCATIONAL SOFTWARE

We have more educational software than anybody in the country that we know of. Schools: we will take your purchase orders if prepaid, COD, or if you agree to pay the full list price.

Take a look at the Special Learning Ed Software by Sled for spelling (four disks). List price \$230. — on sale for **\$179**.

Our best special of the month: Terrapin (#9140) LOGO on sale for **\$99**. All PAL software available.

Here's a super program from Avon/Camelot: A Kid's Guide to BASIC Programming BASIC FUN — only **\$2.25**. A great book.

Then there's Micro Mother Goose for 3-9 year olds (not copy protected) for **\$33.89**.

Finally check out the Apple II - Reference guide by Nano for **\$4.49**. It's a card that has most of the things you'll ever need to know about your Apple — for beginning and advanced programmers.

**All the top 30 always available  
at 15% discount**

## HUNTINGTON COMPUTING

Post Office Box 1297  
Corcoran, California 93212

Foreign Orders 209-992-4481  
In California 800-692-4146

Apple is a registered trademark of Apple Computer, Inc.  
Pet is a registered trademark of Commodore.  
TRS-80 is a registered trademark of Tandy Corp.  
Atari is a registered trademark of Atari, Inc.

Outside Calif. 800-344-5106

We take MasterCard, American Express or VISA (include card # and expiration date). California residents add 6% tax. Include \$2.00 for postage. Foreign and hardware extra. Foreign (excluding Canada) remit U.S. currency, checks on U.S. banks, use listed charge cards, or make direct wire transfers through Security Pacific Bank, Corcoran, for a \$6.00 charge. All overseas orders shipped by air. Send for free catalog. Prices subject to change without notice.

disk (overwriting information on tracks 1-2), but it still will not boot. Error checking is nonexistent. If you enter a null for the greeting program (i.e. a carriage return), PIG-DOS will accept it, create a blank for the HELLO program, resulting in a FILE NOT FOUND error when the disk is booted. Additionally, if you select the wrong file type for the program on the disk, you'll have to redo the update. Once the update is complete, you can update more disks or PIG-DOS will re-boot the current disk. Thereafter, all disk operations are normal with the exception of the INIT command. The HIDE feature replaces the INIT command. You can hide programs in the disk's CATALOG by typing HIDE (filename). The program is still there but is not shown in the CATALOG. To make the program visible again, just type HIDE (filename) again. Thus, HIDE becomes a DOS command which toggles files in and out of the CATALOG.

The only other significant change is in the CATALOG command itself. PIG-DOS allows the user to break out of very long CATALOG scrolls by pressing the RETURN key at the CATALOG pause point. Pressing any other key scrolls the CATALOG as before. PIG-DOS comes with two different CATALOG routines. The first and default CATALOG does a screen clear and then shows the free sector count and volume number on the top line followed by the CATALOG of programs. The second CATALOG is activated by a CALL and results in a normal Apple CATALOG. The purpose of two CATALOGs is

to ensure proper operation of some programs such as automatic menu programs. Occasionally, the free-sector count display causes programs to bomb. Another problem is an incompatibility of the PIG-DOS CATALOG with some 80-column screens. Unless HOME clears the 80-column screen, the CATALOG will overwrite any information on the screen. This can be fixed by modifying the JSR \$FC58 at \$ADA8 with three NOPs (EA), but this information is not provided in the documentation.

Operation of the speed routines in PIG-DOS is transparent. Just RUN/BRUN or LOAD/BLOAD your programs as before. The speeds associated with these functions are detailed in the summary table included with these reviews. PIG-DOS does not affect text file operations or SAVE/BSAVE speeds. Not mentioned in the documentation, but discussed with the authors is PIG-DOS' compatibility with many hard-disk systems. Grey Matter has licensed PIG-DOS for its operating system.

### SUMMARY

According to the authors, PIG-DOS was designed as a simple, very inexpensive, easy-to-use DOS enhancement package. PIG-DOS meets all these criteria. It is inexpensive, one of the lowest-priced packages reviewed, and it is indeed easy to use, barring the problems indicated above. If the intent of the user is merely to just speed up the RUN/BRUN of programs without requiring information on patched areas or needing to affect SAVE of text file times, then PIG-DOS is satisfactory. □

## DOS ENHANCERS COMPARISON CHART

(all times in seconds)	LOCKED	FAST BOOT RAM CARD NORMAL/LOAD	INIT DISABLED	FREE SPACE	FP BASIC PROGRAM (59 SECTORS) LOAD/BSAVE	BINARY PROGRAM (114 SECTORS) BLOAD/BSAVE	HIRES PICTURE (34 SECTORS) BLOAD/SAVE	SEQUENTIAL TEXT FILE (58 SECTORS) READ/WRITE	FID BRUN
Normal DOS 3.3	No	No 3.5/17.3	No	No	15.5/22.0	29.3/41.0	9.5/14.9	49.0/51.0	6.6
David-DOS \$39.95 Rating: AA	No	No 4.2/6.3	Yes	Optional	4.7/20.8	7.1/39.4	4.1/13.0	5.3/—	4.0
Diversi-DOS Version 2-C \$30.00 Rating: AA	No	No	No	Optional	3.5/5.0	6.0/8.0	3.0/4.0	15.0/19.0	2.0
The DOS Enhancer \$69.95 Rating: AA	Yes/No	Yes 3.4/6.5	No	Yes	4.5/8.9	7.2/14.2	3.6/5.6	—/—	2.6
Pig-DOS \$19.95 Rating: B	No	No	Yes	Optional	4.0/—	7.0/—	4.0/—	—/—	3.5
ProntoDOS \$29.50 Rating: A+	No	No 4.5/8.3	No	No	4.7/7.6	6.7/13.0	3.5/6.6	—/—	3.0
SpeedDOS \$19.95 Rating: B-	No	No	Selectable	No	4.5/—	7.5/—	4.5/—	—/—	3.5
Turbocharger \$29.95 Rating: B+	No	No 3.5/17.3	Yes	Yes	4.8/—	6.8/—	3.5/—	—/—	3.0
Ultra Fast Loader \$29.95 Rating: B-	No	Yes 3.8/4.4	No	Yes but wrong	4.7/—	8.8/—	4.1/—	—/—	3.5



# Apple Mechanic

by Bert Kersey  
Beagle Bros  
4315 Sierra Vista  
San Diego, CA 92103  
619-296-6400

\$29.50

Rating: B+

*Reviewed by: Monty Lee & John Martellaro*

## INTRODUCTION

Apple Mechanic is a collection of various unlocked Apple-soft programs that are really independent of each other. Included in the collection is a shape table editor, character editor, a program which allows you to type characters on the HIRES screen, a byte zap utility, and a miscellaneous assortment of other programs. Since many of the programs deal in some way with graphics, you might consider this a HIRES utility package. Common to all Beagle Bros products, an Apple tip book is included along with the PEEKS & POKES wall chart.

## DOCUMENTATION

The documentation consists of a sixty page 5½ by 8½ inch booklet accompanied by a two-sided key chart for you to place above your keyboard as a reference to the commands of the various programs. The first twenty pages of the booklet consist of various tips and hints for the user. Some are worthless or funny, but many provide excellent insights into programming. The tips are consistent with the quality of the previous Beagle Bros tip books.

The remaining forty pages deal with the operation of the programs on the Apple Mechanic diskette. The documentation is excellent, and the material presented is complete and follows a clear, logical order in presenting the operation of each program. Each details a program in the same order as found on the disk, making a stepwise experimentation with the programs easy to do. In addition, preliminary information on the underlying basis for the program is given in many instances. For example, there are four pages of advanced programming information on shape tables and memory mapping.

Furthermore, the documentation presents occasional figures and pictures that help you understand how to use a program as well as what a given display would look like. Each option within a program is discussed so that there are no surprises when running a program. Finally, there are programs on the disk that demonstrate some of the various features of the programs and provide additional information and documentation relating to the program. All the features combine to make for excellent documentation.

**Volume 4, Number 3, 1983**

## OPERATION

The boot-up menu displays the following items.

APPLE MECHANIC	
<hr/>	
(C) 1982, BERT KERSEY, BEAGLE BROS	
<hr/>	
A	SEE GREETINGS DEMO
B	SEE SHAPE TABLE DEMO
C	SEE HI-WRITER DEMO
D	SEE FONT SAMPLES
<hr/>	
E	RUN SHAPE EDITOR
F	RUN FONT EDITOR
G	RUN BYTE ZAP
H	RUN SONG SUBROUTINES
I	RUN TEXT TRICKS
J	RUN TWO-LINERS
<hr/>	
K	SEE NOTES ABOUT THIS DISK
<hr/>	
L	CATALOG
Q	QUIT
SELECT: 8/12/82	

Options A-D execute demo programs that will give you an insight into the purpose and application of the various programs. Jumping down the options for a moment, Option H will run a program that plays a short collection of songs. Instructions are also presented on how to use the song subroutines within your own programs. Option I runs some text screen gimmicks, similar to some of the Apple tips. Similarly, Option J runs a collection of two-line programs that Beagle Bros has been collecting. Option K provides additional documentation and some errata on the programs. Options L and Q are self explanatory. These options just discussed are secondary to the other three options, detailed below.

## OPTION E - SHAPE EDITOR

The Shape editor provides the following commands.

- 1: EDIT a shape
- 2: SAVE existing shapes
- 3: LOAD new shapes
- 4: CATALOG disk
- 5: DRIVE/SLOT change
- 6: DISPLAY shapes

You can usually 'escape' to this part of the program by pressing the ESC key, a nice feature that helps prevent catastrophic errors. At this point you can either select Option 1 to create shapes from scratch or Option 3 to LOAD a shape table from disk. Only shape tables created by the shape editor can be loaded. Shape tables created from other programs are not compatible with the shape editor.

EDITing a shape is done with the keyboard. Selecting Option 1 will prompt you to choose which shape to edit. Using the right or left arrow key, you can move among each shape until you get to the desired shape to edit. An alternative way to select a shape is to type the shape number you want. Once the shape is selected you will see two rectangles on the screen and a flashing cursor. The cursor is moved by using the arrow keys for right and left and the A and Z keys for up and down. You will be creating a shape in a magnified version (3 times actual size) by moving this cursor inside the larger rectangle. Simultaneously, you will see the shape plotted in actual size in the smaller rectangle.

The Space Bar toggles the cursor between plotting and moving. If the grid becomes confused from experimenting, you can type 'X' to erase and start over. Since each key stroke will in turn be translated to a byte sequence for each shape, minimizing the key strokes will minimize the number of bytes. The shape editor has an option which allows you to PRE-PLOT your shape without regard to efficiency and then trace over the sketch for your final drawing. Finally, using the IMPRINT option within the shape editor, you may imprint any existing shape on the drawing screen. Imprinting is done if you want to create a shape similar to another (for animation, perhaps) by tracing over the imprint.

Once the shape is finished, you can write the shape into a table. The main menu will reappear and you can continue to create up to twelve shapes. Option 6 will let you view each shape individually, DRAWN and XDRAWN. Once you are satisfied with all your shapes, you can select Option 2 and SAVE the table to disk.

Using the shape table is done in the same manner detailed in the Apple manuals. The documentation reiterates this information on loading the shape table, setting the shape table pointer, and using the various shapes within your Applesoft program.

SHAPE ANALYZER is another program on the Apple Mechanic disk that lets you load a shape table and analyze its individual shapes. You can see each shape with selected values for ROT, SCALE, shape- and background-HCOLOR. You can also DRAW and XDRAW and move shapes to analyze each shape's vectors. Any shape table qualifies, including those made without using the Shape Editor program. If you need help, the Key Chart references the various keys that allow you to use the Shape Analyzer. Like the Editor, keys 3-6 have the same functions. The following keys are further defined:

7: DRAW/XDRAW  
8: MOVE Shape  
9: ROT Test  
0: SCALE Test  
Colon: HCOLOR Test  
Hyphen: VECTOR ANALYSIS

The 8 through Hyphen keys enter you into a temporary mode where you may adjust the selected characteristic of the shape being displayed. Using the keys, you can move your shape around in order to examine the resulting display on the screen. You can change the ROT value and the SCALE. Also, you can set the HCOLOR of both the object and the background and then perform options 7-0 to further analyze your shape. One of the purposes of this analysis is for you to examine the performances of your shape as you might expect it to per-

form in your program. In this way you can analyze the impact of various colors and the consequences when the shape is drawn. In some cases, certain colors are not compatible with others, or the shape does not display correctly if plotted on odd or certain even dots. The Shape Analyzer allows you to identify these problem areas.

The final selection is VECTOR Analysis, which will let you analyze a shape vector-by-vector. The shape table's memory location as well as the values for all the bytes are displayed. Unless you understand how shape vectors work in forming shape tables, this will probably be of little value.

The Shape Editor and Shape Analyzer are, in my opinion, the best programs on the Apple Mechanic diskette. There are a couple of problems, however, that detract from a fine utility. First, although there is some error checking, it deals primarily with the input routines and not with the actual HIRES display. If you approach the extreme borders, particularly in the Analyzer, the program will bomb from ILLEGAL QUANTITY errors. Second, the only way to exit either of these programs is to hit the RESET key. Although this latter problem may be considered minor, it does not represent sound programming techniques. Using other keys or menu options to exit would have been better.

### OPTION F - FONT EDITOR

This program is similar in concept to Shape Editor, but it is especially designed to create shape table character sets of type fonts. Each font you create consists of up to ninety-five HIRES characters which can be printed onto the HIRES screen by adding Applesoft commands to the HI-WRITER program on the Apple Mechanic diskette. An alternative way to use the fonts is to use the XTYPER program and type the characters directly onto a HIRES screen.

As the documentation clearly states, only shape fonts made with this program can be edited and used. Others may load, but they will not be compatible. Neither can they be edited. This is similar to the constraint on the shape editor. Apple Mechanic's shape table is unique, and therefore incompatible with most other Apple types. This is quite unfortunate since there are quite a few excellent programs on the market that allow you to design and use fonts. Much of the software that can use these fonts may not be able to use the Apple Mechanic's fonts. According to Beagle Bros, their shape-fonts have the distinct advantage of being proportionally spaced. An 'T', for example, doesn't need to occupy the same screen space as a 'W'. This results in neater looking print. The disadvantage of this is that the shape-fonts take up more memory and disk space than other HIRES fonts.

The Font Editor uses the same commands and keys (1-6) as the Shape Editor. When you run the program, you will see the plotting grid and the ninety-five characters currently in memory. Selecting Option 1 will allow you to EDIT any character. When EDITing, you initially have three options. First, GRID IMPRINT prints the selected character as a magnification ten blowup on the grid. This is useful for making minor changes on the character. Second is ERASE/REDRAW which erases the character from the screen so you can redraw it. The third option is SHADOW IMPRINT. This prints a 'shadow' of the character which can be used for reference or tracing purposes. Like the Shape Editor, pressing the Space Bar toggles between plot and no-plot. The arrow and A-Z keys move the cursor around. Once a font is designed, it is necessary to save it to disk via Option 2.

One way to use the character font you just created is with the XTYPER program. This program may be used to type onto the Page One HIRES screen using up to three fonts at a time.

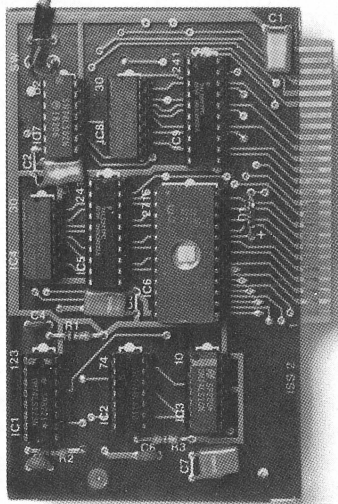
NEW FOR APPLE II

# WILDCARD™

## MAKES BACK-UP COPIES OF PROTECTED SOFTWARE QUICKLY, EASILY, WITH JUST A PUSH OF A BUTTON.

New software locking schemes have rendered even the latest generation of copy programs virtually unusable. Locksmith™, Nibbles Away™ and other "Nibble copiers" require complicated parameter settings, much patience and great effort to use. More often than not, the results are disappointing. WILDCARD is different. Rather than copying disks track by track, WILDCARD ignores the disk and any copy protection encrypted on it. Instead, WILDCARD takes a snapshot of memory in your Apple® II.

Now you can make back-up copies of protected software with the push of a button.



### Features

- Hardware copying device... push button operation.
- Copies 48K memory resident software, most 64K software.
- No programming experience or parameters necessary.
- Backs up DOS 3.2 and DOS 3.3 disks.
- Creates DOS 3.3 unprotected and autobooting disks.
- WILDCARD lives in any slot. Undetectable by software.
- Produces autobooting disk in 2 minutes.
- Copies are DOS 3.3 compatible.
- Copies become accessible for alterations.
- Simple, easy-to-use software included.

WILDCARD *Utility Disk 1* also available, featuring:

- Automatic program compression and BRUN file maker.
- Multiple programs can be placed on the same disk.
- Recreates basic files to load and save.
- Files can be placed on a hard disk.....and more.

Software is not copy protected. System requirements: Apple II Plus with 64K and DOS 3.3 or Apple IIe. Franklin Ace also supported.  
\*Wildcard does not operate with CP/M® or other microprocessor based software.

Order direct from East Side Software Co., 344 E. 63 St., Suite 14-A, New York City 10021, 212/355-2860. Please include \$3.00 for handling. Mail and phone orders may be charged to MasterCard and VISA. N.Y. State residents add sales tax. Dealer inquiries welcome.

WILDCARD \$129.95

WILDCARD *Utility Disk 1* \$30.00

**IMPORTANT NOTICE:** The WILDCARD is offered for the purpose of enabling you to make archival copies only. Under the Copyright Law you, as the owner of a copy of a computer program, are entitled to make a new copy for archival purposes only and the WILDCARD will enable you to do so. The WILDCARD is offered for no other purpose and you are not permitted to utilize it for any other use, other than that specified.

Apple II is a registered trademark of Apple Computer, Inc. CP/M is a registered trademark of Digital Research, Inc. Locksmith—trademark of Omega Microwave, Inc. Nibbles Away—trademark of Computer: applications.

Running XTYPER will first display a main menu from which you can load three fonts, CLEAR the HIRES screen, LOAD a HIRES picture, SAVE existing picture, CATALOG the disk, and QUIT the program. Pressing RETURN allows you to begin typing on the HIRES screen, but you must first load at least one font to type.

Typing with XTYPER is just like text typing with a few exceptions. After pressing RETURN, you will see a flashing rectangular cursor on the screen that corresponds to the approximate height of the current font and the current case, upper or lower. Using various arrow and CTRL keys, you can move the cursor around as desired before typing. Typing any key that would normally display a character on the Apple screen will display the corresponding character on the HIRES screen. As you type, the cursor moves to the right ready for the next key. There is no word-wrap in XTYPER so you must hit RETURN at the end of the line.

Proportional type has another disadvantage when making corrections. The documentation discusses three ways to correct a mistake. Basically, you must place the cursor directly over the character using the CTRL keys and then ERASE the character. You cannot just type over it with the correct character. While typing, you can change fonts or the typing color at any time. Once your HIRES picture is complete, you press CTRL-R to return to the menu where you can either clear the screen or save the picture.

HI-WRITER is the final HIRES program in the package. HI-WRITER is meant to be used as part of your Applesoft programs. Its function is to do 'live' printing of font characters on the HIRES screen. LISTing the HI-WRITER DEMO will provide additional insight on how to correctly program in order to display your fonts. The main subroutines are already provided in lines 90-500. To use these subroutines, you must define certain variables such as the string to print, location on the HIRES screen to print it, HCOLOR of the type, and other values, and then call the subroutines. Various options exist when printing, such as automatic centering, inverse, and flashing. Specifying ROTation will allow you to print sideways and upside down.

In all the font programs, lower case is supported, either with the "shift key mod" or with the ESC key. The execution of the font programs is not as smooth as the shape programs. First, the program is more likely to crash when printing characters near the borders. The CTRL-B (backspace/erase) is particularly prone to this. Second, writing a program to use the fonts is not quite as simple as other font programs. Specifying all the different variables does allow considerable flexibility, but makes using the fonts more complex. Since the primary goal of the whole font series is to use the fonts in your own programs, this complexity hinders their effective use.

Finally, a couple of other small utilities for using the HIRES utilities are provided. FONT SPLITTER will allow you to split fonts and thus reduce the number of characters in a font. For example, you may want to save program space by removing all the lower case letters. PAGE COPY will allow you to move images already in memory from one page to another. Apple Mechanic points out a possible programming technique in the use of 'Page 3' for HIRES pictures. Actually page 3 is the area \$6000-\$7FFF. Pictures can be stored in this area and then moved down to the actual HIRES screen as needed. The PAGE COPY that moved the Page 3 image down to Page 1 works but has some needless commands in it. It moves the Page 3 image down to Page 1, but

then moves the Page 1 image up to Page 3, a needless effort since the image was there in the first place.

## OPTION G - BYTE ZAP

This is the final program on the Apple Mechanic diskette. Its function is a track/sector editor similar to the one provided in Bag of Tricks and the Inspector, both reviewed in earlier issues of *Peelings II*. The back side of the Key Chart which you were using for the HIRES programs has the key references for Byte Zap. These keys correspond to:

- 1: Previous Sector
- 2: Select Sector READ A SECTOR
- 3: Next Sector
- 4: SCREEN Format
- 5: PRINTER Dump
- 6: CATALOG Disk
- 7: DRIVE Change
- 8: MAP of Disk
- 9: CHANGE BYTE
- 0: QUIT Program
- .: WRITE SECTOR To Disk

Running Byte Zap will result in the program first reading track 17, sector 15 (the first catalog sector) and displaying it on the screen. To read a different sector, select option 1-3. Option 4 lets you select the format for screen display, and you can select hex, decimal, ASCII, no-flash, or catalog (mixed hex and ASCII) format. Options 5-7 are self-explanatory. Option 8 will cause the program to read the VTOC at track 17, sector 0, and display a map showing which sectors on the disk are being used and which are free. Option 9 lets you change the value for a byte in memory only, and it will not be written to disk. You can enter a new value in either hex, decimal, or ASCII. If you have modified a sector as desired, then the final option '-' will WRITE that sector to disk. As the documentation states, if you are going to write data onto a diskette, make a backup copy first. A mistake could easily be fatal to the diskette.

Use of the Byte Zap program is awkward at best. Most key presses do not correspond to any mnemonic code like other utilities. The map and sector read option does not support forty tracks. To change a string of bytes on a disk is extremely cumbersome, requiring multiple key strokes for each entry, particularly if ASCII is entered. Finally, program execution is very slow, primarily since it is written in Applesoft. This is forgivable, however, in a program meant to instruct. Reading a sector and then waiting for the display to update takes about 4-5 seconds versus the 1/2 second of the Inspector. As the documentation also states, Byte Zap will not make you an expert on how a disk is formatted. Byte Zap is not for the inexperienced (unless you want to experiment), so supplemental reading of books like *Beneath Apple DOS* is essential.

## SUMMARY

For the money, Apple Mechanic has a myriad of different programs and handy hints. This disk is unlocked and the programs are primarily in Applesoft, allowing easy modification. The documentation is excellent. By far, the most powerful program is the Shape Editor. The few problem areas can be fixed since the program is in Applesoft. Unfortunately, the programs themselves are just above average.

The Font programs are good, but not nearly as powerful as others like Higher Text. The disadvantages associated with the fonts — incompatibility with other programs and fonts, difficulty in erasing, complexity in using the fonts — all detract from a potentially powerful program. If you do not have a font program or any HIRES utility packages, the combination that exists on Apple Mechanic might be useful. If, however, you already have a font package, the incompatibility will make the font addition virtually useless. It should be noted that all these HIRES utilities are designed to allow you to use shapes and HIRES text within your own programs. Thus the utility of Apple Mechanic depends primarily upon your intended use. If you are not a programmer, whether amateur or not, most of the programs on Apple Mechanic will not be useful to you.

Finally, the Byte Zap utility is slow and cumbersome to work with. If all you need is a track/sector editor, then you need to look at other products on the market and compare. If you do not have one and are buying Apple Mechanic for the HIRES utilities, then Byte Zap will be an additional utility for you to learn with.

The one overwhelming advantage to Beagle Bros' software, including Apple Mechanic, is the fact that the software is un-

locked. Most of the problems outlined in this review can be fixed with changes in a few program statements. Only the problems associated with the proportional HIRES text are not as easily solved. This factor alone makes the Beagle Bros' products stand out. Also, there are so many different programs, utilities, hints, etc. included within each Beagle Bros product that specifying an overall rating may not give any indication as to the value of the various products within. I hope the following delineation will provide a better insight. □

ITEM	Points out of 10
Documentation	9
Apple Tip Book & Chart	8
Shape Programs	8
Font Programs	5
Byte Zap	4
Song Subroutines	3
Text Tricks	6
Two Liners	6
Unprotected/modifiable	10

---

## TYPEFACES

---

**Bert Kersey**  
**Beagle Bros**  
**4315 Sierra Vista**  
**San Diego, CA 92103**  
**619-296-6400**

\$20.00

*Reviewed by: Monty Lee & Edward Burlbaw*

Typefaces is a supplement to the font programs on the Apple Mechanic diskette reviewed in this issue. Typefaces is a set of twenty-six new fonts for use with Apple Mechanic's Xtyper and Hi-Writer programs, plus Beagle Menu — a unique greeting program that displays only the file names you want on the screen.

The documentation with Typefaces is a four page 5 1/2 by 8 1/2 inch pamphlet that deals primarily with the Beagle Menu and shows some of the font samples on the disk. The typefaces on this disk can be viewed by running a program called FONT DISPLAY. You can load in any given font and examine it. The twenty-six fonts include Computer, Penman, Outline, Fatso, Jagged, Shadow, and others. All of the fonts are proportionally spaced. Most of the type styles are in full 96-character fonts, with all characters editable.

As for the Beagle Menu, it is a utility menu that displays only the file names you want for one-key cursor selection. This is accomplished in LINE 100 of the program where the display parameters are specified. For example, to display only Binary files, you would set B=1, and all other file types to 0. Running this

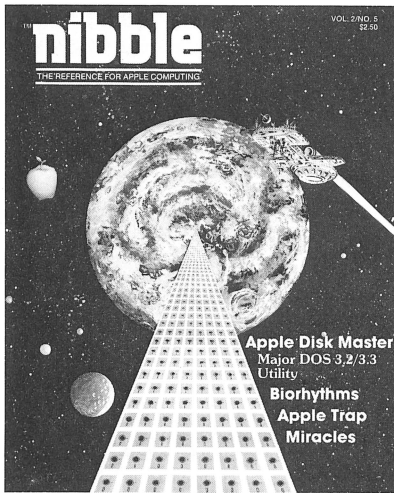
program will display on the screen only those file types allowed. The one-key cursor control allows files to be RUN/BRUN or EXECuted; you can also LOAD/BLOAD files. Pressing the 'H' key displays a HELP menu. Other features include the number of free sectors on the disk, the total number of files, and the capability to catalog other disks including those in drive 2.

Beagle Menu has several problems and limitations. First, it should not be expected to work with any non-standard DOS. For example, if you display more than the standard number of files or delete any spaces after the word CATALOG or DISK VOLUME header, it will not work properly. Special file types on the disk or the absence of any files will cause the program to hang or bomb. Another inconvenience is the very slow menu display. To select an entry, you use the arrow keys to move a cursor up/down to the desired entry. If you move the cursor down past the last entry, it 'falls' to the bottom and reappears at the top. When it does this, it turns on the drive for no apparent reason (Removing the disk will have no affect: the drive just turns on for a second, then off).

### SUMMARY

You should consider Typefaces only if you already have Apple Mechanic and desire the extra fonts. The Beagle Menu, itself, does not justify the purchase. Since Typefaces pertains to only a specific group of consumers (owners of Apple Mechanic), a rating is inappropriate. If you do have Apple Mechanic and you plan to use the font editor and associated utilities for writing your own programs using the fonts, then Typefaces will provide you with twenty-six more fonts. □

# "NIBBLE® IS TERRIFIC" (For Your Apple)



**NIBBLE IS:** *The Reference for Apple computing!*

**NIBBLE IS:** One of the Fastest Growing Magazines in the Personal Computing Field.

**NIBBLE IS:** Providing Comprehensive, Useful and Instructive Programs for the Home, Small Business, and Entertainment.

**NIBBLE IS:** A Reference to Graphics, Games, Systems Programming Tips, Product News and Reviews, Hardware Construction Projects, and a host of other features.

**NIBBLE IS:** A magazine suitable for both the Beginner and the Advanced Programmer.

Each issue of NIBBLE features significant new Programs of Commercial Quality. Here's what some of our Readers say:

- "Certainly the best magazine on the Apple II"
- "Programs remarkably easy to enter"
- "Stimulating and Informative; So much so that this is the first computer magazine I've subscribed to!"
- "Impressed with the quality and content."
- "NIBBLE IS TERRIFIC!"

*In coming issues, look for:*



- Stocks and Commodities Charting
- Assembly Language Programming Column
- Pascal Programming Column
- Data Base Programs for Home and Business
- Personal Investment Analysis
- Electronic Secretary for Time Management
- The GIZMO Business Simulation Game

And many many more!

NIBBLE is focused completely on the Apple Computer systems.

Buy NIBBLE through your local Apple Dealer or subscribe now with the coupon below.

**Try a NIBBLE!**

**nibble**  

We accept Master Charge & Visa

Box 325, Lincoln, MA. 01773 (617) 259-9710

**I'll try nibble!**  
**Enclosed is my \$19.95 (for 8 issues)**  
**(Outside U.S., see special note on this page.)**

check     money order

Your subscription will begin with the next issue published after receipt of your check/money order.

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

Signature \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

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

**NOTE:**

- Domestic U.S. First Class subscription rate is \$36.50
- Canada Air Mail subscription rate is \$42.50
- Outside the U.S. and Canada Air mail subscription rate is \$47.50

All payments must be in U.S. funds drawn on a U.S. bank.

©1980 by MICRO-SPARC, INC. Lincoln, Mass. 01773. All rights reserved.  
 \*Apple is a registered trademark of Apple Computer Company.

# READER REQUEST CARD

I would like to see the following  
evaluated in PEELINGS II



## SOFTWARE

- |                         |                       |                 |                  |
|-------------------------|-----------------------|-----------------|------------------|
| 1. Assemblers/Compilers | 5. Data Base Programs | 9. Utilities    | 13. Personal     |
| 2. Business & Finance   | 6. Graphics Packages  | 10. Simulations | 14. Plotters     |
| 3. Code Generators      | 7. Word Processors    | 11. Scientific  | 15. Games        |
| 4. Communications       | 8. Educational        | 12. Languages   | 16. Other: _____ |

Program Name \_\_\_\_\_ Classification No. (From List Above) \_\_\_\_\_

Publisher \_\_\_\_\_

Address \_\_\_\_\_

Program Name \_\_\_\_\_ Classification \_\_\_\_\_

Publisher \_\_\_\_\_

Address \_\_\_\_\_

## HARDWARE

Product Name \_\_\_\_\_

Manufacturer \_\_\_\_\_

Address \_\_\_\_\_

Description \_\_\_\_\_

Apple is a registered trademark of Apple Computer, Inc.

Please  Enter  Renew my subscription to PEELINGS II

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

Address \_\_\_\_\_ Apt. # \_\_\_\_\_

City \_\_\_\_\_ State/Province/Country \_\_\_\_\_ Zip Code \_\_\_\_\_

### United States

One Year \$21 (9 issues)  Two Years \$38

### Canada; Mexico; APO; FPO

One Year \$36 (9 issues)  Two Years \$68

### Foreign Rates (Remit in U.S. funds drawn on U.S. bank)

South America; Europe (air mail)  One Year \$48  Two Years \$92

All Other Countries (air mail)  One Year \$57  Two Years \$110

Check or Money Order Enclosed  Bill Me (U.S.A. Only)

Charge VISA  Charge MasterCard

Apple is a registered trademark of Apple Computer, Inc.



## SUBSCRIPTION CARD

Card Number \_\_\_\_\_ Expires \_\_\_\_\_

Signature \_\_\_\_\_

To expedite MasterCard and VISA orders dial toll free 1-800-345-8112 (1-800-662-2444 in PA)

Please  Enter  Renew my subscription to PEELINGS II

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

Address \_\_\_\_\_ Apt. # \_\_\_\_\_

City \_\_\_\_\_ State/Province/Country \_\_\_\_\_ Zip Code \_\_\_\_\_

### United States

One Year \$21 (9 issues)  Two Years \$38

### Canada; Mexico; APO; FPO

One Year \$36 (9 issues)  Two Years \$68

### Foreign Rates (Remit in U.S. funds drawn on U.S. bank)

South America; Europe (air mail)  One Year \$48  Two Years \$92

All Other Countries (air mail)  One Year \$57  Two Years \$110

Check or Money Order Enclosed  Bill Me (U.S.A. Only)

Charge VISA  Charge MasterCard

Apple is a registered trademark of Apple Computer, Inc.



## SUBSCRIPTION CARD

Card Number \_\_\_\_\_ Expires \_\_\_\_\_

Signature \_\_\_\_\_

To expedite MasterCard and VISA orders dial toll free 1-800-345-8112 (1-800-662-2444 in PA)

ng a model using the /P command). This  
er a label or a value — or the lower right hand  
sheet itself if your model is rectangular.

the VisiCalc worksheets you wish to con-  
solidated files are the result of VISIBLEND pro-  
each contain up to 6000 cells (e.g., 250 rows

ing begins, VISIBLEND asks you to specify:

h your drives are connected (e.g. '6').  
our Format file and the drive in which it is

ur Consolidated (output) file and the drive in  
ed.

to 50 Input files and the drives in which they

is — except for the fiddling you're likely to do  
le just right. This needn't be a major problem  
o perform the consolidation periodically and,  
esn't change, the Format file may be reused.

## ION

documentation is contained in a small, 11  
booklet does an adequate job explaining the  
operation, gives a short illustration, and con-  
of error messages. It could do a better job  
es for specifying Format files, however.

## E

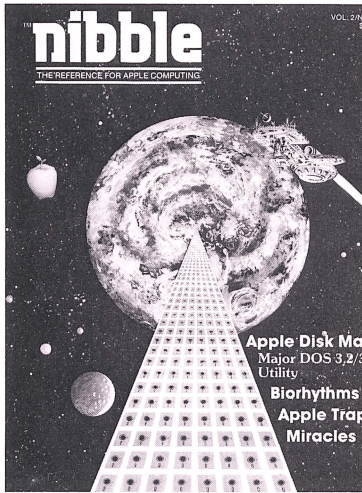
it only works with much larger models than  
ator (6000 cells vs. 4100 cells, respectively),  
much greater speed. For example, it took  
1.5 minutes to merge two worksheets con-  
cells each. Ten copies of these sheets took  
s to merge. Finally, it took 16.5 minutes to  
sheets containing 3500 cells each.

ed seems to be limited by disk access times  
of my drives operates almost continuously  
operation is under way. Perhaps a DOS  
lings II, Vol. 4, No. 1 and this issue for a  
kages) could further speed processing.

ese VISIBLEND timings, The Consolidator  
merge 12 copies of a 266-cell worksheet and  
pt to merge just two copies of a 1590-cell  
ours.

or manual recommends using a 16K RAM  
ocator program to free up memory and speed  
ever, VISIBLEND did not require either of  
ts. And, as mentioned earlier, VISIBLEND  
th VisiCalc files — not requiring creation and  
iles. This speeds up processing steps before  
e operation. VISIBLEND also provides the  
on which The Consolidator doesn't perform.  
hand, The Consolidator will allow you to  
ows and columns you wish to merge while

# "NIBBLE (For



Each issue of NIBBLE features what some of our Readers say

- "Certainly the best magazine"
- "Programs remarkably effective"
- "Stimulating and Informative"
- "subscribed to!"
- "Impressed with the quality"
- "NIBBLE IS TERRIFIC"

In coming issues, look for:

- Stocks and Commodities
- Pascal Programming Column
- Personal Investment Analysis
- The GIZMO Business Situation

And many many more!

NIBBLE is focused completely on the Apple Computer system

Buy NIBBLE through your local Apple Dealer or subscribe now using the coupon below.

**Try a NIBBLE!**

**NOTE:**

- Domestic U.S. First Class subscription rate is \$36.50
- Canada Air Mail subscription rate is \$42.50
- Outside the U.S. and Canada Air mail subscription rate is \$47.50

All payments must be in U.S. funds drawn on a U.S. bank.

©1980 by MICRO-SPARC, INC. Lincoln, Mass. 01773. All rights reserved. \*Apple is a registered trademark of Apple Computer Company.



NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES

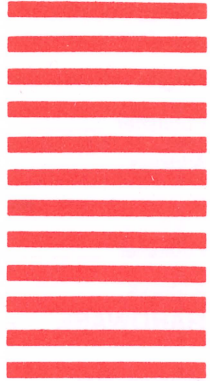
## BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 385 LAS CRUCES, N.M.

POSTAGE WILL BE PAID BY ADDRESSEE

**Peelings II**™  
THE MAGAZINE OF APPLE  
SOFTWARE AND HARDWARE EVALUATION

2260 Oleander  
Las Cruces, New Mexico 88001



NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES

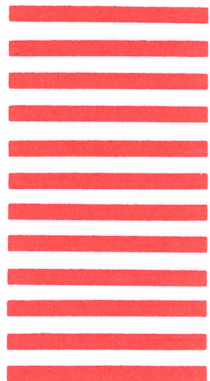
## BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 225 HOLMES, PA

POSTAGE WILL BE PAID BY ADDRESSEE

**Peelings II**™  
THE MAGAZINE OF APPLE  
SOFTWARE AND HARDWARE EVALUATION

P.O. Box 625  
Holmes, PA 19043



NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES

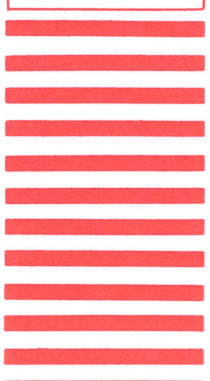
## BUSINESS REPLY MAIL

FIRST CLASS PERMIT NO. 225 HOLMES, PA

POSTAGE WILL BE PAID BY ADDRESSEE

**Peelings II**™  
THE MAGAZINE OF APPLE  
SOFTWARE AND HARDWARE EVALUATION

P.O. Box 625  
Holmes, PA 19043





# VISIBLEND

---

## Author and version unspecified

**Micro Lab**  
**2310 Skokie Valley Road**  
**Highland Park, IL 60035**

\$49.95  
Apple //e compatible

Rating: A

## Reviewed by Alan Shalette

### INTRODUCTION

Like The Consolidator from Omega Microware (reviewed in *Peelings II*, Vol. 3, No. 9), MergeCalc from Cypher and VC-Manager from Micro Decision Systems, VISIBLEND is designed to consolidate VisiCalc worksheets. For example, this need will arise if you would like to combine the results of two or more worksheets representing different organization units or time periods.

Unlike The Consolidator, VISIBLEND does this job speedily and is a considerably better solution to the problem.

### HARDWARE AND SOFTWARE REQUIREMENTS

VISIBLEND should work with almost any Apple II plus which includes 48K of RAM, Applesoft and a disk drive operating under DOS 3.3 (the manual indicates, erroneously, that two drives are required). It works with standard VisiCalc files, eliminating the need to create and convert DIF files or /PF files — intermediate steps required by The Consolidator.

### OPERATION

Operation is simple and straightforward, using three types of files:

- Format files
- Input files
- Consolidated files

Format files tell VISIBLEND how to handle the information being consolidated. They are standard VisiCalc files containing labels and formulas with all key data deleted (i.e., data which was entered, not the results of calculations). These will likely be slightly modified versions of the files you wish to consolidate.

Format files make special use of three types of labels. A 'T' in a cell instructs VISIBLEND to total the corresponding cells in the worksheets being consolidated. An 'A' tells the program to calculate an arithmetic average for data in that cell. T's and A's will usually replace your key data and the remaining information in your model will be produced with equations and labels contained in the Format file. Finally, it is necessary to place a marker at the bottom right hand corner of the Format worksheet to indicate the limit of the consolidation (similar to specifying the

bounds for printing a model using the /P command). This marker may be either a label or a value — or the lower right hand corner of the worksheet itself if your model is rectangular.

Input files are the VisiCalc worksheets you wish to consolidate and Consolidated files are the result of VISIBLEND processing. They may each contain up to 6000 cells (e.g., 250 rows X 24 columns).

Before processing begins, VISIBLEND asks you to specify:

- The slot to which your drives are connected (e.g. '6').
- The name of your Format file and the drive in which it is located.
- The name of your Consolidated (output) file and the drive in which it is located.
- The names of up to 50 Input files and the drives in which they are located.

That's all there is — except for the fiddling you're likely to do to get the Format file just right. This needn't be a major problem since you're likely to perform the consolidation periodically and, if the worksheet doesn't change, the Format file may be reused.

### DOCUMENTATION

VISIBLEND's documentation is contained in a small, 11 page booklet. The booklet does an adequate job explaining the program's simple operation, gives a short illustration, and contains descriptions of error messages. It could do a better job describing techniques for specifying Format files, however.

### PERFORMANCE

VISIBLEND not only works with much larger models than does The Consolidator (6000 cells vs. 4100 cells, respectively), it does so with much greater speed. For example, it took VISIBLEND just 6.5 minutes to merge two worksheets containing about 2100 cells each. Ten copies of these sheets took about 14.3 minutes to merge. Finally, it took 16.5 minutes to combine two worksheets containing 3500 cells each.

Processing speed seems to be limited by disk access times since at least one of my drives operates almost continuously while the merge operation is under way. Perhaps a DOS enhancer (see *Peelings II*, Vol. 4, No. 1 and this issue for a review of such packages) could further speed processing.

In contrast to these VISIBLEND timings, The Consolidator took 16 minutes to merge 12 copies of a 266-cell worksheet and I aborted an attempt to merge just two copies of a 1590-cell worksheet after 3 hours.

The Consolidator manual recommends using a 16K RAM card and a DOS relocater program to free up memory and speed up processing. However, VISIBLEND did not require either of these enhancements. And, as mentioned earlier, VISIBLEND will work directly with VisiCalc files — not requiring creation and conversion of DIF files. This speeds up processing steps before and after the merge operation. VISIBLEND also provides the averaging ('A') option which The Consolidator doesn't perform.

On the other hand, The Consolidator will allow you to designate specific rows and columns you wish to merge while

VISIBLEND will only work with entire sheets. The Consolidator will also allow you to relocate worksheet contents, but VISIBLEND puts everything back where it came from. While interesting tricks, these two capabilities do not make The Consolidator a more valuable tool — especially, when considering the incredible amounts of time required for it to do its basic consolidation job.

VISIBLEND's input specification handling could be significantly improved by storing consolidation specifications for reuse. To illustrate, let's say you want to consolidate 12 sheets and, on entering the 10th file name, you realize the name you put in for number 9 was wrong. It's unfortunate that you'd need to abort the input process (hit the ESC key) and start all over again. The only protection VISIBLEND offers in this area is that each file you name must be in the catalog of the disk you specified or you'll get an error message and a chance to repeat the entry. It's also unfortunate that VISIBLEND won't let you read the catalog of a disk in case you forget the exact spelling of

a file name. And, since it's likely that some types of consolidations are likely to be repeated using the same sets of file specifications, an ability to store, recall, review and update specification sets would be valued.

One final glitch is worth noting. While the post-merge menu asks whether you'd like to do another consolidation and will rerun the program smoothly, if you indicate you'd like to terminate processing, you get unceremoniously dumped into the monitor accompanied by a "\*" prompt.

## CONCLUSIONS

VISIBLEND is a solid performer, is leagues ahead of The Consolidator in processing speed and should be a worthy acquisition for those of you who need to consolidate VisiCalc worksheets. The 'Visi-Sea' is rich with 'merge-fish', however, and other consolidation packages might also be worth investigating if you're looking for the ultimate consolidation system. □

---

# STORY MACHINE

---

**Spinnaker Software Corporation**  
**215 First Street**  
**Cambridge, Massachusetts 02142**  
**617-868-4700**

Rating: C

\$34.95

*Reviewed by Larry Ross*

## INTRODUCTION

*Story Machine* is an educational program which allows the user to type sentences on the screen using a supplied list of words. The sentences are then animated with sound accompanying the actions. The story can be saved to disk for future use. Spinnaker recommends this program for children ages 5-9.

## DOCUMENTATION

The documentation is quite complete. A small pamphlet accompanies the program, detailing each step of its operation. A handy "Story Machine Dictionary", which is the word list, is available on a special card. The do's and don'ts of the program are listed on another card called "The Story Machine Quick Reference Card."

## THE PROGRAM

*Story Machine* allows the user to create sentences, paragraphs, and stories by using a word list contained on the disk. Spinnaker calls this the "dictionary." The user may only use these words when creating sentences. Sentences must follow these rules:

1. Begin each sentence with an article, pronoun or adjective.
2. Use present tense verbs.
3. A period or prepositional phrase must follow a verb.

As the sentences are formed, characters and objects are displayed on the screen and "act out" the sentences. There are other rules associated with the "acting out" of a sentence. They are:

1. Only 4 "actors" may be on the screen in a story. If more appear then the prompt "TOO MANY ACTORS" appears on the screen.

2. Actors cannot be too close to each other or an act cannot occur.

Spelling must be correctly entered or the entire word is erased. Also, mistakes in grammar will be erased. In addition to this, a sentence must fit exactly on a story line or the last word will be erased as well.

After stories have been successfully written, they are saved to a story disk the user supplies. The disk is prepared by using a special feature on the program. Approximately 15 stories may be stored on each story disk. These stories may be recalled at a later time and the action may be viewed as the story is written.

## EVALUATION

The creators of *Story Machine* had an excellent idea when they created this program. Think of it, a program that will allow the child to write a story and see it animated on the screen! Unfortunately it doesn't work this smoothly. There are just too many frustrations for a child to encounter, as detailed above in the listing of rules.

By its very nature, the computer needs rules, and the program could not function without them. There obviously needs to be a limited vocabulary and a specific order of writing sentences. But, try and explain this to a child who has the rulebook thrown at him.

The only way this program can work effectively is to have an adult or older child supervising the creation of stories. This, unfortunately, creates a dependency on another individual in order to use the program. □

# EVERYONE NEEDS A...



## UNINTERRUPTABLE POWER SOURCE

**A**DVANCED DESIGN

**N**EW RELIABILITY

**G**UARDIAN PROTECTS

**E**LECTRONIC SAFETY

**L**IFESAVER FOR DATA

**SAVE YOUR DATA  
FROM POWER OUTAGES!**

### BACKUP FOR YOUR COMPUTER, MONITOR, PRINTER AND 5 1/4" FLOPPY AND HARD DISC DRIVE

- Automatically stops annoying problems from power line interruptions and brown outs • You need standby power to save data
- Maintenance free backup power available in 115 volt or 220 volt • 50 or 60 HZ • 150 watts • Complete versatility — operate your system from a 12 volt source, i.e., automobile cigarette lighter, boat or airplane • Rugged self contained gel cell battery
- No voiding warranty — no cutting wires • Automatic audio alarm warning tone during commercial power failure or interrupt
- UL listed • FCC approved • Transient voltage suppressor gives added insurance from line voltage spikes, utilizing Zener Ray™
- Green/red LED power status indicator • Green — normal AC line power • Slow blinking red — at least 6 minutes of remaining standby power • Fast blinking red — approximately 2 minutes of remaining battery power • Solid state technology unexcelled by any UPS power unit in its class.

**RH ELECTRONICS, INC.**

COPYRIGHT © 1981 - PATENTS PENDING

566 IRELAN, BUELLTON, CA 93427

(805) 688-2047

### SEE YOUR RH ELECTRONICS PRODUCTS DEALER

#### FOR YOUR APPLE II\*:

SUPER FAN II™	\$ 74.95
SUPER FAN II™/ZENER RAY™	\$109.00
SUPER RAM II™	\$125.00
RH 12 VOLT TRANSVERTER	\$149.00

#### FOR MICRO COMPUTERS:

GUARDIAN ANGEL™	\$595.00
-----------------	----------

# PIE: Writer

The best microcomputer word processor any money can buy.

**Thousands of dollars worth of word processing performance for just \$149.95**

## Who's saying that?

Arthur Naiman, for one, in the "Word Processing Buyer's Guide" to be published soon by McGraw-Hill.

In his definitive study, Naiman compared 14 major word processing products—and PIE:Writer was among the top three. Its nearest neighbors were dedicated word processors which cost from \$13,500 to

\$15,000. (See a portion of the study results below.) Yet PIE:Writer can be part of your personal computer system for just \$149.95!

So now your business or home microcomputer can have capabilities equivalent to the industry's top machines. Naiman says:

**"PIE:Writer, running on a humble Apple II, out-scored every other word processing program for microcomputers . . . (It crams an incredible amount of power into a small (23½ K) and inexpensive package . . . PIE:Writer beat four out of six dedicated word processors."**

No other microcomputer word processor earned the ranking that PIE:Writer did. PIE:Writer can make your personal computer into a word processing whiz.

## That's not all.

PIE:Writer has been steadily collecting honors from experts throughout the industry for its all-around price/performance and its many advanced user features.

When *Peelings II* magazine compared 10 micro word processors, PIE:Writer came out on top . . . again. *Peelings II* rated PIE:Writer "AA + " and defined the rating as ". . . top notch, superb." The review concluded:

**". . . a formidable contender in performance to price ratio . . . PIE:Writer is hard to beat."**

And *Interface Age* said in an in-depth review of PIE:Writer's current version:

**". . . much has been gained in this update to a time-tested classic."**

	Operating system(s) and/or machine(s)	Price	Overall Score
CPT 8100	dedicated word processor *	\$15,000	94 <sup>3</sup> / <sub>4</sub>
Dictaphone Dual Disp.	dedicated word processor *	\$13,500	85 <sup>1</sup> / <sub>4</sub>
<b>PIE:Writer:</b>	<b>Apple II, IBM PC</b>	<b>\$149.95 \$199.95</b>	<b>84<sup>1</sup>/<sub>4</sub></b>
A.B. Dick Magna SL	dedicated word processor *	\$14,500	83
Write	CP/M†	\$400	82 <sup>1</sup> / <sub>4</sub>

\*Includes word processing hardware & multistation support.

†Requires additional CP/M Hardware for your personal computer (\$200-600 extra)

CP/M is a registered trademark of Digital Research \*VisiCalc © is a registered trademark of VISIcorp

## Why the experts love PIE:Writer.

Why all the fuss?

Here are some of the features reviewers chose as the basis for PIE:Writer's excellent performance, and the reasons why you should choose PIE:Writer:

PIE:Writer is fast in executing functions such as search, scroll, page up and down.

PIE:Writer is easy to learn, with an excellent new set of user documentation.

PIE:Writer is copyable to back-up disks.

PIE:Writer can edit either text or programming code.

PIE:Writer is compatible with a wide range of hardware.

And reviewers note that PIE:Writer has refined the most sought-after editing features:

- ✓ wrap/columnar option
- ✓ text marking
- ✓ global word search & replace
- ✓ custom form letters and mailing lists
- ✓ justify right and left
- ✓ status display
- ✓ save or insert text from another file
- ✓ control page breaks
- ✓ cut and paste
- ✓ "Help" screen
- ✓ forward & backward page scrolling
- ✓ automatic centering
- ✓ full format control
- ✓ control page numbering, bottom and top headers
- ✓ underlining
- ✓ tabbing by word or moveable marks

## You'll love PIE:Writer too.

You'll find everything you need in PIE:Writer. Whatever you write will be easier to do: reports, letters, books and articles, memos and personal notes. Use PIE:Writer with a 40 or 80 column set-up, lower case adapters, hard disks, modems or shift-key modifiers. PIE:Writer works with spelling checkers, Visi Calc\* files and can edit program source files.

PIE:Writer gives you efficiency and capabilities far beyond other word processors. You can save valuable time and be more creative with all your documents. And PIE:Writer is an easy transition for typists as well as writers and managers.

You'll be using PIE:Writer the day you install it on your personal computer. Just a few moments with its built-in training lessons and you're up and running.

The experts use words like "powerful," "clean," "formidable" and "graceful" to describe PIE:Writer. But don't take their words for it. Try PIE:Writer yourself and enjoy the ease and excitement of the top-ranked word processor.

## The Hayden Advantage.

There's another significant reason to love PIE:Writer: it's backed by Hayden Software, a company with the experience and resources to provide solid products; thorough, user-friendly documentation; and full technical support.

PIE:Writer is part of Hayden's growing "Personal Information Environment" family of software products. The PIE family also includes PIE:Speller, a 20,000 word dictionary spelling checker with a user-defined component. And PIE:Communications, which turns your personal computer into a communications center by letting you send and receive text between your computer and others.

Together with Hayden's other Professional Software products, the PIE family helps you make the most of your personal computer in any environment.

Hayden provides a full range of software for your computer, including business, entertainment, educational and technical products. Visit your local dealer and learn about the Hayden advantage.

---

**Order Number : 13409**  
**Runs on: Apple II**  
**Price: \$149.95**

**Order Number : 19922**  
**Runs on: IBM PC**  
**Price: \$199.95**

## PIE:Writer. In micro word processors, the best any money can buy.

Available at your local dealer, or call: 1-800-343-1218  
(In Mass., call 617-937-0200)

**HAYDEN SOFTWARE**

# BUMBLE GAMES

The Learning Co.  
4370 Alpine Road  
Portola Valley, CA 94025  
415-851-3160

Rating: A—  
\$60.00

*Reviewed by Larry Ross*

## INTRODUCTION

According to THE LEARNING CO., *BUMBLE GAMES* is an educational game program for children ages 4 to 10 which teaches the concepts of graphing positive numbers. This is accomplished using 6 games which gradually develop the concept of coordinate graphing.

## DOCUMENTATION

The documentation is complete. There is a small pamphlet detailing the various steps in the program. In addition to this, the program itself has an instructional section for each game. An option to receive instructions on the computer is given at the beginning of each game.

## THE PROGRAM

The program consists of 6 colorful games accompanied by music and graphics designed to teach coordinate graphing. The first game is called *FIND YOUR NUMBER*. It consists of a number line from 0 to 5. The object of the game is to guess which number the computer has earmarked. Help is given with arrows indicating whether the number is higher or lower than the number previously guessed. This game develops the concept of the numerical order of positive numbers from 0 to 5 on the number line.

*FIND THE BUMBLE* is the second game. A grid with the numbers 0-3 displayed vertically and the letters A-D displayed horizontally is the mainframe of this game. A creature called "The Bumble" is hiding behind one of the squares in the grid. It is up to the player to find the correct square. The player is prompted with the letter input first and the number input second. Clues are given after each guess as to the location of the correct square. This game is an introduction to graphing and coordinates are associated with spaces.

*BUTTERFLY HUNT* is the third game. This game is very similar to the preceding game, the difference being that a 5 X 5 grid is used and the object of the game is to find which square the butterfly is hiding behind. This game continues the concept taught in the previous game, expanding the size of the grid.

*VISIT FROM SPACE* is the same as the preceding game with the exception that numbers from 0-4 are used in both the horizontal and vertical axes. The object of the game is to find which square a spaceship is behind. This game continues the concept taught in the previous two games, with the introduction of numbers along both axes of the grid.

*TIC TAC TOC* is a game for two players. A tic tac toe grid is displayed and the players are required to name the coordinates on the grid. The moves alternate between players and the object

of the game is to line up 4 of the coordinates in a straight line either in a vertical, horizontal, or diagonal direction. This game introduces true coordinate graphing as points on the grid, rather than spaces.

*BUMBLE DOTS* is the final game. A grid with the numbers 0-10 are displayed along the vertical and horizontal axes. Two options are given in this game. The first option is to name each coordinate for which the computer prompts you, eventually disclosing a picture which is formed as each dot is connected by the computer. The second option is to create your own pictures by naming the coordinates. The computer connects the dots to each other. This game is the final step in true coordinate graphing. It requires the correct input of coordinates, including the comma between each number in the coordinate pairs.

## EVALUATION

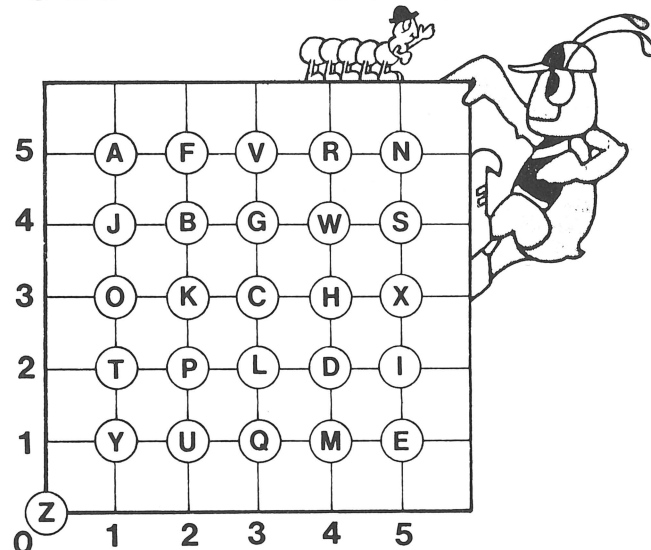
The concepts taught in this program are sound and orderly. They are taught in a step-by-step approach using appealing graphics and pleasing music, which can be turned on or off at the beginning of the program. By the end of the program, the user has a good understanding of coordinate plotting using positive numbers.

It is obvious that the philosophy used in designing this program is to make learning so enjoyable that children are excited about what they are learning. Children are intrigued by the activities which teach them coordinate graphing.

*BUMBLE GAMES* covers only positive numbers. A second program, *BUMBLE PLOT*, teaches coordinate graphing using negative numbers.

Although *BUMBLE GAMES* is recommended for children ages 4-10, 4 and 5 year olds may have some difficulty as the tasks get increasingly difficult. The program is most suited for 6-8 year olds for optimum learning. □

## SECRET MESSAGE GRID



©1982 The Learning Company. All rights reserved

# BANK STREET WRITER

by Intentional Educations, Inc  
Bank Street College of Education  
Franklin E. Smith and  
Gene Kusmiak, programmers.  
Distributed by:  
Broderbund Software  
1938 Fourth Street  
San Rafael CA 94901  
415-456-6424

\$69.95  
Apple II Plus or //e

Rating: AA

*Reviewed by: John Martellaro*

This reviewer has been looking at Apple word processors for three years. Perhaps you have been reading these reviews for three years. Don't stop now. For once I can't find much in the way of fault with a word processor, and that has to be a historical event in itself. Bank Street Writer is a first class, simple, friendly, and moderately powerful word processor. If you have a small business and are reluctant to drop a \$500 word processing behemoth on your staff, Bank Street Writer is a very workable alternative. Or, if you have a friend who has never been able to cope with the intricacies of the usual breed of word processors, and this has turned them off to computers, this program may help.

Bank Street Writer has evidently been designed as a family type of word processor. To phrase this delicately, this means that it is highly suitable for children, wives, cats, and other small, cuddly creatures who like their software sensible, straightforward, easy to use, and even fun. Seriously, Bank Street Writer is so well designed and thought out that it sets a new trend and standard for performance-to-price-ratio in word processors. In addition, it is only the second word processor I have seen which can be called fun to use. (It seems to me that a program is fun to use when it a. does a lot of work, b. does the work coherently, c. is easy to use, d. has extremely clear documentation, and e. is idiotproof and unambiguous.)

At first, I thought that I would exempt BSW from evaluation on the new draft Word Processing Standards. (These are discussed elsewhere in this issue.) Out of curiosity, I did the totals anyway. I was surprised to see how many features BSW has that many other word processors do not have. You will pay a fraction of the price of a conventional word processor, but you will get a lot more than a fraction of the power and usability.

## OPERATION

BSW has a simple but very usable command structure. It makes excellent use of the screen by not being overly ambitious about either the amount of text that can be put on the screen or scrolling speed. The screen is, in fact, partitioned off into 18 lines of 38 characters inside a rectangle. Text is entered in free form. On the top of the screen, outside the box, there are prompts. Some of these prompts are done in graphics because

BSW uses the HIRES screen as its text page. Ordinarily, the high price paid for this is a very slow screen scroll due to the mapping of the HIRES screen. BSW pays this price as well, but it is an acceptable one because of the excellent use of graphics in the prompts and the modest price of the program.

There are just two modes: Edit and Write mode. In Write mode, text is entered at the cursor which can be an underscore or a rectangle as the user chooses. The left arrow deletes the character to the left of the cursor and the right arrow deletes the character to the right of the cursor. This is a convention that I have been arguing for lately. In addition, the delete function is smart enough to back up to the previous line and continue deleting. There is word wrap. A carriage return ends a paragraph and breaks a current line apart. A delete reglues the line. There is infinite character insert with turnstile displace. (I call turnstile displace the process of shifting text on the screen like people going through the winding gates at amusement parks. Characters disappear on the right and appear on the left bumping everything down.) An ESCape changes to Edit mode. In this mode, some very basic, conventional, and mnemonic editing is done.

II Plus	//e	Action
I	up arrow	up cursor
J	left arrow	left cursor
K	right arrow	right cursor
M	down arrow	down cursor
B	B	beginning of text
E	E	end of text
U	U	scroll up 12 lines
D	D	Scroll down 12 lines

In this Edit mode, there are several functions displayed in words at the top of the screen. A graphics symbol showing a cursor quadrant indicates that the cursor keys are active. The Apple keys (/e) or the horizontal arrows (II Plus) cyclically make one of these words become inverse. Striking return activates the function. They are:

ERASE	MOVE	FIND	TRANSFER
UNERASE	MOVEBACK	REPLACE	MENU

Moving to the TRANSFER MENU is the only function that brings up another page of options:

RETRIEVE	DELETE	PRINT-DRAFT	QUIT	
SAVE	INIT	RENAME	PRINT-FINAL	CLEAR

The virtue of each of these functions is that they are all driven by very explicit prompts with full error checking. For example, the save function will detect the fact that you are saving a file by the same name as one already on the disk. It will verify your intentions. It remembers the name of your file and offers it as a default. Even leaving the drive door open during a save will result merely in a disk error message and a prompt to hit Return. If you try to quit the editor, the program will detect whether or not you have saved your text and offer you a chance to save before

returning to BASIC. The MOVE and ERASE functions, while only able to operate on 15 lines at a time, turn marked sections to inverse to highlight the text that will be acted on. These actions are prompt driven and absolutely will not allow you to perform an illegal action. You even have the chance to undo the erase and move functions, akin to the Lisa philosophy of "undoing" the last action. This is excellent program design. The program is smart enough to know that it should not search for text in an empty file. Deleting a file from disk is double prompted. All this goes very smoothly, and I could not produce an error that BSW could not handle. Nor could I get BSW to accept an answer that it did not offer as a legitimate response. ESCape always aborts a query.

Files can be password protected. If you ever forget the password(s), a utility program on the master diskette will allow you to see what they are. Another utility changes the native BSW binary files to standard text files or text files into BSW binary format. I tried this utility on a text file (this review) with 1900 words. It took nearly 6 minutes to convert it to a BSW binary file. When the program was finished, I did find some ambiguity on how to exit benignly. Once converted to binary format, the file loaded in 10 seconds. Compare this to Pie Writer loading the same binary file with standard DOS in 12.5 seconds or 5 seconds with TDE DOS.

Text can be indented with a CTRL-I which results in a graphic marker showing the indentation. The same happens with a line to be centered. CTRL-S shows the remaining memory. These are the only Control Key functions.

BSW will detect whether it is being booted on a II Plus or a //e and load the appropriate version.

I have only a few complaints about the editor. The drive number that will be used for disk saves and loads is a default value set through the configuration program. You can over-ride this default during file load or save not by the usual method, but by first typing "D2" as the file name. If this entry is valid, you get a chance to type in the real file name. I would prefer to see the excellent use of the graphics extend to indicating which drive is active so that one doesn't have to guess whether he needs to over-ride the default. If one did wish to over-ride, typing "filename,Dn" (n=1,2) would be nicer and more reasonable. This would give aid and comfort to the novice. Also, file names are limited to eight characters.

## PRINTING TEXT

When you are ready to print, you can print a draft or a final version. A draft reproduces on paper exactly the appearance on the screen. A request for a final version will entail answering a dozen or so questions, each time, about how you want the text to look. Every question is supplied with a default that can be invoked with simply a carriage return. These are:

HOW MANY CHARACTERS PER LINE? 65  
SPACING BETWEEN LINES (1-3) 1  
IS THIS A CONTINUATION OF THE  
PREVIOUS FILE (Y/N)? N  
PAGES TO BE NUMBERED (Y/N)? Y  
START AT PAGE #? 1  
NUMBERING AT TOP OR BOTTOM? B  
PAUSE BETWEEN PAGES (Y/N)? N  
EJECT LAST PAGE (Y/N)? Y  
TYPE IN PAGE HEADING, THEN RETURN  
PRINT ENTIRE FILE (Y/N)? Y

## DO YOU WANT TO SEE WHERE EACH PAGE OF TEXT WILL END (Y/N)? N

If you don't want to print the entire file, you will be prompted to move the cursor to the beginning and the end of the section you want to print. It may seem that the process of answering all these questions at each printing will be tedious, but with the ability to simply skip through, accepting the defaults with a Return, it goes very fast.

If you request to see the page breaks, the program will force you to see every one. Using ESCape returns one to the main menu and does not continue the printing routine. This may be consistent, but it was unexpected at this point.

Since there are no imbedded format commands, you will not be able to locally change the appearance of the text within the text. The above options are active for the entire printing. There is no facility to enter Control or Escape commands to be sent directly to the printer, and this severely limits the user's ability to exploit his printer. BSW is modest in its capability here.

## DOCUMENTATION

The twenty-eight page booklet supplied is 5 by 7 inches and typeset. Boldface type is used to emphasize certain commands. There is a four page combination glossary and index that explains common terms and then points to the page number where that function is discussed. The manual is short, but complete and easy to read. A computer novice will not be intimidated. Perhaps the most interesting thing about the manual is its literacy. I cannot recall having seen a document supplied with such a relatively inexpensive program with such standards for literacy, style, spelling, and grammar. I was pleased to see the correct usage of the word revert on the top of page seven.

On the reverse side of each diskette is a tutorial program that is slickly written. It uses the structure and appearance of BSW to guide the user along a series of practice operations. The tutorial is well done and will give a beginner even more confidence when first using the real editor. Unfortunately, the tutorial does not take into consideration the differences on the Apple //e. It could not, of course, because vendors privileged to have Apple //e's prior to the official announcement were bound not to reveal the operational characteristics of the new machine. It is probably not worth worrying about getting a //e version of the tutorial, however, since the differences are minor.

## CONCLUSION

Bank Street Writer is a refined product. It has features such as password protection of files, highlighted text, and insertion of a named file at the cursor that many other more expensive word processors do not have. It is screen oriented, has fairly nice global search and replace, and selective move and erase functions. It is head and shoulders above any of the more modest text processors that have previously claimed to be the "poor man's text processor." The only real objection some might have is the slowness of the screen scrolling. Of course, it is limited to modest sized documents that are conventionally printed text.

I tried all my favorite tricks that usually reveal problems in a word processor's design. This program seemed to do everything right, and I must inform you that I cannot find anything to complain about. What I liked most about Bank Street Writer was the straightforward and coherent design. This has produced a program that is easy to learn and foolproof in action. I found it delightful and fun to use. □



# NIBBLE EXPRESS Vol. 1

## TABLE OF CONTENTS

EDITORIAL ..... 3

APPLE TRAC — Personal Finance Management by Mike Harvey ..... 7

SORT 'EM OUT — Principles of Sorting by NIBBLE Staff ..... 17

PSEUDO UTO-START — Reset with CTRL Y by Rick Conroy ..... 17

INITIALIZE NEW FILES WITH ONERR GOTO by NIBBLE Staff ..... 18

MACHINE LANGUAGE SCREEN DUMP by R.M. Mottola ..... 18

FREE? DISK SECTORS by Chuck Hartley ..... 19

HI-RES SPACE MAZE — Graphics Game by NIBBLE Staff ..... 22

UN-GRAPHIC GRAPHIC PRINTING by NIBBLE Staff ..... 23

TABLE PRINTING MADE SIMPLE! by NIBBLE Staff ..... 24

DYNAMIC ARRAY DIMENSIONING by NIBBLE Staff ..... 26

BLOCKING VERY LARGE FILES by NIBBLE Staff ..... 26

LOW RESOLUTION SHAPEWRITER — High Speed Action ..... 31

SPACE ANIMATION — Add ZIP to your Games by NIBBLE Staff ..... 35

STAR ATTACK — Fast Hi-Res Conflict Game by Mike Harvey ..... 37

PADDLE READING IN ASSEMBLY LANGUAGE by NIBBLE Staff ..... 38

FIRING HI-RES MISSILES — Aiming and Control by NIBBLE Staff ..... 39

AIRBORNE BATTLE — Join the Air Force Maneuvers by NIBBLE Staff ..... 47

AUTOMATIC TEXT PAGE CONTROL by NIBBLE Staff ..... 50

WATCH OUT FOR GRAPHICS OVERFLOW by Mike Harvey ..... 50

T.O.U.C.H. — Text Processing System by Mike Harvey ..... 53

TOUCH PRINTING ELEMENTS by William Reynolds III ..... 58

TOUCH FIND AND REPLACE EDITING by William Reynolds III ..... 59

DOUBLE/TRIPLE/AND MORE OVERPRINTING by NIBBLE Staff ..... 59

ARROWS AND CONTROL CODES by NIBBLE Staff ..... 59

APPLE TRICKS — Fast DOS/Spcl Chars/Unlistables by Craig Cross ..... 60

APPLESOFT VS. INTEGER BASIC PERFORMANCE by Alexander Laird ..... 65

APPLE II — Paper Tiger Graphics by Mike Harvey ..... 69

APPLESOFT VS. INTEGER BASIC PERFORMANCE by Alexander Laird ..... 73

APPLE II FILE CONTROL by Alexander Laird ..... 77

APPLESOFT REM REMOVER by Alan D. Floeter ..... 78

FAST FORECASTING AND SALES TRENDING by Mike Harvey ..... 83

SUPERWEAVER — Hi-Res Weaving Design by Alexander Laird ..... 89

FOOTBALL — Lo-Res Grid-Iron Action by Lou Haehn ..... 93

BUILD DUAL JOYSTICKS FOR UNDER \$15.00 by NIBBLE Staff ..... 97

BUILD THE TWO TAPE CONTROL UNIT by NIBBLE Staff ..... 98

DISK BUFFER WITH EXECUTION CONTROL by NIBBLE Staff ..... 99

APPLE TRICKS — CARD EXECUTION LIST by Craig Cross ..... 101

PIP I — Personal Inventory Program on Tape by Rick Conroy ..... 103

FUN WITH ASSEMBLER — The Beeper by Craig Cross ..... 106

PIP II — PIP Goes Discoboy by Craig Cross ..... 113

PASS TO VARIABLES IN PRESENT BASIC by R.M. Mottola ..... 119

MANAGING AND MOVING DISK BUFFERS by William Reynolds III ..... 120

MONITOR EXECUTION — Basically by William Reynolds III ..... 121

AMPER-INTERPRETER — Add Print-Using and Much More by William Reynolds III ..... 123

FUN WITH ASSEMBLER — Graphics by Alexander Laird ..... 133

STRING FUNCTION FOR INTEGER BASIC by William Reynolds III ..... 135

BASIC/MACHINE LANGUAGE SUBROUTINE CREATOR by William Reynolds III ..... 135

CHR\$ FUNCTION FOR INTEGER BASIC by William Reynolds III ..... 135

FUN WITH ASSEMBLER — Alpha/Beeper by Craig Cross ..... 136

APPLE A.I.M. — Automated Intelligent Mailing by Michael Mottola ..... 139

APPLE CONCORDANCE — Track Variable and Line #'s by Rudy A. Guy ..... 147

LOW SCORE II — Strategy Game by Rudy A. Guy ..... 153

HOW TO WRITE GAMES THAT LAST by Mike Harvey ..... 157

IMPROVING THE MULTIPLE ARRAY SORT by Rick Conroy ..... 158

APPLE UPPER/LOWER CASE PRINTING by Mike Harvey ..... 159

WILL O' THE WISP — High Adventure by Mark Capella ..... 161

NIFFUM — DOS 3.3 to 3.2 Conversion by C.J. Thompson ..... 169

BLAST AWAY! — Lo-Res Shooting Gallery by Andrew Bell ..... 171

FUN WITH MONITOR — How to Enter Assembly Language by William Reynolds III ..... 174

Page

3

7

17

17

18

18

19

22

23

24

26

26

31

35

37

38

39

47

50

50

53

58

59

59

59

60

65

69

73

77

78

83

89

93

97

98

99

101

103

106

113

119

120

121

123

133

135

135

135

136

139

147

153

157

158

159

161

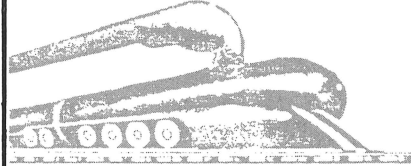
169

171

174

# nibble EXPRESS!

(for your Apple\*)



## ORDER NOW

All programs and Articles are centered on the Apple Computer family.

### NIBBLE

P.O. Box 325  
Lincoln, MA 01773

Yes! I want NIBBLE EXPRESS Vol. 1 in my library!  
Here's my  Check  Money order  
for \$12.95 plus \$1.75 postage/handling. (Outside U.S. add \$2.75 Surface Mail or \$5.00 Airmail.)

Also send me NIBBLE EXPRESS Vol. 2 at \$14.95 plus \$1.75 postage/handling. (Outside U.S. add \$2.75 Surface Mail or \$5.00 Airmail.)



Master Card & Visa Accepted

Card # \_\_\_\_\_ Expires \_\_\_\_\_  
PLEASE PRINT CLEARLY

Signature \_\_\_\_\_

Telephone \_\_\_\_\_

Name \_\_\_\_\_

Street \_\_\_\_\_

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

Your check or money order must accompany your order to qualify.

Outside U.S.: Checks must be drawn on a U.S. Bank.  
\*Apple is a registered trademark of Apple Computer Company.

# Word Processor Standards Update

---

It has now been nearly a year since the last set of standards was published for Apple II word processors. Those standards reflected the technology of the time. As time passes and new technology becomes available, the capabilities of word processors of the Apple II will continue to advance. With the Apple //e, the new hardware and keyboard will result in another generation of word processors. As a result, the standards have to change.

This slow and incremental change in the standards may be looked upon with concern by some, including myself, who take comfort in the immutable laws of the universe. But software technology changes. We all get smarter. The word processor standards of the past were valid for the software of the past. The current standards have been developed to help in evaluating software of the present. This includes the transition from the Apple II Plus to the Apple //e.

This time around, we would like to offer readers and vendors a chance to participate in this process of establishing standards. Your comments will be used to establish a final set of standards to be published later.

In this new draft, some items that were formerly considered important have been deleted. The concern over shift-key modifications, lower-case adapters, and the Apple II keyboard in general has diminished because the competition in the market place has forced most Apple word processors to meet certain criteria. Forty-column word processors are nearly extinct. Enhanced versions of DOS have eliminated disparities in file load and save times. Documentation has made great strides, but user support and installation generally have not.

To more accurately calibrate current word processors, I have expanded the categories and assigned the following relative importances:

Category	Relative Importance
Editor	40% - 475 pts
User Support	24% - 275 pts

Formatter	10% - 125 pts
File Handling	10% - 125 pts
Ease of Use	8% - 100 pts
Interfacing	8% - 100 pts
-----	
	100% 1200 pts

If the User Support Category seems large with respect to the Ease-of-Use and Interfacing categories, it is because I have chosen to place a great deal of emphasis on the copyability of the software. A small business is unlikely to place its entire economic well-being on the availability of just two uncopyable and fragile diskettes. One of the most important aspects of buying a word processor for the office is the possibility of unlimited back-up copies of the program. New word processors have recently been released that are, in fact, copyable. So it is not true that uncopyable business software is a permanent and current trend. Also, if the Ease-of-Use category seems small compared to the others, it is because a lot of "ease of use" is implied in the Editor category. The Ease-of-Use category consolidates items not covered in the Editor category.

The most notable new entries in the chart are for 1) split-screen editing, 2) load a named file at cursor, and 3) save a named file from a marked section. There is increased emphasis given to "on-screen formatting" and, as mentioned, copyable diskettes. In addition, increased emphasis has been placed on specific areas of the documentation and ease of installation. These are areas that will become more critical as the technology advances.

In some cases, relative weights have been changed to more accurately reflect the importance of certain features. We would appreciate your input concerning these relative weights. Send all your comments to:

**Peelings II**  
**Attention: Word Processor Update**  
**P.O. Box 188**  
**Las Cruces, N.M. 88004**

---

## New Word Processing Standards

---

The following is a draft proposal for a new Word Processing Standard to be used for future reviews. It has been updated to reflect changes in the word processor technology and the appearance of the Apple //e. We request that publishers, individuals, and anyone else with an interest in the matter to send us their comments and criticisms by 10 June 1983. This feedback will result in a final standard to be used in another word processor special issue.

### WORD PROCESSING CRITERIA AND WEIGHTS

---

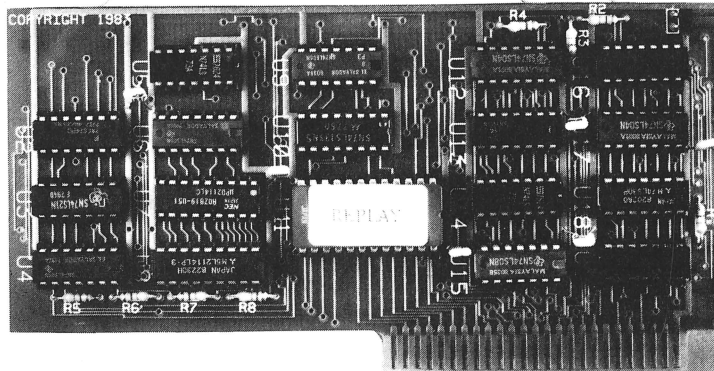
	PTS
1. EDITING	-----
Screen oriented	75
Global search and replace	55
a) initial text prompts (7)	
b) range/direction specifier (5)	

c) query Y or N at each replace (5)		Flexible page numbering	5
d) distinguish upper/lower case Y and N (5)		Schedule printing several documents	5
e) wild card search (8)			-----
f) logical/Boolean search (5)			125
g) speed of search (20)			
Scroll speed	50		
Split Screen editing	50	3. INTERFACING	
a) inspect 2 or more files (20)		Number of printers explicitly supported	(3 ea.) 24
b) buffer text across split screen (30)		Written for Apple II system vs. generic	20
On screen formatting/justification	20	80 Column boards supported	(3 ea.) 15
(Screen preview only = 10)		Available for or usable on hard disk	10
Character input speed	25	Boots on II Plus or //e	10
Speed carrying out screen commands	25	Usable with more than 2 floppy drives	7
Word wrap	13	User definable software fonts	7
a) on input (10)		Usable directly with a modem	7
b) on insert (3)			-----
Mnemonic commands	10		100
Command macros or command language	10	4. FILE HANDLING	
Clear intentions & visual feedback	10	Disk as virtual memory	30
Infinite character insert	10	Save files as std text file	20
Screen prompts for common commands	7	Disk read/write speed for files	20
File name on screen & remembered during session	7	Append/insert named file at cursor	15
Recognize "shift key mod" (II Plus)	7	Save marked section as named file	15
Command for remaining disk space	7	Read binary files	5
Command or display word count	7	Append/insert buffer at cursor	5
Detect altered file	7	Execute DOS commands from editor	5
Page buffer	7	Init/Format diskette from editor	5
Reverse screen to black on white	7		-----
Enter ESC/CRTL character in text -> printer	5		125
Maintains an index	5	5. USER SUPPORT	
Screen appearance (neat or cluttered)	5	Ease of installation	50
Vertical cursor move forces a scroll	5	Manual	
Super/subscripts on screen	5	Tutorial	10
Math mode	5	Index	10
Redefine keyboard/key assignments	5	Readability	10
Visible tab markers	5	Organization	10
Command or display file size	5	Thoroughness	10
Word tabbing	5	Quality/durability of materials	10
Row, col, page indicator	3	Value as a reference	5
Display control char	3	Quick reference card or page	5
	-----	Diskette copyable	100
	475	Warranty	20
		Extra features not listed	25
		Phone number given in manual	10
			-----
2. FORMATTING			275
Formatter & editor both memory resident	25	6. OVERALL EASE OF USE	
Print any single page or interval w/o marker	20	On Screen Help command(s) in editor	20
Spooling	10	Absence of modes	20
Hyphenation	10	Subjective impression	20
Form letter capability	7	Intelligent use of sound	10
Super/subscripts printable	7	Protection from mistakes	10
Dual column printing	6	Command structure simplicity	10
Link documents for output	5	Reliance on manual after initial use	10
Embedded Format commands easily interpreted	5		-----
Control of column material	5		100
Pause/interrupt on output	5		
Formatted file write to disk	5		
Incremental spacing	5		
Proportional spacing	5		
Include HIRES dumps with approp.			-----
hardware	5		1200
		maximum score	

# REPLAY II

## Apple Program Copy And Development System

- **Disk Formatting Irrelevant**
- **Does not interfere with other cards**
- **Card is transparent until copy is desired**
- **Copies all 64K with \*no\* compression**
- **Menu driven**
- **Copy and restart in under 15 seconds**
- **Copies memory resident programs**
- **Analyze programs**
- **Development tool**



### *Why ours is better!*

1. Accurate copy of memory
2. Language card not needed to copy or run - when using Replay Card
3. Fast copy & restart  
- 15 seconds -
4. Analysis programs and 60 pages of documentation
5. Copy system in eeprom  
- No need to boot other disks at copy time -

To order or request info:  
Write or call

**Micro-Analyst, Inc.**  
P.O. Box 15003  
Austin, TX 78761  
(512) 926-4527

*Dealer Inquiries Welcome*

Cost:  
\$150.00 [includes postage]  
Outside U.S./Canada add \$10 shipping  
Texas residents add \$7.50 sales tax  
VISA/MASTER CARD accepted!!

REPLAY II is intended to be used as an analysis tool, for program development, and for making archival backup copies.

\*Apple is a registered trademark for Apple Computers Inc.

REPLAY II is an interface card that is slot independent. Users can stop a program, examine and change memory, or copy the program, and restart. Control of the APPLE is obtained by pressing the remote switch which comes on an 18 inch cord outside the APPLE. REPLAY II does not copy the original disk, rather it copies the program executing in memory. If a copy is desired a blank disk is inserted in drive 1 and the options on the menu are contained in the eeprom on the REPLAY II card, no other disk needs to be booted for copying, unlike other copy cards. The very act of booting another disk alters memory which is detectable by some protected software.

REPLAY II does not change ANY memory. Extra memory is buffered to allow copying and analysis without altering the original memory contents. REPLAY II faithfully reproduces the lower 48K of memory in a fast load format. The upper 16K can also be copied for a 64K copy. Standard DOS 3.3 files can be created for storage on floppy or hard disks. A RAM card is needed for this.

REPLAY II is fully documented in a 60 page manual. Utility programs supplied with the REPLAY II card include Program Analysis, Comparisons, Packing, and Compression. A language card is not needed to run packed program copies. Because most programs are written in Assembly language, the user should be familiar with Assembly in order to fully utilize the advanced Analysis and Packing programs.

REPLAY II can automatically move protected APPLESOFT programs to a standard DOS 3.3 disk for listing or modification.

Now game players can save a game at any level and QUICKLY restart with the REPLAY II card. Users can freeze games, change variables to obtain unlimited ships or power, etc., then restart the program. Saving high scores is easy!

Minimum requirements are an APPLE II and a single disk drive.

# Announcing—

APPLE™

## The Best of SoftSide!

For the past four years, **SoftSide** Magazine has been bringing Apple® owners the best in BASIC software.

But now you can do even better...**The Best of SoftSide**.

From all our back issues, we've selected the most useful...the most entertaining...the most fun programs **SoftSide** has ever published. For example:

Try the world of *Quest*. See if you can successfully guide your man through a labyrinthine dungeon and snatch valuables from the evil clutches of fearsome monsters.  
Try to beat your computer at *FLIP-IT*, **SoftSide's** highly popular version of Reversi.  
While away the hours with **SoftSide's** beautiful implementation of *Solitaire* that won't let you cheat.


**PLUS...**for the practical minded:  
**Database** — **The Best of SoftSide** offers the latest, fully updated version of the *Developing Database* Program, which now takes advantage of the virtually unlimited storage of random-access files.

**Microtext** — **SoftSide's** BASIC text editor. Use it to simplify the process of composing letters and other documents, putting them down on paper, then storing them on diskette or cassette.  
**The Best of SoftSide** is available now for your Apple® computer. It contains over 190 pages of BASIC code for Adventures, Simulations, Practical Applications, and much more.  
And, to make entering these programs into your computer a breeze, **The Best of SoftSide** comes spiral bound to lie flat. Plus, each version includes **SoftSide's** own Strategic Weapon Against Typos (*S.W.A.T.*).

### Order Your Copy of The Best Of SoftSide...Today!

To order your copy of **The Best of SoftSide**, fill out the coupon below and mail it along with \$19.95 to **SoftSide**, 6 South Street, Milford, New Hampshire 03055.

But hurry! The first printing of **The Best of SoftSide** is just off the press, and orders will be processed on a "first come-first served" basis!

Please send me a copy of **The Best of SoftSide!**  PL

Name \_\_\_\_\_

Address \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

City \_\_\_\_\_

Payment Enclosed (\$19.95)  MasterCard  VISA

MC# and Interbank#/VISA# \_\_\_\_\_

Exp. Date \_\_\_\_\_ Signature \_\_\_\_\_

Each Version Contains Over 190 Pages Of Programs.

# THE COMPILER WRITER

---

*Every so often, we like to sit back, relax, and take a break from the serious business of product reviews. Sit back yourself and have fun with this one.*

by Zardak Yaga  
Zeuss Software Praxis  
1 April Street  
Fools Bend OR 97331

\$695.00

Required hardware: Two 320K drives, a printer  
Unlocked

Rating: AAA+

*Reviewed by: John Martellaro*

## INTRODUCTION

Recently *Peelings II* reviewed some BASIC program generators. These programs, as you know, ask the user a series of questions about how he wants his program to be structured and appear on the screen. The program then produces BASIC code that fulfills the desired function. The author of The Compiler Writer has carried the fundamental idea one step farther. After two years of development, there is now available the first program that writes a compiler.

## SOME BACKGROUND

Throughout the years, there has been a great deal of controversy about computer languages. It always seems as though a single language never suffices. There are feisty Forth fans, logical Logo fans, and even more apoplectic APL addicts. Each group will confidently tell you that their language is the best and that you should marry their language, forsaking all others. If writing a compiler were not such a large undertaking, perhaps there would be more languages to choose from.

Now, however, Dr. Yaga has broken through the barrier. He has written a program that, based on user inputs, writes a compiler for a language designed by the user himself. If this sounds unbelievable, remember that a program to write programs seemed unlikely just a few years ago.

Some history is in order. Dr. Yaga is a Russian defector. While at the Lebedev Institute of Computer Science in Moscow, he studied compiler theory extensively until he defected in 1978 while on a scientific exchange program at U.C.L.A. After being smuggled out of Disneyland and given a name change, he was promptly installed as a research professor at N.I.T. near Boston where he still works today. While at N.I.T., Dr. Yaga has written twenty or so compilers including the first working HAL 9000 compiler and the MASC Applesoft compiler, it is rumored, while on a weekend vacation in the Adirondacks. His students have all gained world wide recognition as N.I.T. wits.

After writing the MASC compiler, Dr. Yaga began an extensive analysis of the architecture of the 6502 and found it particularly suitable for the logic structures he used to write compilers.

He soon realized that he could undertake his most ambitious project: writing a program that would write a compiler. Incidentally, we have been told that this program was written with the Apple II mini-assembler. Now, the project has become a reality and the product is now available only through Zeuss Software.

## THEORY OF OPERATION.

It seemed to Dr. Yaga that, given the diversity of individual preferences in computer languages, that the power of a computer should be brought to bear on letting the user design his own language. The first thing the user must do is to define the elements of the language — within the limitations imposed by The Compiler Writer. When you first bring up the program, it informs you that you should have already read the extensive documentation. (More on that later.) Then, with no fussing around, the user is lead through a rather extensive series of questions. These questions involve the data typing, how many bytes are to be used for each data type, the logical structure of the language, the keywords, the I/O features and facilities, details of how the compiler will optimize, linking procedures, whether the user wants anchovies or pineapple, and the syntax of the language just to name a few. There are about two hundred such questions. Some are short and easy to answer. Others, take a little thought so as not to conflict with previous declarations. It seems like a lot of questions, and it is. If you get tired and don't want to answer all the questions, TCW will guess.

After finishing with these questions, the program runs for about an hour before it requests that the printer be turned on. (How you accomplish that is up to you.) Here is where the 320K drives become a necessity. There is a lot of virtual memory work going on and the Compiler Writer needs plenty of work space. Fortunately, I just bought two Dana Peasant IIs for an Apple IIe, and these worked very nicely. When the processing is over, the printer comes on and prints a detailed syntactical description of the language. Finally, the Compiler Writer writes a binary file to the disk that is the executable compiler for this defined language.

## EXPERIMENTAL RESULTS

My first experiment involved designing a language that was familiar to me. There are some problems with Applesoft that could use fixing, so I decided to define a language like Applesoft, but with some of the much needed improvements. I defined integers to be true 16 bit numbers for speed, gave reals 6 bytes for 12 digit accuracy, defined a full nested IF-THEN-ELSE-ENDIF structure, included Print Using, defined subroutine variables to be local and setup the argument passing. I gave variables 15 character names, all significant, and included formal file handling commands like OPEN, READ, WRITE, etc. This really wasn't too difficult to do. After about 55 minutes of execution, the Compiler Writer wrote out a 78 sector binary file which I chose to name TISC.IT. To run the compiler, you just load TISC.IT and task it. I would add here that no RUNTIME library is necessary as with many of the current Applesoft compilers. Should you need to eliminate such a file from your diskette, TCW supplies a utility called K-O-PEK.TAT.

The next job was to test the compiler. I wrote two versions of a well known program, "The Sieve Of Eratosthenes." Essentially, this program computes all the prime numbers between 1 and N. The Applesoft and the improved Applesoft programs looked like this:

```
APPLESOFT: (PROGRAM A)
5 INPUT"ENTER THE HIGHEST NUMBER";N
10 HOME: PRINT"2 3";
20 FOR B = 5 TO N STEP 2
30 FOR C = 3 TO SQR(B) STEP 2
40 IF B/C = INT(B/C) THEN 70
50 NEXT
60 PRINT B; " ";
70 NEXT B
80 PRINT CHR$(7);"END"
```

```
IMPROVED APPLESOFT: (PROGRAM B)
REAL B,C
INPUT"ENTER THE HIGHEST NUMBER";N
HOME: PRINT "2 3";
FOR B = 5 TO N BY 2,DO
  FOR C = 3 TO SQR(B) BY 2,DO
    IF B/C = INT(B/C)
      GOTO X
    OTHERWISE
      LOOP
  PRINT B;" ";
'X'
  LOOP
  PRINT CHR$(7);"END"
  STOP
END
```

The execution times were as follows for N = 1000.

Applesoft Interpreter (Program A) . . . . .	52 sec
Applesoft Compiled (TASC) . . . . .	41 sec
DIGITAL ACOUSTICS 68000 BOARD (12.5 MHz) (linked to normal Applesoft) . . . . .	20 sec
Improved Applesoft (Program B) (Compiler Writer) . . . . .	3 sec
DIGITAL ACOUSTICS 68000 BOARD (12.5 MHz) (running HALGOL) . . . . .	2 sec

As you can see, there was a significant improvement in the speed going from compiled Applesoft to the compiled version of my new language. A comparison was also made with the DIGITAL ACOUSTICS 68000 system just for the fun of it. Two things are of note. 1) Nothing beats a 68000. 2) The Compiler Writer came close.

Note here that the Compiler Writer does not write an interpreter. That would certainly be a nice addition, but Zeuss Software says that Dr. Yaga doesn't need an interpreter. The process the user most go through is to write a program with a word processor and save it as a text file. The compiler then reads the

source file, which must contain all subroutines, and produces an executable binary file. This binary file is not relocatable once it is produced. However, the start location can be specified in the compilation process. Neither is the compiler itself relocatable. Fortunately, the language specification statements are saved in a file in a fashion similar to The Last One which saves your program logic structure. All you need to do is change specific values in this language specification, re-establish the start address (and Zip code) for the compiler, and let the Compiler Writer produce a new binary file under a different name. (Use the alias function of DOS 3.4)

## DOCUMENTATION

The Compiler Writer documentation seems imposing at first. It is over 400 pages in a heavy duty ring binder. However, it turns out that the entire manual is repeated a second time in Russian, as originally written by the author. The reason for this bizarre feature is undetermined. Unlike some of the program generators, this documentation is a joy to use. It starts out explaining exactly what is expected of the user, gives friendly advice on designing a language, tunnel digging, and then goes through a complete tutorial of a language specification using Forth as an example. (Forth is discussed extensively in the documentation because the author is proud of the fact Forth was invented at the Lebedev Institute in 1965 by C. Moorovich.) The process is repeated a second time using Pascal (which the author considers a degenerate Western language). Throughout these tutorials, there are friendly hints on things to avoid and things to do when specifying a language. The manual has a trouble shooting section on how to analyze a compiler's error messages when and if a language specification has somehow become ambiguous or self contradictory.

I could only find two things to complain about after a week reviewing this package. The manual index is not alphabetized and all compiler error messages are in Russian. Aside from that, there is nothing at all to detract from the AAA+ rating.

## WARRANTY

One of the outstanding features of The Compiler Writer is its warranty. Zeuss Software promises that if your compiler should ever fail to function properly, a secret subroutine will print out on your printer a certificate good for a TU-144 flight to Moscow and hotel accommodations in the Moscow Hilton where you will be given personal tutoring by Dr. Yaga's former students. Of course, ". . . the sole responsibility for the performance of the tutors and return flight arrangements lie with the user. . . ."

In addition, if the compiled code ever fails to execute, Zeuss Software promises that they can arrange for an execution.

## CONCLUSION.

I found this product extremely easy to use. The documentation leaves nothing to chance, and you would have to have the I.Q. of a parking meter not to understand it. I was successful in creating an improved Applesoft and a less degenerate version of Pascal. In the hands of a really experienced user, there is no limit to what might be done. This program deserves a Peelings AAA+ for an outstanding achievement in computer science. The Tower of Babel may have been splintered once again, but the payoff is enormous. □

Editor's note: The timings for the Sieve of Eratosthenes program are all legitimate, except for program B!

# PINBALL CONSTRUCTION SET

by Bill Budge  
BudgeCo, Inc.  
428 Pala Avenue  
Piedmont, CA 94611  
415-658-8141

\$39.95

Rating: AA+

*Reviewed by Tom Little*

## THE FIRST SOFTWARE TOY

That's what the intriguing advertisement calls the PINBALL CONSTRUCTION SET, and having spent hours playing with it, I must concur. This is a tool for building pinball games a la RASTER BLASTER. It does only pinball games, which would be a disadvantage if Budge had not made the most of this specialization and given us something magical; the PINBALL CONSTRUCTION SET requires no programming knowledge. Really! So many software tools claim "you don't have to be a programmer to use our product" when they actually mean "you can learn how to program along the way — it's good for you." But this creation is different. Designing pinball games with the PINBALL CONSTRUCTION SET is as easy as (easier than?) playing RASTER BLASTER.

## HOW IT WORKS

You play with this toy by using icons. Icons, pictures of actions for the computer to perform, have received publicity recently in connection with the new Apple, Lisa. The PINBALL CONSTRUCTION SET has a complete set of icons arranged on the right-hand side of the screen, and the left-hand side is the pinball machine proper. Pushing the joystick moves a pointing hand around the screen. So, for example, to put a bumper in the pinball game just move the hand to the bumper icon, press the button to pick it up, then take it over and drop on the game area where you want it.

This would be a very good program even if putting predefined shapes onto the game area were all that could be done, but there is much, much more. You can actually create barriers of any shape, change the shape of the edges of the machine, paint anything in a different color all by a straightforward use of icons; no (mis-)typing! You can just about figure out how to use everything by simply playing with it, but a once-through of the manual makes it all quite easy.

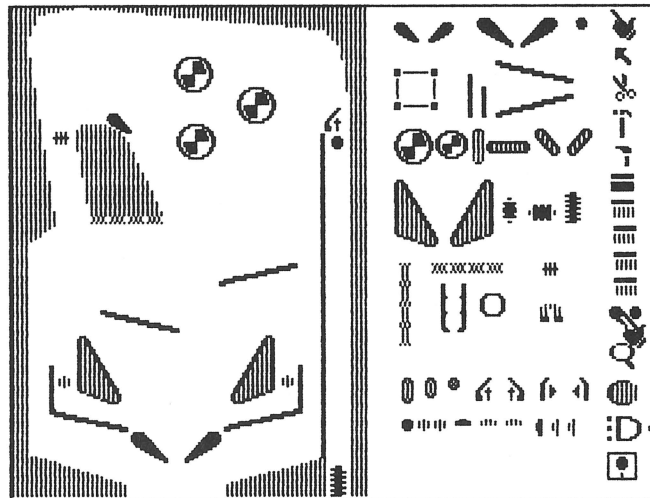
You can place flippers of different sizes all over the board, and there is a generous assortment of targets, lights, spinners, magnets, hoppers, one-way gates and other things. Then there is the snazzy stuff. You can adjust gravity and "bounciness," and speed; even select the sound effects, point value, and bonus functions of each of the objects on the board. These last things are done with the "wiring kit" icons, which include pictures of screwdrivers, AND gates, and wire cutting pliers. The AND gates are great fun (at least for those of us prone to organizing things). These allow selection of an arbitrary set of targets which activate a special bonus. There may be several of these in a single game design. There is a "magnifying glass" mode of paint-

ing, in which it is possible to change the colors of individual pixels to your heart's desire, giving your game that personal touch.

## THE FINISHED PRODUCT

When the pinball game has been designed using the PINBALL CONSTRUCTION SET, it is time to test it out. There is a "play" icon which lets you play your newly designed game. Games may be loaded or saved to a work disk (PINBALL CONSTRUCTION SET uses standard DOS files, so you don't need to specially initialize disks for it). When you're really satisfied with the game, you can save it as a self-contained B-type file, which doesn't need the master disk to run. You can copy your game to give to friends or to sell (this idea came from the manual: who would think of such a thing?).

This is a place where I found one of my few complaints about the PINBALL CONSTRUCTION SET. When you test out the game before actually making the runnable program from it, the balls don't run off the board, they just sit at the bottom of the screen and jitter. This means that if you miss the ball when you're test driving the game, you have to escape from the play mode and re-select the play icon. It would be more natural if the dead balls would just go away and you could enter new ones into play. Also, if you're not finished with a game, you must keep both the working version that can be modified by the PINBALL CONSTRUCTION SET and the playable version to play normal games. These are not big drawbacks, of course, but the rest of the program leads one to expect that life should be simpler.



## DOCUMENTATION AND GENERAL WORTHINESS

The documentation is a 12-page booklet that tells you really everything you need to know about using the PINBALL CONSTRUCTION SET. It is intelligible and has pictures. What more could be a video junkie ask for? There are sample games provided on the disk, so you can see how someone "in the know" designs a game.

A few minor imperfections include the testing/playing inconvenience described above, the fact that adding new sides to game shapes can sometimes be nearly impossible if you don't add them in order, and finally a lack of variety in sound effects.

As you can see, it required some concerted knit-picking to avoid giving this toy a AAA rating. It comes very close. The tremendous ease of use and novel style make it seem like a signpost in software development. □



# NEW APPLESOFT\* BASIC TOOLS

If you're an Apple owner—from first time user to expert programmer—there's a Hayden Applesoft BASIC product for you.

Start with our clearly documented, easy to use "How to" primer. Then move on to our two versatile toolkits. Next, discover Hayden's super-fast compiler for the software expert.

Get more from your Apple with Hayden's Applesoft Basic family. And enjoy the Hayden Advantage of great software backed by solid experience and dependable support.

---

## HOW TO PROGRAM IN APPLESOFT BASIC



An interactive, self-paced teaching program that turns any Apple owner into a capable BASIC user. You are in control throughout, absorbing material at your own speed and answering multiple-choice questions. Special help responses. Go forward, backward, quit and resume easily. The first lesson even teaches you how to use self-teaching software. The program covers a wide range of topics, from basic commands through loops, strings, arrays, and conditionals all the way to HI-RES graphics. And even a practical programming task for you to use the new skills you've acquired.

Perfect for the non-technical Apple-owner who wants to begin creating his or her own software.

CAT. NBR.: 14009

PRICE: \$49.95

---

## PROGRAMMER'S WORKSHOP



Sixty general purpose subroutines you can integrate into your BASIC programs, plus a step-by-step introduction to structured programming techniques. Subroutines include visual and sound effects, math utilities, sorting, input and output subroutines, and screen controls to enhance your programs. Use sounds such as explosion, siren, typewriter keystroke, splash, rattle, musical tones, and lots more (a must for the game writer). Video effects and screen controls include inverse banner headlines, bubble-up, pauses and more.

CAT. NBR.: 14109

PRICE: \$49.95

---

## SHAPES IN COLOR



A high-resolution graphics and animation program for virtually unlimited visual creativity. Detailed documentation makes the program accessible to beginners, with plenty of versatility to satisfy advanced users. Easy to use grid system lets you create animated figures . . . paint landscapes . . . invent an alphabet . . . combine backgrounds with moving shapes. Store your screens on disk for later use. Design original games, enhance business presentations, or just have fun!

CAT. NBR.: 13509

PRICE: \$49.95

---

## COMPILER PLUS



Compiles fast running code which uses a unique array-vector lookup technique. With its DOS relocation software, Compiler Plus lets you take advantage of additional memory provided by 16K RAM cards to compile and execute larger programs. Develop modular programs with disk overlays with Compiler Plus' ability to call compiled programs as subroutines. Recognizes the broadest range of Applesoft keywords.

CAT. NBR.: 19609

PRICE: \$99.95

---

These Applesoft Basic programs are all part of the growing family of Hayden Software, designed, built and supported by a company with the experience and resources to give you much more.

Visit your local dealer  
and learn about Hayden's full range of software,  
including entertainment, educational, accounting,  
word processing and technical products.

Available at your local dealer, or call toll free:

1-800-343-1218

(In Massachusetts, 617-937-0200)

**HAYDEN SOFTWARE**

\*Applesoft is a trademark of Apple Computer, Inc.

# REPTON

By Dan Thompson, Andy Kaluzniacki  
 Sirius Software, Inc.  
 10364 Rockingham Drive  
 Sacramento, CA 95827  
 916-366-1195

\$39.95

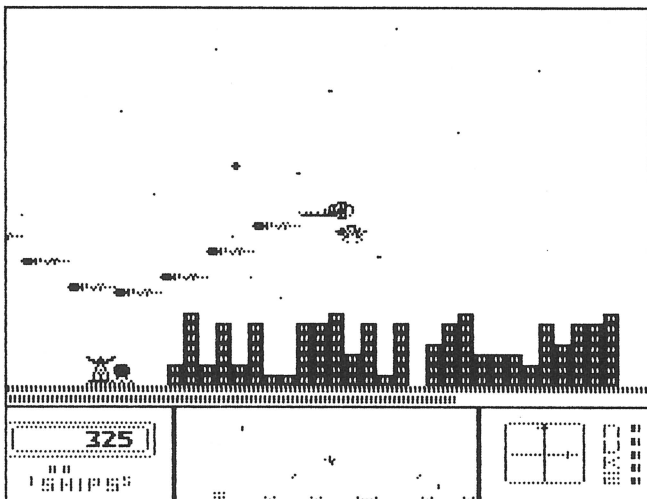
Rating: A+

*Perused by Tom Little*

REPTON is a very fast, very slick single-player game. The object is to blow away all sorts of weird spacecraft which appear above a cityscape on a planet without getting blasted yourself. If you don't get destroyed, the evil things will start building a base from the pieces of the buildings on the ground.

This game is really superb in its use of animation, resolution, and color. It stands out among Apple games as having the "arcade look". It is fast-moving and difficult. The ships you shoot at break into fragments which must be navigated around. Some special dangers include ships which suck power up through light beams (you must fly through the beam to stop them), and a line of missile launchers, which are not good to accidentally hover above.

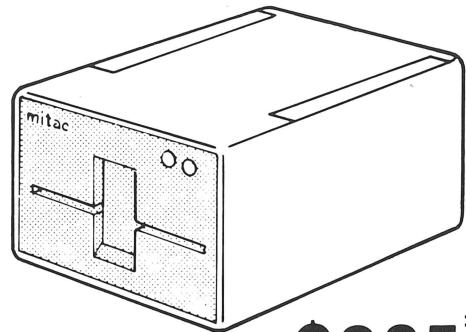
Below the main display, there is a long-distance radar, a meter telling how much energy is left in "the grid," and a chart showing how many "nukes" are left (every game needs "nukes" to spice up its arsenal!) All the instructions and point values are presented at the beginning of the game, and can be read quickly, slowly, or not at all. This is a more straightforward way of giving instructions than with printed matter.



In REPTON, one misses two player competition, and there is basically only one difficulty level. Because of the difficulty, small children will have trouble getting any satisfaction out of learning to play the game.

These things aside, REPTON is very slick and very exciting. Keep it around to show people who say "I bought a Brand X because Apple graphics aren't good enough." REPTON will keep them quiet. □

## APPLE Compatible Disk



**\$285\***  
Plus Shipping

143 K Bytes, Single Slided Standard Apple Specifications

**Modern Information Methods**

P.O. Box 3102

Fullerton, Ca 92631

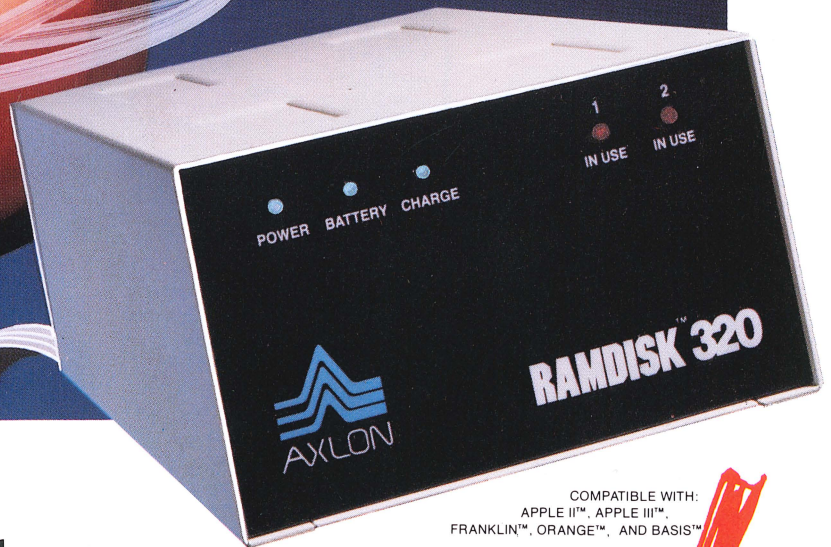
\* Calif. Residents Add 6% Payable By Check Or COD

## Advertiser Index

Apple Orchard . . . . .	16	Micro-Analyst Inc . . . . .	46
Artsci . . . . .	1	Micro-Sparc . . . . .	34,43
Axlon . . . . .	C3	Modern Information Methods . . . . .	52
Beagle Bros . . . . .	17	OHM Electronics . . . . .	25
Beaman Porter . . . . .	6	Penguin Software . . . . .	2
Crawford Data . . . . .	25	RH Electronics . . . . .	37, C2
Dark Star Systems . . . . .	21	SSM Micro Computer . . . . .	15
East Side Software . . . . .	31	Sierra On-Line . . . . .	C4
Harcourt Brace Jovanovich . . . . .	8	Softkey Publishing . . . . .	5
Hayden Software . . . . .	38,39,51	Softside . . . . .	47
Huntington Computing . . . . .	27	United Computer . . . . .	13
Interactive Microware . . . . .	23	Wildcat Computing . . . . .	11

320K bytes of RAM memory functions like two 35-track two 40-track, or one 80-track floppy drive.

# RAMDISK 320™



COMPATIBLE WITH:  
APPLE II™, APPLE III™,  
FRANKLIN™, ORANGE™, AND BASIS™

## make your apple go

Supercharge your Apple to  
go 50 times faster.

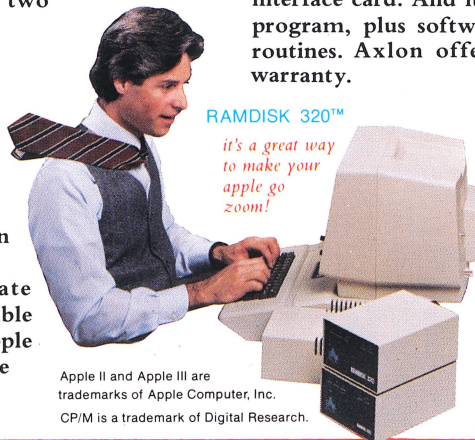
Here's a whole new way to polish up your Apple II™ or Apple III™. RAMDISK 320™ from Axlon.

Thousands of users are discovering right now how the RAMDISK 320™ can boost both memory and access speeds of their Apples. The ultrafast RAMDISK is up to 50 times faster than standard floppy drives, and 10 times faster than hard disk drives. You can easily sort two full disks in 15 seconds.

Besides faster, error-free throughput, RAMDISK 320™ is designed to save wear and tear on your floppy drives. **There are no moving parts.**

RAMDISK 320™ has its own power supply, plus three-hour battery backup. RAMDISK 320™ draws no power from your Apple, and it retains data even when the Apple is turned off.

Your RAMDISK 320™ solid-state memory add-on system is fully compatible with Apple DOS 3.3, SOS, CP/M™, Apple Pascal 1.1 and Pascal 4.0. (In fact, we'll give you these drivers free with each RAMDISK 320™.)



Apple II and Apple III are trademarks of Apple Computer, Inc.  
CP/M is a trademark of Digital Research.

# ZOOM!

For even faster speeds, combine  
Axlon's RAMDISK 320™ with S&H TDE Software.

RAMDISK 320™ can help you zoom through a wide variety of tasks in the real world — word processing, accounting, data base management, software development, educational and scientific data processing, or whenever speed is of the essence.

RAMDISK 320™ comes with a plug-in, slot-independent interface card. And it includes a specially designed operating program, plus software for diagnostics, and fast-load copy routines. Axlon offers RAMDISK 320™ with a one-year warranty.

Interested Distributors, Dealers, and OEMs call (408) 945-0500 for information on national sales, support, and pricing program or write Axlon, Inc., 70 Daggett Drive, San Jose, CA 95134.

For consumer information on ordering the RAMDISK 320™, call 800-227-6703. In Calif. 800-632-7979.



National Distributors: • BYTE INDUSTRIES, INC. Hayward, California (415) 783-8272 • HIGH TECHNOLOGY Florissant, Missouri (314) 838-6502 • MARCEY INC. Van Nuys, California (213) 994-7602 • MICRO COMPUTER ELECTRONIC DIST. Reading, Pennsylvania (215) 929-9484 • B.A. PARGH CO. Nashville, Tennessee (615) 361-3600 • NATIONAL MICROWHOLESALE Medford, Oregon (503) 773-1169 • PMI MICROWHOLESALEERS Fairfield, New Jersey (201) 227-8411 • SKU Berkeley, California (415) 848-0802 • VIDEO THEATRE Rochester, New York (716) 621-2003 • COMPUTRAC New Orleans, Louisiana (504) 895-1474 • MICRO D Fountain Valley, California (714) 641-0205

# The reason you bought a computer in the first place.

Too many scraps of paper...

Too many files, too much information to sift through: a nightmare of paperwork.

So you took the first of two essential steps to pull in the reins of an out-of-control flow of information: you bought a computer.

Now you're ready for the next step, The General Manager, the computerized filing system designed with you in mind.

## Gateway to the computer age...

Most people don't hold degrees in computer programming or engineering. They have neither the time, money nor desire to return to a classroom just so their business or household can enter the computer age.

If you're like most people, you want a system that's:

- Easy to use.
- Adaptable.
- Valuable.
- Powerful.

You want The General Manager.

## Who can use it...

You can! Whether you're a butcher, baker or candlestick maker. Doctor, lawyer or accountant. Merchant or housewife. Anyone who wants to organize their records can use The General Manager.

Take a housewife, for example, and all of the scraps of information she handles: address book (names, addresses, phone numbers, Christmas cards, birthdays); recipes (ingredients, mixing and cooking instructions, how many it feeds, where it came from); household budget (checking and savings accounts, food, taxes, household supplies); health records (hers, husband's, the children, the pets).

She could use The General Manager. If you deal with the same or more paperwork, you need it, too.

## Its simple...

By the time you've read two chapters of The General Manager's instruction manual, you'll have it up and running. That's how easy it is to learn.

## It's adaptable...

Some personal recordkeeping systems require you to adjust your thinking to fit the computer.

Not The General Manager. It was built with the understanding that you know more about your recordkeeping needs than we do, and adapts to fit your needs.

For example, here's a typical job application.

If the small businessman is happy with the information requested and the way it's set up, he follows the step-by-step in-

structions to make the computer screen look like the paper form, like this:

## It's that simple.

YOU, not some programmer, design all of your own forms on the computer screen with the information YOU need to effectively run your business or household.

## It's fast...

Consider this: You need a list of everyone who's behind in their payments by more than three months, or who owes you more than \$1,000.

How long would it take a secretary to sift through the files, collate the information and then type it into a report? What are the chances of an error being made? What damage is done if an error is made?

The General Manager sifts through its files at computer

speed and can send the information directly to your computer screen or printer - without error.

## It's a value...

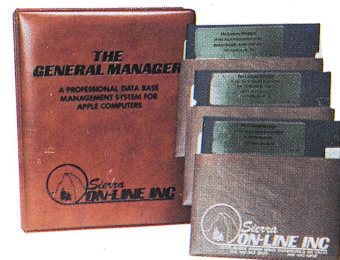
At \$229.95, it's less expensive than other personal filing systems that make promises they can't keep.

Look at some of its features:

- Uses 1 to 4 disk drives.
- Includes utility programs that others charge hundreds extra for.
- Upper and lower case lettering without additional, expensive hardware.
- It prints out reports on paper the way you want them.
- Available on a hard disk system for those with extensive memory needs.

## The reason you bought a computer in the first place...

The General Manager brings your record-keeping system into the computer age - simply and cheaply. No personal filing system does more.



**(209) 683-6858**

Business Products Division  
Sierra On-Line Building  
Coarsegold, CA 93614

The General Manager, version 2.0, requires 48K, 1 or more disk drives, DOS 3.3.