A+ EDITORS SELECT THE **96 BEST SOFTWARE PROGRAMS** FOR THE APPLE II

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ALL STARS

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Word Processors

The best writing tools for your Apple II

A+ All-STARS BY DAN McNEILL

The Apple line plays host to more than 45 word-processing programs. They come in near-tropical variety, and culling the best of the best is not simple. Three in particular are so effective and accommodating, however, that no list of *A+* All-Stars would be complete without them. They are WordPerfect, Perfect Writer, and Multiscribe GS.

These programs are all very different. The first is a command-oriented program, the third a Mac-like one, and the second an interesting hybrid of the two. Together, they cover the spectrum of Apple word processing today.

Despite their differences, all excel in major criteria for this category: power, ease of use, and ease of learning.

Power is the most important measure. A powerful word-processing program is like a Hindu god with 15 hands instead of 2. It bestows possibilities. The program may perform such desirable services as footnoting, indexing, and table-of-contents generation, and it may even carry out exotic tasks such as print spooling. It may also come with spelling-checker, thesaurus, and other software, further extending its range.

Ease of use is the personality of the software. An easy-to-use word-processing program is ingratiating, anticipating your needs and making its powers accessible. It provides shortcuts and macros. It offers direct ways to execute common tasks, such as moving the cursor. It displays your work accurately and gives you other useful feedback. Finally, it has a satisfying "feel" to it. It confers a sense of mastery.

Ease of learning is the least important criterion, since it applies only to a temporary state, but it still matters. An easy-to-learn program has clear and complete documentation, including a tutorial, and does not require extensive memorization of commands. It may have further aids, such as a keyboard template to fit above function keys.

In these regards, WordPerfect, Perfect Writer, and Multiscribe GS constitute the apex—or, rather, the great high ridge—of the Apple II word-processing programs.

WordPerfect 1.1

The command-oriented WordPerfect is the most traditional of the three, yet it is also a highly responsive item with an array of pleasing faculties. You cannot go wrong with it, and you may find it to be exactly what you want.

The software overflows with fine features. For instance, it offers print spooling, a rare capacity. It allows soft hyphenation. It does automatic footnotes, renumbering them when you add or delete them. It inserts the date automatically at the cursor. It boxes paragraphs, although you must type the boxes in, key by key. It capitalizes selections instantly and likewise generates all-lowercase letters. It performs hanging and double indents, for paragraph-size quotes. It allows proportional spacing, creates subscripts and superscripts, and handles fonts if your printer permits.

WordPerfect has extras as well. It comes with a 50,000-word spelling checker that alerts you to identical words in sequence, such as "the the." In addition, the program has a mail-merge feature, so you can create form letters.

For all its breadth, WordPerfect is a treat to operate. It has many features that gladden a writer's eye, such as word count. It moves the cursor in myriad ways, such as to a line located a specified number of lines down the page or to a selected

block of text. Among its delete functions are Delete to the End of a Line, and Delete to the Page. For phrases and formats, it offers macros that you can chain together.

The trade-off for all this sophistication is a marked lack of speed. WordPerfect also abounds in instructions and thus is not the easiest program to learn. It comes with a template that fits above the keyboard and indicates the function keys, however. Its documentation is excellent, and it offers on-line help for the stranded. WordPerfect comes from WordPerfect Corporation, 288 West Center Street, Orem, UT 84057; (801) 227-4000. It runs on an Apple IIe or IIc with 128K of RAM and costs $179.

Perfect Writer 2.0

At first sight, Perfect Writer seems to be a program in transition, part command-oriented, part Mac-like. Yet unlike many compromises, which sacrifice the essences

on both sides, Perfect Writer has managed to retain them. The program melds power with a graceful interface.

The Mac influence is clear. The software offers a WYSIWYG display, unless you specify otherwise, and a ruler across the top. It also has pop-up menus, very similar to the Mac's, which you negotiate by pressing the arrow keys or typing the first letter of the command.

Perfect Writer is an impressive formatter. It does indexing, tables of contents, and footnotes, and can print footnotes either in the text or at the end. It offers hanging and double indents and permits three kinds of bullets: dashes, asterisks, or filled circles. It automatically numbers paragraphs, for outlines. Its headers and footers can alternate for odd and even pages and contain not only the number of the page but of the current chapter and subchapter as well. It turns selected prose into all caps or all lowercase, and it can automatically transpose two adjacent characters, for swift typo correction. It lets you split the screen into two windows, for multiple-document editing, and even comes with a format for verse.

Perfect Writer offers a 50,000-word spelling checker and an equally ample thesaurus. In addition, it is compatible with spreadsheet, database, and telecommunications programs from its manufacturer.

Perfect Writer is easy both to learn and to use. Its documentation is clear and easy to understand. Moreover, the pop-up menus serve as convenient training tools. You can start writing soon after you first boot up the program, and once you assimilate the commands, you can move on to the mnemonic shortcuts at your own speed.

Perfect Writer is a product of Thorn EMI Computer Software, Inc., 285 Mill Road, Chelmsford, MA 01824; (617) 256-3900. It requires an Apple IIe or IIc with 64K of RAM and retails for $139.

Multiscribe GS 2.0

Multiscribe GS is the first IIGS word-processing program to attain real stature. It has the floating-on-air feel of a true Macintosh program, and if it lacks such features as automatic footnoting, it compensates elsewhere.

Multiscribe GS employs the mouse and has an eye-pleasing Macintosh-type display: pull-down menus, scroll bar, ruler (in color), WYSIWYG, fonts, styles (including subscript and superscript), and sizes.

The program takes after MacWrite in many ways. For instance, it lets you select a word by double-clicking on it and allows you to scroll window by window by clicking above or below the scroll box. It offers numerous shortcuts, reports the space left on the disk, and displays the current page number. But that's just the beginning.

Multiscribe GS 2.0 exceeds MacWrite in many other ways. It lets you select a whole line by triple-clicking it. It has Select All. It can display as many as eight windows for multidocument editing, and it lets you zoom them in and out. Its automatic Stack Windows function arranges up to three windows on the screen, one atop another, like playing cards.

Moreover, MultiScribe allows you to work in any font size from 6 to 48 point, through its Larger and Smaller commands, which increase or decrease selected text by one point. In addition, its Style menu lets you deselect styles one at a time, so that, for instance, you can

go directly from bold italic shadow to bold italic, rather than dropping down to Plain Text and then rebuilding.

Multiscribe GS prints with either a vertical or horizontal orientation, in color or black and white, in multiple quality levels. It also reads AppleWorks files directly.

The software has two features the average writer may not need but that are still a pleasure: color and graphics. The Color menu can contain two pure colors and up to 15 dithered ones, and the Edit Colors command lets you choose from among 4096 colors in which to work.

Multiscribe GS 2.0 also has an impressive graphics capacity. It lets you paste in bit-mapped pictures, whose size is limited only by available memory. You can manipulate these pictures easily: resize, reshape, and move them, as well as place them behind or in front of text. Most intriguingly, you can draw right on MultiScribe GS documents. You can pull out filled and hollow rectangles, curved rectan-

gles, and ovals, in six different pen sizes and any color.

This program is a delight. It comes from StyleWare, Inc., 5250 Gulfton, Suite 2E, Houston, TX 77081; (800) 233-4088 or (713) 668-0743. It requires an Apple IIGS with 512K of RAM and costs $99.95.

Honorable Mention

Three other word-processing programs deserve special notice:

AppleWriter II. AppleWriter II has a fine array of features, including footnoting; split screens; optional invisible comments; and its own programming language, which lets you set up form letters, perform arithmetic, and create numerous macros.

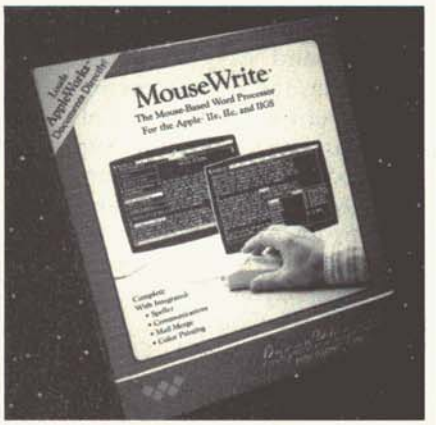
AppleWriter II is a product of Apple Computer, Inc., 20525 Mariani Avenue, Cupertino, CA 95014; (408) 996-1010. It runs on an Apple IIe or IIc with 128K of RAM and costs $149.

Sensible Writer. Sensible Writer is a Macintosh-like program directly compatible with AppleWorks. Among other things, the program handles mail merge, locks documents, boasts a clever Undo command, and has an Append command, so you can append one

document to the end of another.

Sensible Writer is from Sensible Software, Inc., 335 East Big Beaver, Suite 207, Troy, MI 48484; (313) 528-1950. It requires an Apple IIe (with an 80-column card), IIc, or IIGS with 128K RAM and retails for $99.95.

MouseWrite. MouseWrite is a fast, versatile Mac-like program without full WYSIWYG but with numerous potent features such as print spooling and the capacity to read AppleWorks and DOS 3.3 files, plus a 61,000-word spelling checker, telecommunications module, mail merge, macros, and expandable desktop accessories.



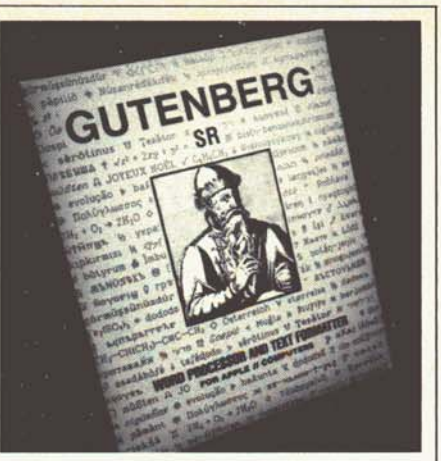
MouseWrite is a product of Roger Wagner Publishing, Inc., 1050 Pioneer Way, Suite P, El Cajon, CA 92020; (619) 442-0522. It runs on an Apple IIe, IIc, or IIGS and costs $149.95.

Special Achievement

Several Apple word-processing programs that do not qualify as general-purpose programs still merit attention for their particular excellence:

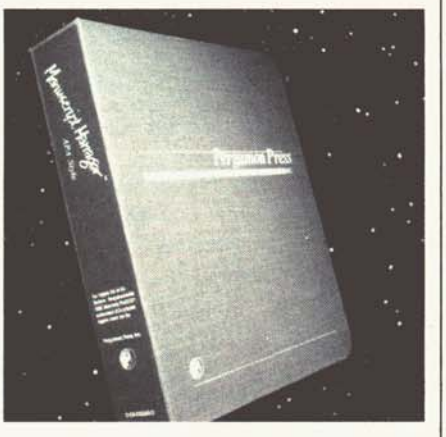
Best Output Program: Gutenberg, Sr. This remarkable product comes with the Latin, Greek, Cyrillic, and Hebrew alphabets, and options for Cree and Syriac. It lets you create characters, fonts, and technical symbols and has a paint feature. It can connect directly to typesetting systems.

Gutenberg, Sr. is a product of Gutenberg Software, 47 Lewiston Road, Scarborough, Ontario M1P 1X8 Canada; (416) 757-3320. It



works on an Apple IIe, IIc, or IIGS with 64K RAM and costs $230 until a new version comes out in early 1988—$360 thereafter.

Best Special-Purpose Program: Manuscript Manager/APA Style. This sturdy software formats prose according to the conventions of the American Psychological Association and can even check elements of your style according to APA dictates.



Manuscript Manager/APA Style is from Pergamon Journal, Inc., Maxwell House, Fairview Park, Elmsford, NY 10523; (914) 592-7700, ext. 312. It runs on an Apple IIe (with an 80-column card), IIc, or IIGS with 128K of RAM and retails for $175.

Best Home Word-Processing Program: Bank Street Writer Plus. The new upgrade offers pull-down menus and a 60,000-word spelling checker and thesaurus. Close on its heels, in second place, is HomeWord Plus, which is extremely easy to learn and use by virtue of its iconic interface.

Bank Street Writer Plus is a product of Brøderbund Software, 17 Paul Drive, San Rafael, CA 94903; (415) 492-3200 or (415) 492-3500. It

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ALL STARS

requires an Apple IIe (with an 80-column card), IIc, or IIGS with 128K of RAM and costs $79.95. HomeWord Plus is from Sierra On-Line, Inc., P.O. Box 485, Coarsegold, CA 93614; (209) 683-6858. It runs on an Apple IIe or IIc with 128K of RAM and retails for $69.95.

Best Integrated Program with Word Processing: AppleWorks. A classic. It's fast and gets the job

done for thousands upon thousands of users.

AppleWorks comes from Apple Computer, Inc., 20525 Mariani Ave., Cupertino, CA 95014; (408) 996-1010. It requires an Apple IIe (with an 80-column card), IIc, or IIGS with 128K of RAM and costs $249. ✚

Dan McNeill's most recent book is COMPUTE!'s Quick and Easy Guide to Desktop Publishing *(COMPUTE! Books). McNeill lives in Culver City, California.*

ALL STARS

GRAPHICS

The best graphics application programs for your Apple II

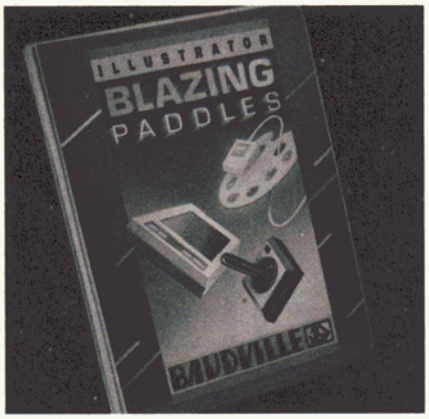
A+ ALL-STARS BY ROBERTA SCHWARTZ AND MICHAEL CALLERY

Another year is on the way out. 1987 brought us the maturation of the Apple IIGS, and you can be sure that 1988 will bring us more dazzling graphics programs. For now, however, rather than predicting what lies ahead, let's look back. Join us in a salute to the best Apple graphics software—our choice for the All-Stars.

We've divided our preferences into categories of graphics applications: paint programs, print utilities, animation programs, and so on. Our only criterion, besides excellence, was that the program currently be available for purchase. We've made a special effort to mention not only the programs and their publishers but, whenever possible, the authors and programmers as well—they are the unsung heroes of the computer world. Here goes.

Blazing Paddles

Our choice for best standard-hires paint program is Blazing Paddles, written by Michael Darooge and programmed by Edward



McCullough and David Walker. This program offers a variety of options, is incredibly easy to use, and works with an assortment of input devices. Blazing Paddles deserves a salute for being one of the few graphics programs that lets you see your entire graphic as you work. An iconic menu frames the screen. Select a color and a tool, and the menu disappears. Once you have started working, a click of a mouse or a similar action with a graphics-tablet pen, paddle, or other input device brings back the menu frame. While you are selecting your next tool and/or color, you can see most of your picture inside

this frame—extremely helpful when you are deciding which colors to use.

Blazing Paddles lets you load and manipulate standard Applesoft shapes and add them to your graphic (a precursor to clip art?), and it has a wonderful magnifying, or zoom, mode that scrolls as you work. With text, cut and paste, color mixing, and an undo function, Blazing Paddles outfeatures the competition.

Blazing Paddles is from Baudville, 1001 Medical Park Drive S.E., Grand Rapids, MI 49506; (616) 957-3036. It runs on an Apple II Plus, IIe, IIc, or IIGS with 64K of RAM, and its list price is $34.95.

Dazzle Draw

For best double-hi-res paint program, it's David Snider's Dazzle Draw, all the way. Judging from your submissions to "A+ Graphics Gallery," we're sure most of you agree. It was one of the first Apple II programs to emulate the Macintosh interface and use pull-down menus. Click on the menus, and they pull down like window shades, offering just about any tool you could wish for. It's all there: adjustable line widths, circles, squares, brushes of different sizes and shapes, text, fill, spray paint, zoom, patterns, pattern edit, cut, copy, paste, flip, invert, exchange colors, replace colors, mirrors, grid.

Dazzle Draw would be better if the program let you see the full screen while you were working. Unfortunately, the menu bar and tool windows obstruct your view, so you have to scroll as you work. Aside from that one serious flaw, we find that the program lives up to its name—it's dazzling.

Dazzle Draw is a product of Broderbund, 17 Paul Drive, San Rafael, CA 94903; (415) 492-3200 or (415) 492-3500. It requires an Apple IIe, IIc, or IIGS with 128K of RAM, and its list price is $49.95.

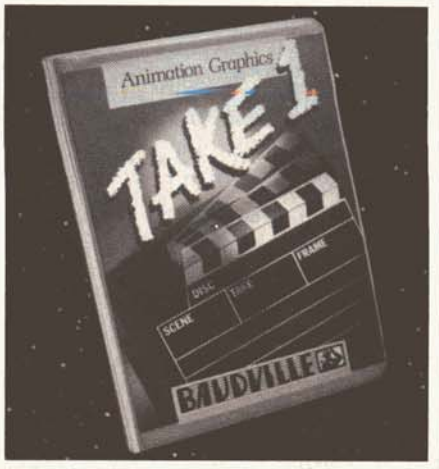
DeluxePaint II

DeluxePaint II, by Dan Silva, has our vote as the best super-hi-res paint program. This program is the newest kid on the block, and it's a winner. We reviewed this program last month, so we won't go into detail about the program here. Suffice it to say that, with every possible feature you could wish for—and a few you may not have thought possible on an Apple II—DeluxePaint II belongs in the software library of every Apple IIGS user.

DeluxePaint II is from Electronic Arts, 1820 Gateway Drive, San Mateo, CA 94404; (415) 571-7171. It runs on an Apple IIGS with 768K of RAM and costs $99.95.

Take 1

Baudville did it again with Take 1, our pick as the best standard-hi-res animation program. This dynamic animation program was written by Maurizio Barbatano and Michael Darooge. Edward McCullough and David Walker were the programmers. Here, too, outstanding features coupled with ease of use make a winner.



Using keystroke commands, you cut out objects from any hi-res picture to make "actors." You then move the actors around the screen, combine them with text and sound, add pauses, and "shoot a scene." One or more scenes put together with backgrounds make a movie. Thanks to Take 1's editing capabilities, you can back up and easily change any part of your movies.

In Take 1, text can be animated just like an actor. Scenes can have fade-ins and fade-outs. You can use pauses to stop action at a given frame and wait for a selected time delay or until the viewer presses a key or joystick button. Pauses can include sound effects such as footsteps, beeps, and crashes. Actors can be block shapes or sprites. (Sprites contain transparent holes that allow the background to show through. If the snapshot is a car, for example, the background will show through the windows of the car.) You create backgrounds with a full-screen hi-res picture editor that uses shape tables, text, actors, color fill, and a zoom pixel editor. Cut and paste options let you clip out any part of the screen, move it, flip it, and/or duplicate it. The program automatically compresses your finished background so that it takes up less disk space. With the Take 1 Tool Kit, you can convert your movies into professional-quality interactive presentations.

Take 1 and Take 1 Programmer's Toolkit are from Baudville, 1001 Medical Park Drive S.E., Grand Rapids, MI 49506; (616) 957-3036. They run on an Apple II Plus, IIe, IIc, or IIGS with 64K of RAM. Take 1 costs $59.95, and Take 1 Programmer's Toolkit is $60.

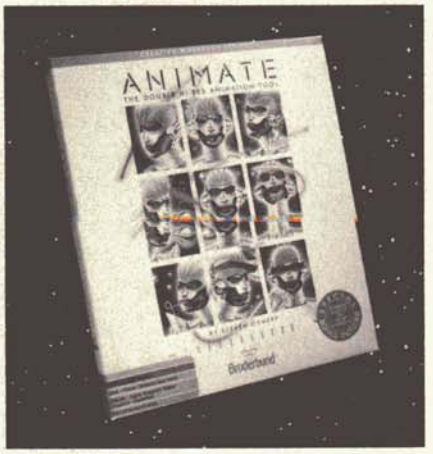
Animate

Our choice for best double-hi-res animation is Animate, a superb program by Steven Ohmert. Animate consists of Graphic Designer and Scene Designer. Graphic Designer is where you develop your characters and backgrounds, using a full complement of drawing and editing features. You start by draw-

ing your character shapes (man with arms down, man with arms out, man with arms up) and enclosing them in frames. Next, you put your frames in order, which defines a character. Once you've saved your characters to disk, you go to Scene Designer.

Here you load all the characters you want in a scene. You can also load a background you've created with Dazzle Draw. Next you define your characters' movements by setting paths. Finally, you add text and sound, and your animation is complete.

Animate has features similar to



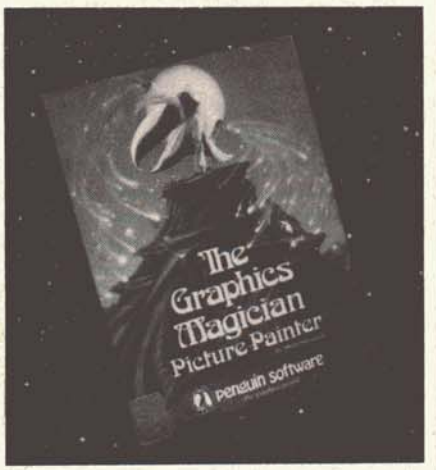
Take 1's, but it uses the same graphic interface as its sister program, Dazzle Draw. Pull-down menus combined with your choice of graphic-input device make the program as easy to use as an animation program can be.

Animate comes from Brøderbund, 17 Paul Drive, San Rafael, CA 94903; (415) 492-3200 or (415) 492-3500. It runs on an Apple IIe, IIc, or IIGS with 128K of RAM, and its list price is $59.95.

Other All-Stars: The Classics

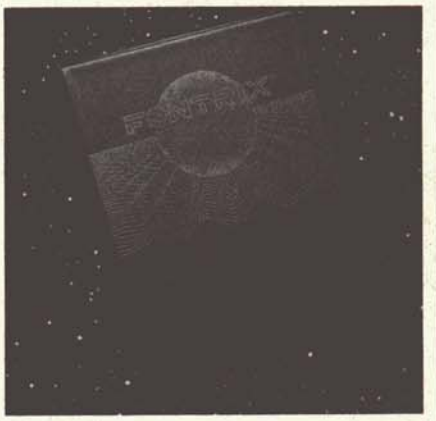
Some programs serve a need for a while, and then, as newer, similar utilities arrive, they are relegated to a closet shelf and gather dust. Other programs, however, stand the test of time. They do something uniquely or so well that you find yourself using them time after time. We consider these programs classics. They are the real All-Stars.

The Graphics Magician. This program, by Mark Pelczarski, David Lubar, Chris Jochumson, and Steven Meuse, is probably the most enduring graphics program. This standard- and double-hi-res animation program offers both a game-style small-object animation module and a paint-oriented sequential-picture module. Without the Graphics Magician, many commercial games and educational programs wouldn't exist. This program, although four years old, is still being used by professional developers. A special professional version is available.



The Graphics Magician is from Polarware, P.O. Box 311, Geneva, IL 60134; (312) 232-1984. It requires an Apple II Plus, IIe, IIc, or IIGS with 48K of RAM and costs $39.95.

Fontrix. Fontrix, by Steve Boker, was the first Apple II program to



let you combine text with graphics and print it on a full page. Fontrix's innovative use of an "extended" screen (it lets you scroll horizontally and vertically to see multiple hi-res-graphics screens), combined with its excellent printing module (it reduces the screen graphics so that multiple screens of text and graphics fit on one page), gave us desktop publishing on the Apple II well before we got it on the Mac.

Fontrix lets you create newsletters and other printed materials; it has a powerful print utility that works with more printers than we knew existed; and you can use it with supplemental FontPaks of the most astonishing array of high-quality fonts in the Apple II world.

Fontrix comes from Data Transforms, 616 Washington Street, Denver, CO 80203; (303) 832-1501. It runs on an Apple II Plus, IIe, IIc, or IIGS with 48K of RAM, and its list price is $75.

Shape Mechanic and Font Mechanic. Shape Mechanic and Font

Mechanic by Bert Kersey and Mark Simonsen are a matched pair that evolved from the older Apple Mechanic program. Apple Mechanic gave artists and programmers an easy alternative to creating shapes from scratch and provided a simple way to put text onto the Apple II hi-res screen by letting you use font shapes. Today, Shape Mechanic lets you capture any piece of a standard hi-res graphic and convert it into a shape. If you've tried to piece together a shape table from scratch or use a standard shape editor, you'll breathe a sigh of relief when you see the Shape Capture module. Terrific!

These two programs come from Beagle Bros Micro Software, Inc., 3990 Old Town Avenue, Suite 102C, San Diego, CA 92110; (619) 296-6400. They run on an Apple II Plus, IIe, IIc, or IIGS with 64K of RAM. Font Mechanic costs $29.95, and Shape Mechanic is $39.95.

The Graphics Department. The Graphics Department, by Mike McDonald, is beginning to show its age. It is, however, the most comprehensive and useful standard hi-res business-graphics program

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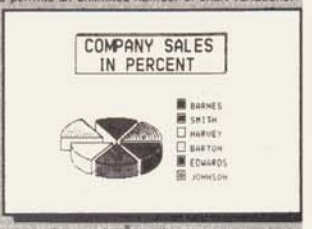
Apple II+, IIe, IIc, IIgs
Laser 128, Franklin

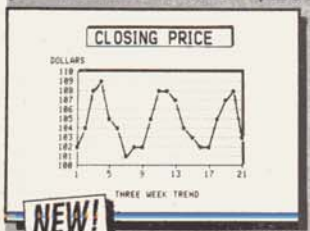
AlphaChart $29.95

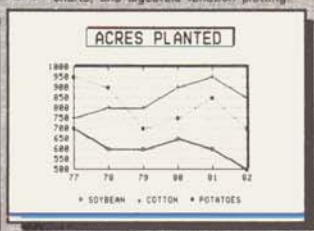
Create beautiful vertical bar charts in two or three dimensions, stacked or side-by-side. 2D/3D pie charts with exploded slice and floating label capability. Terrific extras include drawing, type-setting, and slide show programs. Style menu permits an unlimited number of chart variations.

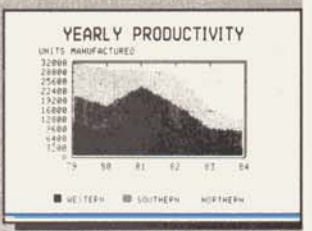


CurvePlotter $29.95

This progam creates standard, connect-the-points, charts, with up to three curves per chart. Also included are area charts (stacked curves with shaded areas), best-fit straight line trend charts, and algebraic function plotting.



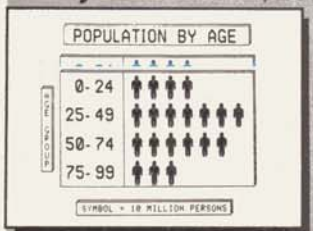


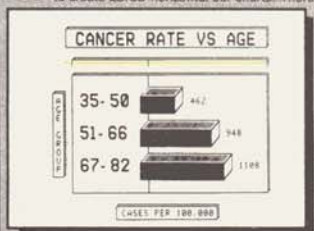


NEW!

SymbolChart $29.95

Transform your data into an eye-catching row of symbols or icons. Pick from a library of 84 pre-drawn symbols or icons, or add to the library by drawing your own. Also, use your data to create 2D/3D horizontal bar charts. There is no program like this one anywhere at any price.



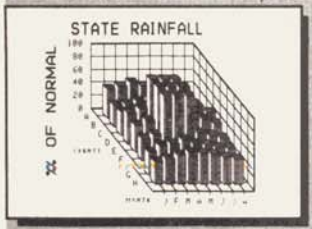


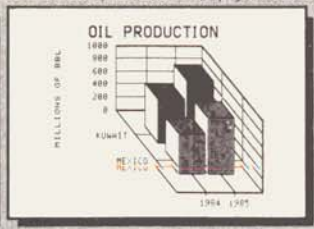
Text-Art $29.95

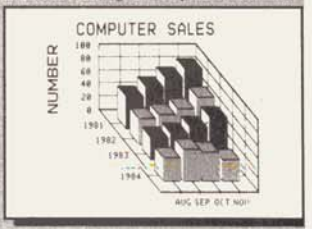
Provides the freedom to add special notes or comments to your charts, anywhere you want. In 24 different lettering styles. Also great for making presentation quality viewgraphs, certificates, signs, ads, flyers, invitations, report covers.

3DChart $29.95

Users enter up to 144 numbers on a two-dimensional, 12x12 grid. Each entered number corresponds to any two labels the user desires. (For example, month and year, or age group and sex). Numbers are displayed as three dimensional rectangular or square vertical bars.







- Buy any two disks for $39.95.
- Choose three disks for $49.95
- Choose four disks for $59.95
- Get all five disks for $69.95
- Great demo disk is just $5.00

Other Features!

All disks include the following: ***Chart printing*** in black & white, any size, on any one of the 63 most popular printers. No special hardware needed. Horizontal or vertical magnification. Charts may be screen-drawn in either b&w or color, but color printing requires additional software (described in manual). ***Simple data entry*** external data files or spreadsheets are not used. All data may be saved to disk and later changed or added to. ***Ease of use*** all of these programs are simple enough for use by a child, but sophisticated enough to meet the demands of the professional. Go from data entry to printer within 3-5 minutes, the very first time, even without reading the manual. ***Ninety day guarantee*** A no nonsense, no wait, no questions, full money-back guarantee if you're not satisfied.

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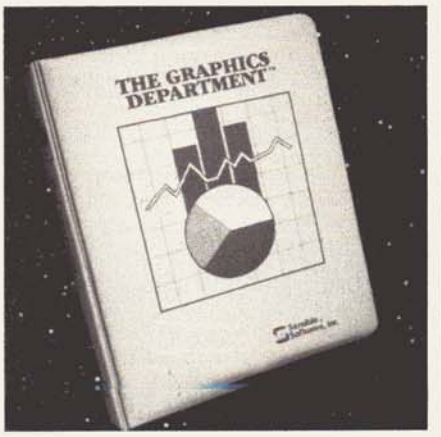
CIRCLE 255 ON READER SERVICE CARD

we've seen, at a price that competes with the cost of programs with only half the features. Using the keyboard and mouse, you can enter and save data, create charts, and use your Apple II as a "slide projector" to display presentations.



The Graphics Department provides a complete set of graphics tools, including drawing tools such as line, rectangle, ellipse, paint (with 100 colors and patterns), cut and paste, and Applesoft shapes. The Lettering Kit contains 40 different monospaced and proportional fonts. Lettering options let you control lettering direction, character size, character kern, character color, font, and case.

The Slide Projector module lets you create slide disks. You can pick which slides from a slide disk should be shown, specify the order in which the slides are to appear, add subtitles to the slides, and set the amount of time a slide is displayed when you're using the Continuous Play mode. The Graphics Department is a must for anyone who needs to create business graphics in standard hi res.

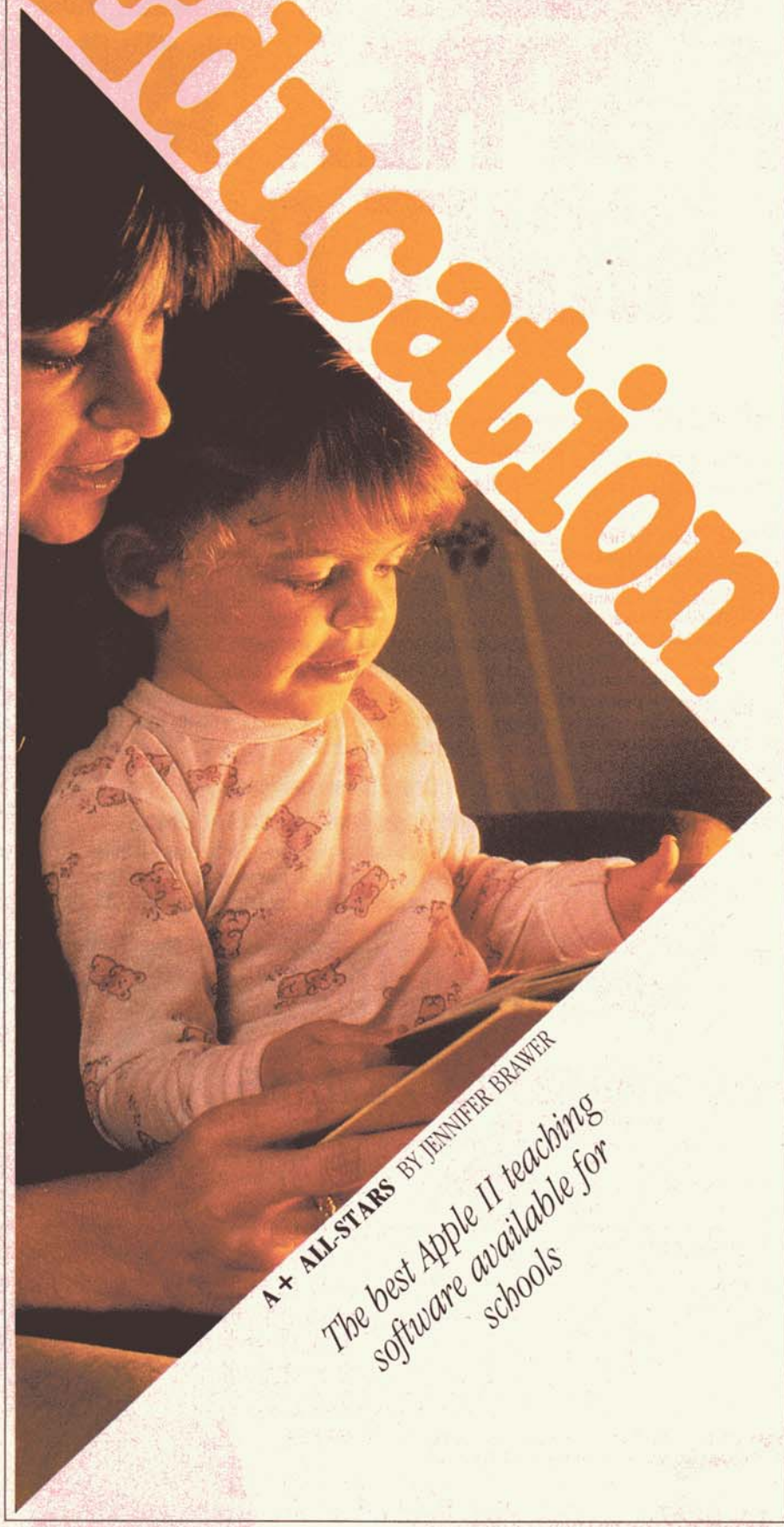
It comes from Sensible Software, Inc., 335 East Big Beaver, Suite 207, Troy, MI 48484; (313) 528-1950; runs on an Apple IIe, IIc, or IIGS with 48K of RAM; and retails for $124.95.

Well, that's it—our picks for the All-Stars. Happy New Year. ✚

Roberta Schwartz and Michael Callery are A+ contributing editors and the authors of our monthly "Speaking of Graphics" column.

ALL STARS

Education



A+ ALL-STARS BY JENNIFER BRAWER

The best Apple II teaching software available for schools

Choosing educational-software All-Stars is a nearly impossible task. There are too many outstanding educational software packages and too few editorial pages. To make things more manageable, I am relying on the distinction between software developed for home use and software meant for classroom use. In this All-Star issue, I'll concentrate on classroom software and refer you back to *A+*'s October Computer Learning Month issue (page 38), where the article "A Sampler of Tried and True Titles" lists programs that qualify as All-Star products for educational use at home.

The programs I've selected here as *A+* All-Stars are a mixture of classics and newer, innovative products; a few titles are new releases. Most of the All-Stars are for classrooms only and supplement a distinct curricular area.

The education All-Stars fall into the following curricular areas: mathematics, science, problem solving, language arts, social studies, and early learning. A separate category for productivity software lists the best tool products. You'll notice two glaring omissions from these categories: music and art. Don't worry, though—we haven't left them out; see the Music and Graphics All-Stars sections in this issue for information on both of these categories.

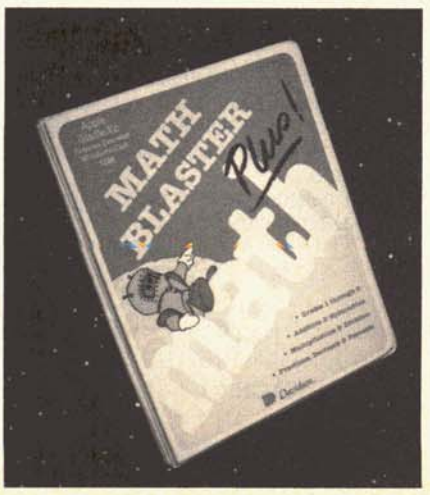
MATHEMATICS

Number Munchers. Number Munchers from MECC is a delightful mathematics game that takes place on a grid populated by Number Munchers (Munchus Digitus) and Troggles with names such as Trogglus Normalus, Trogglus Assistus, Trogglus Laborus, Trogglus Timidus, and Trogglus Smarticus. Number Munchers are under student control, driven to meals of multiples, factors, addition, subtraction, multiplication, division, prime numbers, equalities, and inequalities. Troggles randomly jump in to complicate matters—they eat numbers and expressions, leave others as distractors, eat number munchers whole, and generally make things difficult. As the level of difficulty increases, extreme concentration is necessary to avoid all the Troggles and unexpected target values that pop up. Students

do get relief from the stress of high-level play, however. The program rewards success with graphic interludes showing great moments in Number Muncher history.

Number Munchers is available from MECC, 3490 Lexington Avenue North, St. Paul, MN 55126; (612) 481-3500. The program is appropriate for grades 3 and above and requires any Apple II series computer with 64K of RAM. The list price is $49 for a 5¼-inch diskette and $55 for a 3.5-inch diskette.

Math Blaster Plus. It's here! The new and enhanced version of the Davidson & Associates classic Math Blaster is even better than the original. The program covers the same subject area, basic math, but has had a face-lift. New graphics and pull-down menus give it a classy new look. Yet, knowing beauty is only skin deep, Math Blaster Plus does not rely on looks for success. A test maker, a retake option for difficult problems, student record-keeping and report capabilities, printed-graphics capabilities, and problem-solving activities are a few of the new features that make Math Blaster Plus a valuable teaching tool. For the kids, the Blasternaut game is tons of fun and lets them improve problem-response speed and accuracy.



Math Blaster Plus is available from Davidson & Associates, Inc., 3135 Kashiwa Street, Torrance, CA 90505; (213) 534-4070. The program is appropriate for use in grades 1–6 and requires an Apple IIe (with an extended 80-column card), IIc, or IIGS with 128K of RAM. The list price for the single-user version is $49.95; the five-disk lab pack is $129.95.

Green Globs and Graphing Equations. I still have trouble comprehending that $(2x - 3)(y + 8) = 12$ is a conic section. I'd do better with Green Globs and Graphing Equations, which provides mathematical settings in which students can explore the relationship between just such equations and their graphs. The program has an enormous problem range that is appropriate for beginning algebra students working with graphs of straight lines, all the way to math-analysis students exploring trigonometric and discontinuous algebraic functions. Two tool programs let students graph equations and explore the effects of altering them. The package includes two games, Green Globs and Tracker. In Green Globs, students earn points for writing equations that pass through as many green globs as possible. Tracker is a game in which graphs are hidden on a grid. Students gather clues to figure out the equation of the hidden graphs.

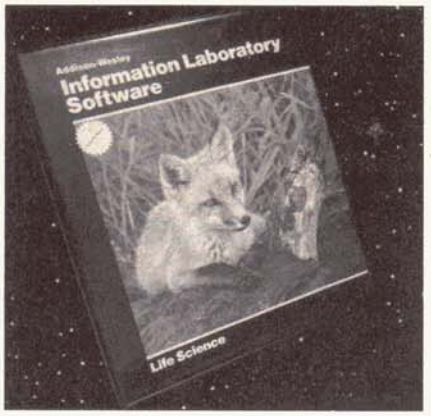
Green Globs and Graphing Equations is available from Sunburst Communications, 39 Washington Avenue, Pleasantville, NY 10570; (800) 431-1934 or (914) 769-5030. The program is appropriate for grades 9–12 and requires any Apple II computer with 64K of RAM. The list price for the single-user version is $65; the ten-disk Lab Pack is $195.

SCIENCE

Operation: Frog. If intestinal tracts, glands, and major blood vessels aren't your cup of tea but you need to know amphibian physiology, Operation: Frog is for you. The three segments of the program cover dissection and two levels of "reconstruction": beginner and expert. The program demands that the frog be dissected or reconstructed in logical order of position—you can't insert or remove the small intestine if you're working on the respiratory system, for example. A feature worth noting is the magnifying glass. Using the magnifying glass to inspect an organ calls up either an animated graphic of the organ's function or a diagram illustrating how an organ fits into one of the frog's systems.

Home and school versions of Operation: Frog are available. The school version comes with a complete reference guide, background materials on the high points in the history of frogs and toads, and a variety of student-activity suggestions. Operation: Frog is available from Scholastic, Inc., 730 Broadway, New York, NY 10003; (212) 505-3000. The program is appropriate for grades 4–10 and requires an Apple II Plus, IIc, or IIe with 64K of RAM. The list price for the single-user version is $74.95; the five-disk Lab Pack is $112.45.

Information Laboratory Software – Life Science. The Information Lab Life Science database covers a broad range of topics—from abiogenesis to zygote—within subject areas that include the animal kingdom, theories about life, the scientific method, and fungi. Speaking of fungi, do you know the names of the famous fungi responsible for the potato famine in Ireland or the near demise of the French wine industry in the late 19th century?



The Information Lab is a powerful informational tool packed with a comprehensive selection of life-science information that students can search in any way they choose. The information is organized by subject area first and then by the interrelationships among life-science topics. The package includes Search Sheets, which illustrate a variety of conceptual approaches to life-science research. Each research task guides students through a major subject area, using a hierarchical model of the interrelated topics.

The Information Laboratory–Life Science is from Addison-Wesley Publishing Company, 2725 Sand Hill Road, Menlo Park, CA 94025; (415) 854-0300. The program is appropriate for grades 6–9 and requires an Apple IIGS with 512K of RAM and one 3.5-inch disk drive. The list price is $80.

Science Toolkit. Science simulations are commonplace on computers, but Science Toolkit goes beyond simulation and turns the computer into a science laboratory. The package comes with software and "probeware," instruments that connect to an interface box that plugs into the joystick port. Students use probes to measure phenomena such as light, speed, temperature, and centrifugal force.

ALL STARS

The Master Module is the core program required to run a series of companion labs that investigate speed and motion, earthquakes, and the human body. The Speed and Motion Lab explores the physics of linear and rotational speed. The Earthquake Lab comes with a build-it-yourself seismoscope to measure harmonic and wave motion. With the Body Lab, you use the on-screen heart-rate monitor; response-time monitor; lung-volume meter; and another build-it-yourself tool, a spirometer, to see physiology concepts come to life.

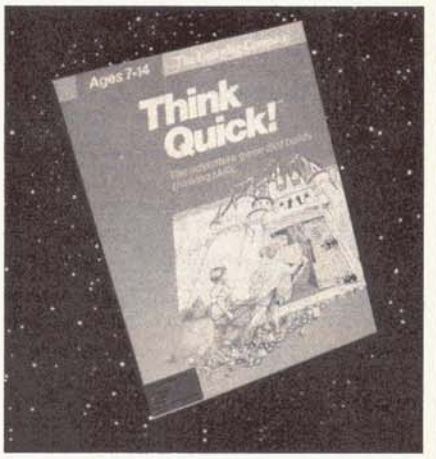
Science Toolkit is available from Brøderbund, 17 Paul Drive, San Rafael, CA 94903; (415) 492-3200 or (415) 492-3500. The program is appropriate for grades 4–12 and requires any Apple II computer with 64K of RAM. The list price for the Master Module single-user version is $69.95; the school edition is $89.95. The list price for each companion module is $39.95.

PROBLEM SOLVING

Think Quick. For younger children, Think Quick is a fun and challenging way to improve problem-solving and decision-making skills. While you're running from cute little slime worms hidden in Mystikar Castle, intellectual opportunities disguised as fun make the program highly motivational. Look out if you're digested by a slime worm. It's straight to the Slime Worm Belly, and it takes forever to get out! Flowers put the little fellows to sleep, so take every opportunity to grab one—it may be the only way to beat the clock and avoid becoming lunch.

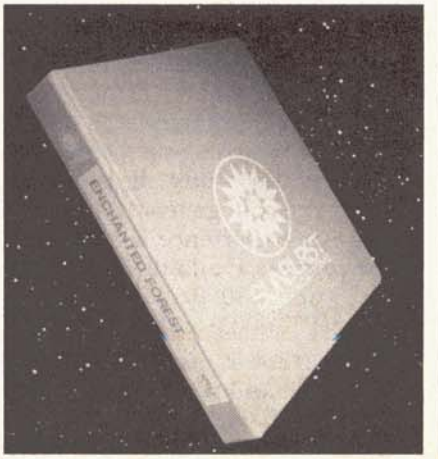
Think Quick is a new release from the Learning Company and is another example of the superior educational quality of TLC's software line. For you Gertrude's Secrets fans, Think Quick is equal in educational value and a superior visual experience.

Think Quick! is available from The Learning Company, 6493 Kaiser Drive, Fremont, CA 94555;



(800) 852-2255. It is appropriate for grades 2–9 and requires any Apple II computer with 64K of RAM. The list price is $49.95.

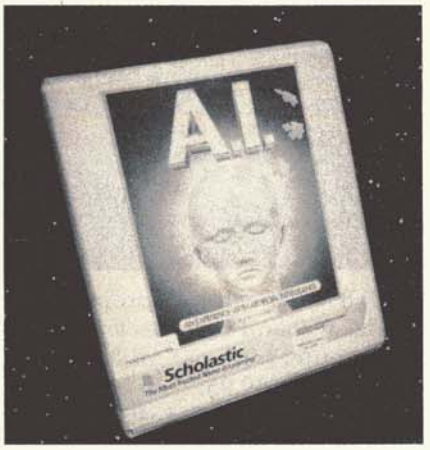
The Enchanted Forest. All of a sudden, there she is! The witch on her broomstick cackles and says three friends are now hidden in a pond disguised as geometric shapes. Playing in the Enchanted Forest has its risks, but that's half the fun. The other half is practicing the mathematical concepts of negation, conjunction, and disjunction while trying to liberate forest animals from the witch's spell. Friends who come to help free the animals are a prime target for the witch. The computer displays the



status of each pond. The challenge is to identify the logical connective that describes the set of shapes trapped inside. The correct answer frees whatever or whomever is trapped inside the pond.

Enchanted Forest comes from Sunburst Communications, Inc., 39 Washington Avenue, Pleasantville, New York, 10570; (800) 431-1934 or (914) 769-5030. The program is appropriate for grades 4–12 and requires an Apple II-series computer with 64K of RAM. The list price is $65 for the single-user version; the ten-disk Lab Pack is $195.

A.I. An Experience with Artificial Intelligence. A.I. An Experience with Artificial Intelligence is an introduction to the principles of

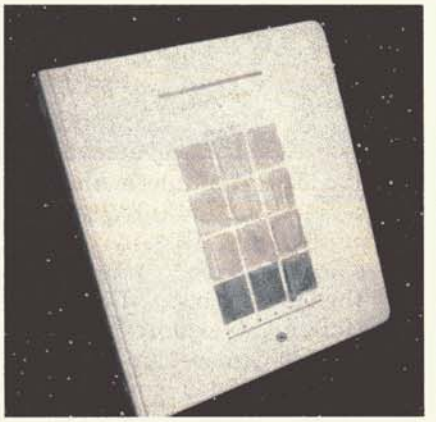


artificial intelligence. Students learn about A.I. by teaching game strategies to a "brain." During the process, they're exposed to two prominent domains of A.I. research: pattern recognition and decision theory. Programming a brain is the ultimate option. Students set game goals as well as the strategy for achieving the goals. The program is advanced, and the games are, at the very least, on an intellectual par with chess. To give you an idea about the level of complexity, game rules are best expressed in mathematical notation. The program explores principles of A.I. that are fundamental to the study of cognitive science and essential to the study of programming at the college level.

A.I. An Experience in Artificial Intelligence is available from Scholastic, Inc., 730 Broadway, New York, NY 10003; (212) 505-3000. The program is appropriate for grades 6–12 and requires an Apple IIe or IIc with 64K of RAM or a IIGS with 256K of RAM. The list price for the single-user IIe/IIc version is $87.45 and $137.45 for the five-disk Lab Pack. The list price for the IIGS version is $87.45.

LANGUAGE ARTS

Writer's Helper. Writer's Helper is an amazing program that guides budding authors through the creative and organizational phases of



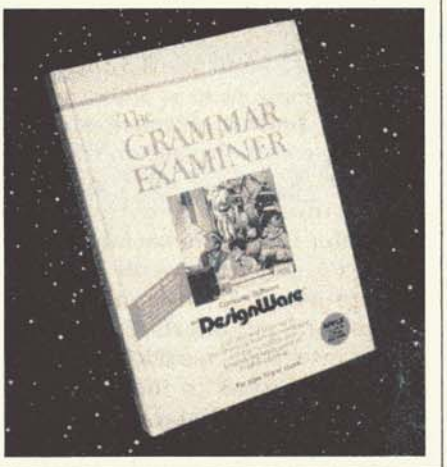
writing. Examples of techniques students can use include brainstorming, debating an issue, and using story trees. For each phase of the writing process, an interactive guide helps students find and organize a topic. The program also has a variety of techniques for evaluating the readability of student-generated documents. Not only does the program guide students through a range of writing techniques, but it also organizes information students provide into a rough-outline form that they can develop into a well-organized written document.

Writer's Helper is available from Conduit, The University of Iowa, Oakdale Campus, Iowa City, IA 52242; (319) 335-4100. The program is appropriate for grades 7–12 and requires an Apple IIe (with an 80-column card) or a IIc, both with 64K of RAM. The list price is $120.

Show Time. Students don't get many opportunities to write and produce a play while in school. Show Time brings the stage to the computer and offers them the chance to become immersed in the entire process of a theater production. The package contains a word-processing program for writing the actual script. Simple three-letter combinations give stage directions that guide the action and dialogue. The remainder of the options allow playwrights and producers to pick the cast, design the set, and score the music. Rehearsal is the time to change the cast, edit stage directions, or fine-tune dialogue and ideas. On opening night, the curtain goes up, and there is no going back—the only thing left is to go to McDonald's after school and wait for the reviews.

Show Time is available from MECC, 3490 Lexington Avenue North, St. Paul, MN 55126; (612) 481-3500. The program is appropriate for grades 6–9 and requires any Apple II computer with 64K of RAM. The list price is $49.

Grammar Examiner. A career in journalism isn't an easy ticket to fame and fortune, especially if you're employed by the Grammar Examiner. The game is challenging; the competition (look out for Mel, the computer) ruthless; and the pay terrible! Unfortunately, money is everything in this game, and it's extremely hard to come by. Random catastrophies can pop up and make a significant dent in your



earnings. But, when you are driven to become the editor-in-chief, the risk is worth it. The key to financial and professional success is to know your grammar, spelling, and punctuation and be a good proofreader. If you excel, it's all yours: money, position, and your photograph on the front page.

Grammar Examinar is available from DesignWare, P.O. Box 77186, San Francisco, CA 94107; (415) 546-1866. The program is appropriate for grades 10 and above and requires an Apple II Plus, IIe, or IIc with 48K of RAM. The list price is $44.95.

SOCIAL STUDIES

Oregon Trail. The first time I decided to take the Oregon Trail, I was glad it was only a simulation. My husband and I were the only ones to survive—two of my children drowned and one died of cholera. But the trip could have been worse. Unpredictable weather, vanishing trails, poor health,

lack of water, and disabled oxen are only a sample of the problems that can plague the 2400-mile trek.

Oregon Trail is an excellent simulation of typical experiences of pioneers going west from 1840 to 1848. The format encourages students to engage in a variety of skills: decision making, problem analysis, perspective taking, and participation. The feature that makes Oregon Trail a particularly rich experience is the complexity of the underlying model. Weather, health, date of departure, amount of clothing, and luck are a few of the variables that change throughout the journey. As in real life, success is not guaranteed. Random disasters occur that illustrate the difficulty of America's westward expansion and remind us of a time when people risked their lives to pursue their dreams.

Oregon Trail is available from MECC, 3490 Lexington Avenue North, St. Paul, MN 55126; (612) 481-3500. The program is appropriate for grades 5–12 and requires an Apple II Plus, IIe, or IIc with 64K of RAM. The list price is $55 for a 5¼-inch diskette and $59 for a 3.5-inch diskette.

Where in the World Is Carmen Sandiego? You have a new assignment: to catch Carmen Sandiego and her band of thieves. The hitch is that they might be anywhere in the world. When you start, you are

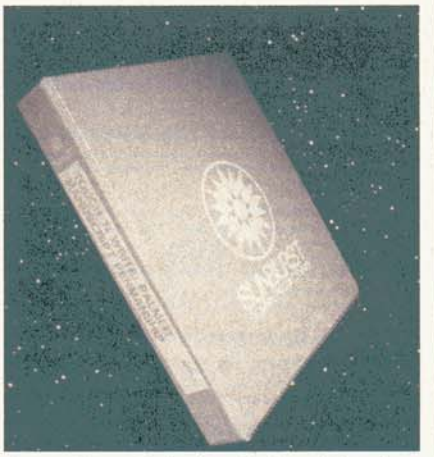
a rookie detective. The goal is to catch the thief, rise up through the ranks of the Acme Detective Agency to Ace Detective, and do it fast. Fortunately, the Crime Computer, the *World Almanac and Book of Facts*, and Police Dossiers are available and useful in unraveling the clues. Stalking, identifying, and catching the thief are no easy task. When you see a Suspicious Presence run across the screen, you know you're on the right track. Whatever you do, issue warrants for the right person. A mistake could cost you your job.

After reaching Ace Detective, retirement may be a bit boring. You can get back into the danger and intrigue by using an assumed name. After all, your previous success at catching thieves almost guarantees that your real name is on a hit list.

Where in the World Is Carmen Sandiego is available from Broderbund, 17 Paul Drive, San Rafael, CA 94903; (415) 492-3200 or (415) 492-3500. The program is appropriate for grades 4–9 and requires any Apple II computer with 64K of RAM. The list price for the single-user version is $39.95; for the School Edition, $49.95; and for the Lab Pack, $99.95.

EARLY LEARNING

Touch 'N Write. Preschool and kindergarten children absorb knowledge like a sponge. In their classrooms, introduction of concepts traditionally involves a multisensory approach. Touch 'n Write brings this technique to the computer. Using a touch screen and fingertips, children practice classic Palmer Manuscript Penmanship. They work on handwriting, letter-recognition skills, and eye movements for reading. Stroke and letter lessons let children work on the physical construction of letters in



the color of their choice. The lessons are reinforced with clever graphics or animation. A favorite option is the coloring book, which kids color with fingertips and the computer paintbox.

Touch 'N Write is available from Sunburst Communications, 39 Washington Avenue, Pleasantville, NY 10570; (800) 431-1934 or (914) 769-5030. The program is appropriate for grades K–3 and requires any Apple II computer with 64K of RAM, a Touch Window, one 5¼-inch disk drive, and a color monitor. The list price is $75 for the single-user version and $225 for the ten-disk Lab Pack.

PRODUCTIVITY

Bank Street Writer III. Of all the word-processing programs avail-

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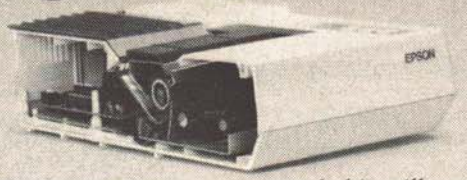

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ALL STARS

able for Apple computers, Bank Street Writer III has features that make it the best for classroom and home use. The school edition includes 80-; 40-; and large-type, 20-column versions of the program. Besides the word-processing program, the package includes a spelling checker, a thesaurus that allows two search modes, definable function keys, and pull-down menus. Teachers can use the frozen-text feature to create text files that contain writing prompts and instructions that students can't alter. Classroom file-management

tools let teachers work with student files. The enhanced features of the program are for use in the 40- and 80-column versions only.

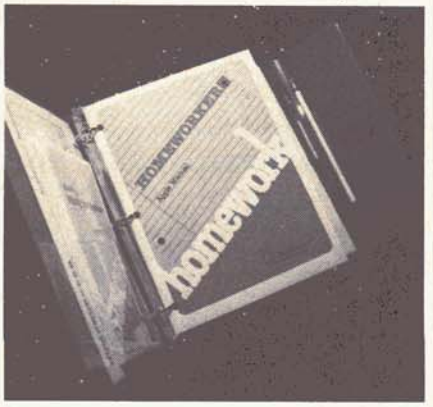
As a complement to the productivity aspects of Bank Street Writer III, the school edition contains documentation for a writing-process workshop that integrates computer technology with process-writing activities.

Bank Street Writer III is available from Scholastic, Inc., 730 Broadway, New York, NY 10003; (212) 505-3000. The program is appropriate for grades 2–12 and requires any Apple II computer with 128K of RAM. The list price is $99.95; the Lab Pack $162.45; and the network version $499.64.

Homeworker. It's about time for an integrated productivity program specifically for students. Homeworker is a word-processing program, outliner, calendar, flashcard maker, calculator, and grade keeper. It is designed to teach orga-

nization by having students use the tool programs to produce and manage schoolwork. One pass through the manual is enough to have tons of desktop information-management power at your fingertips. An added feature is the book *How to Study for Success* by the president and founder of Davidson & Associates, Dr. Jan Davidson.

Homeworker is from Davidson & Associates, Inc., 3135 Kashiwa Street, Torrance, CA 90505; (213) 534-4070. The program is appropriate for grades 10 and above and requires an Apple IIe (with an extended 80-column card) or a IIc, and 128K of RAM. The list price is



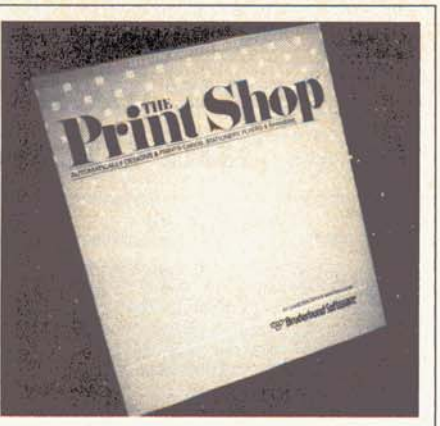
All Stars

$89.95, and the ten-disk lab pack is $249.95.

The Print Shop

The classoom productivity tool is The Print Shop. It has changed the look of everything from student reports to bulletin boards. The program is an easy and creative way to add graphics to stationery, book-report covers, calenders, banners, newsletters, and award certificates.

In addition to the Print Shop program, you can get Print Shop Companion and Print Shop Graphics Library. The Print Shop Companion is a powerful addition to The Print Shop that gives the program advanced drawing capabilities, new typefaces, and borders. The Graphics Library is a three-disk set that contains a huge assortment of graphics (120 for each disk) for health, astrology, holidays, animals, occupations, and more. A holiday edition of the Graphics Library contains fonts,



borders, and multicolored full panels for 26 holidays.

The Print Shop is available from Brøderbund, 17 Paul Drive, San Rafael, CA, 94903; (415) 492-3200 or (415) 492-3500. The program is appropriate for grades K–12 and requires an Apple II Plus, IIe, or IIc with 64K of RAM. The list price is $49.95 for the single-user version and $59.95 for the school edition.

Print Shop Companion runs on any Apple II computer and requires The Print Shop. The list price is $39.95. Graphics Library disks and the Holiday Edition also require The Print Shop; the list price for each is $24.95. ✚

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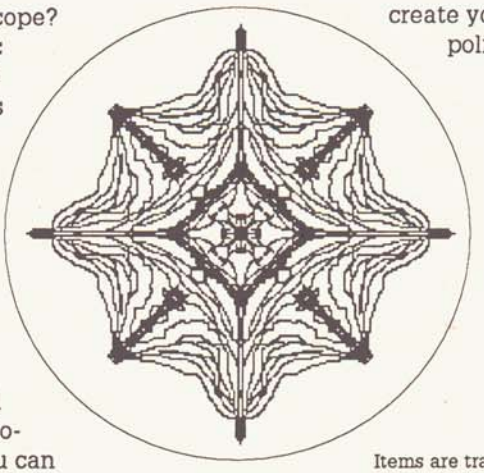

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A+ ALL-STARS BY MICHAEL FISCHER

Telecommunications

The best programs for working on-line with your Apple II

What distinguishes telecommunications All-Stars from the pack are features that represent advances in technology, most notably the ability to take advantage of the mouse interface and the incorporation of the Binary II standard.

Binary II is a file format, developed by *A+* Senior Technical Editor Gary Little, that enables users to easily upload ProDOS files to and download them from information services without loss of file-attribute information such as file type, size, name, and the like. You need this information unless you're just transferring standard readable text files.

The products I single out here aren't the only ones that include these features, nor do all of them handle both the mouse and Binary II. These telecommunications programs are the best all-around players available, however, and have shown good stuff this past year.

I have four choices for the bests in telecommunications for 1987: Point-to-Point, MouseTalk, Talk is Cheap, and FreeTermGS. I've also picked three runners-up.

Point-to-Point

Point-to-Point, a commercial program for the Apple IIe, IIc, and IIGS, is my telecommunications program of choice. It uses the AppleWorks file-card display and is one of the easiest programs to use and understand. Many of the program's major commands are displayed on the top line of the screen, so you don't need to memorize the commands for turning on the capture buffer, beginning Xmodem upload or download, or sending a text file or capture buffer to a remote computer.

Whenever you're using the capture buffer, Point-to-Point displays the amount of remaining space. When the buffer is full, the program automatically saves it to disk, in a file you've specified. If the file already exists, the program adds the new data to the end of the file.

Some people criticize the relatively small capacity of the Point-to-Point capture buffer—about 18,000 characters—but I consider the size, in conjunction with the automatic-save feature, an advantage. The combination ensures I will not lose much data if I experience a power loss.

Other features of the program are obviously designed to make your life easier. A review buffer contains the last 255 lines that have scrolled off the top of your screen. You can review them at any time and even copy them to the capture buffer. Many of the commands are

based on mnemonics, such as open-apple/D (for Disk menu) and open-apple/S (to save the capture buffer).

The one criticism of Point-to-Point with which I agree is that it has a relatively weak text editor. It is a line editor, not a full-screen editor. Since I do most of my text editing off-line, usually using AppleWorks or another Apple II word-processing program, I find this weakness an insignificant flaw.

Point-to-Point comes from Pinpoint, 5865 Doyle Street, Emeryville, CA 94608; (415) 654-3050. It works with an Apple IIe, IIc, or IIGS with 128K of RAM and costs $129.

MouseTalk

My second-favorite telecommunications program featuring the use of a mouse is MouseTalk. This program operates with Mousetext characters and thus requires an enhanced Apple IIe, IIc, or IIGS. Because it uses Mousetext and other text characters on the text screen, rather than using graphics, it performs well and keeps up with the flow of data.

MouseTalk is easy to operate and contains many convenient features. It was the first Apple II telecommunications program I know of to have a review buffer. It provides a simple method of moving between the various ProDOS directory levels. My only real complaint about the file operation is that it doesn't follow the standard method built into the GS toolbox. As a result, I sometimes find myself inappropriately using GS-type operations while attempting to navigate through subdirectories to my file. One of the best features of MouseTalk is its full-screen editor. You scroll or select text with the mouse and cut, copy, and paste as you do with Apple IIGS and Macintosh word-processing programs. You also have apple-key equivalents of menu commands.

The major defect in MouseTalk is the lack of built-in Binary II file-transfer translation. Since Binary II is rapidly becoming the standard for downloading Apple II files, this omission is puzzling. The program's publisher does not promise to include Binary II in future releases of the program but states only that it is considering incorporation of this feature.

MouseTalk is a product of United Software Industries, Inc., 8399 Topanga Canyon Blvd., Canoga Park, CA 91304; (800) 332-7244 or (818) 887-5800. It works with an Apple IIe (enhanced), IIc, or IIGS with 128K of RAM. The program retails for $99.95.

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DATA TRANSFORMS

CIRCLE 166 ON READER SERVICE CARD

Talk is Cheap

Talk is Cheap, one of the real bargains in telecommunications software, is yours for only a $30 shareware fee. Despite its low price, many "professional" telecommunicators use this program.

The shareware concept lets you try a program before you buy it. You can usually find it on a bulletin board or national telecommunications service and download it to your computer. If you like the program and use it, you are supposed to send payment to the program's author. The amount of the payment and the author's address typically appear in the documentation.

Talk is Cheap contains most of the features you expect in a commercial telecommunications program, including Xmodem upload and download with automatic Binary II conversion, and a copy buffer (but no review buffer). Two special features of the program are an extended macro-command language, which allows for extensive automation of functions, and Turbo Xmodem downloading.

Turbo Xmodem is a feature that, given certain conditions, can increase your downloading speed by up to 100%. Turbo Xmodem requires that all downloading be to a RAMdisk. Since it cannot recover from a data-transfer error, you need quiet telephone lines to use it.

Don Elton, author of Talk is Cheap, provides frequent upgrades to the program and makes them available not only on the networks but on many Apple bulletin boards as well.

Talk is Cheap is available from information services and bulletin boards or directly from Don Elton, Carolina System Software, 3207 Berkeley Forest Drive, Columbia, SC 29209-4111 for $30 as shareware. It works with an Apple IIe, IIc, or IIGS.

FreeTermGS

The fourth program on my list of bests in telecommunications is a freeware program, FreeTermGS. Freeware means just that; you can get a copy of it for free or, if you download it from a network, for the cost of your connect time.

My August 1987 "Telecommunications" column in *A+* contained a first look at FreeTermGS that is still accurate. The program is a true IIGS desktop-style program, proving that programmers can write a telecommunications program by using IIGS toolbox routines. The program's upper transmission-rate limit is 2400 bps, but, even at 1200 bps, display updating is somewhat sluggish. Future commercial, mouse-operated, menu-driven telecommunications programs are likely to follow MouseTalk's path and use the text screen and Mousetext instead of the super-hi-res screen.

Freeterm can display control characters as the remote computer sends them. If you encounter errors in performing an Xmodem file transfer, a dialog box shows the type of error. You can find more information about each type of error in the program's documentation.

You can download FreeTermGS from most of the information services and also from some bulletin boards. It requires an Apple IIGS with 512K of RAM.

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CIRCLE 167 ON READER SERVICE CARD

The Second Stringers

Three other programs also merit consideration for the best in telecommunications.

CommWorks. CommWorks, together with Point-to-Point and MouseTalk, was one of the early GS-compatible telecommunications programs. It resembles Point-to-Point in many respects, including use of the AppleWorks file-card system for command selection and use of open-apple-key combinations to perform many functions.

CommWorks has not kept pace with other telecommunications programs, however. For example,

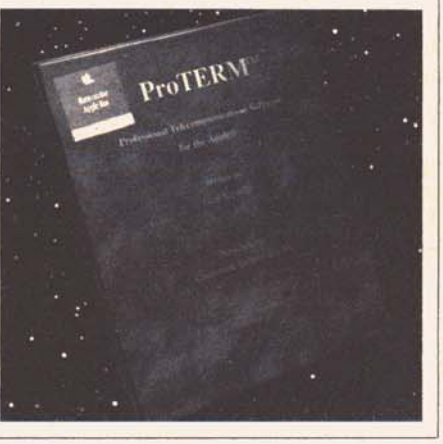
MouseTalk and Point-to-Point now both have review buffers, but CommWorks has not added this feature. I use my review buffer more than any other single feature; whenever I use a program without a review buffer, I find myself automatically reaching for it anyway. CommWorks also has not added Binary II download translation.

A significant feature of CommWorks is that it has full VT-100 terminal emulation.

CommWorks is a product of PBI Software, 1163 Triton Drive, Foster City, CA 94404; (415) 349-8765. It works with an Apple IIe, IIc, or IIGS with 128K of RAM and costs $95.

ProTERM. The other major commercial telecommunications program that merits serious consideration is ProTERM, a program that first appeared in 1987. Many experienced telecommunicators currently use ProTERM.

ProTERM has both a review buffer and a copy buffer and automatically allocates the space between the two buffers according to how much memory it finds in your system. It uses any expanded memory it finds in the IIe auxiliary slot and a Checkmate Technology or Applied Engineering memory-expansion card for the Apple IIc. But the program can use other expanded memory (such as Apple's memory-expansion cards for the IIc or IIGS) only as a RAMdisk. One of the interesting features of ProTERM, AutoLearn, lets you create auto-log-on macros automatically.



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Have you ever been in the middle of your word processor and needed to multiply some numbers? Ever wanted to jot down a note or two while inside your data base? Not enough room to save your file - too bad your program can't format blank disks! All of these problems are cured with TDM. With TDM, you'll get all of the desk accessories you ever wanted inside every one of your programs.

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CIRCLE 249 ON READER SERVICE CARD

You can use either internal or external modems with ProTERM. The program works with Hayes Smartmodem-compatibles as well as the Hayes Micromodem II, Hayes Micromodem IIe, Novation AppleCat, and Zoom Modem IIe.

ProTERM is a product of Checkmate Technology, Inc., 509 South Rockford Drive, Tempe, AZ 85281-3021; (800) 325-7347. It requires an Apple IIe, IIc, or IIGS with 64K of RAM and costs $95.

Maug Message Manager. The final product on my list is neither a telecommunications program nor a commercial or shareware program. It is useful only if you are a member of the MAUG forum on CompuServe. But Maug Message Manager can save you hundreds of dollars a year, depending on how much you read and reply to messages on the MAUG message board.

Only a finite number of messages can be on the MAUG message board at any time. Whenever you add a new message, you push the oldest message off. You must call and read messages every two or three days to keep current.

Of course, reading, reviewing, and replying to messages while connected to CompuServe can be very expensive. (CompuServe charges $6 per hour at 300 bps and $12.50 per hour at 1200 or 2400 bps, plus network access fees ranging from $.25 to $2 per hour in the United States.)

Maug Message Manager processes the text file of messages that your telecommunications program has downloaded from MAUG. While you are off-line, you read messages as they are presented to you and write replies off-line. You then call back and, in one automated action, upload all your replies at once.

As you are reading a message, you can also place it in one of several disk text files or print it out. The program, written by a MAUG member, John R. Tierney, is of nearly commercial quality and costs only the price of the MAUG connect time you need to download it. It requires an Apple IIe, IIc, or IIGS with 64K of RAM.

One feature that is common to many of the programs I've discussed in this article is the presence of the author, the publisher, or both on one or more of the national telecommunications services. You can send questions to them and receive answers back.

The two national services with the most representation appear to be CompuServe (MAUG) and GEnie (AART). Bill Blue (developer of MouseTalk), Don Elton (author of Talk is Cheap), and Gary Little (author of Point-to-Point and the Binary II standard) frequently check into both services. In addition, Pinpoint (publisher of Point-to-Point) maintains a support service on AART, and John Tierney (author of Maug Message Manager) can often be found on MAUG. ✚

Michael Fischer works in the field of court adminstration in California and writes about Apple computers. His latest book is Apple IIGS Technical Reference, *from Osborne/McGraw-Hill.*

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ALL STARS

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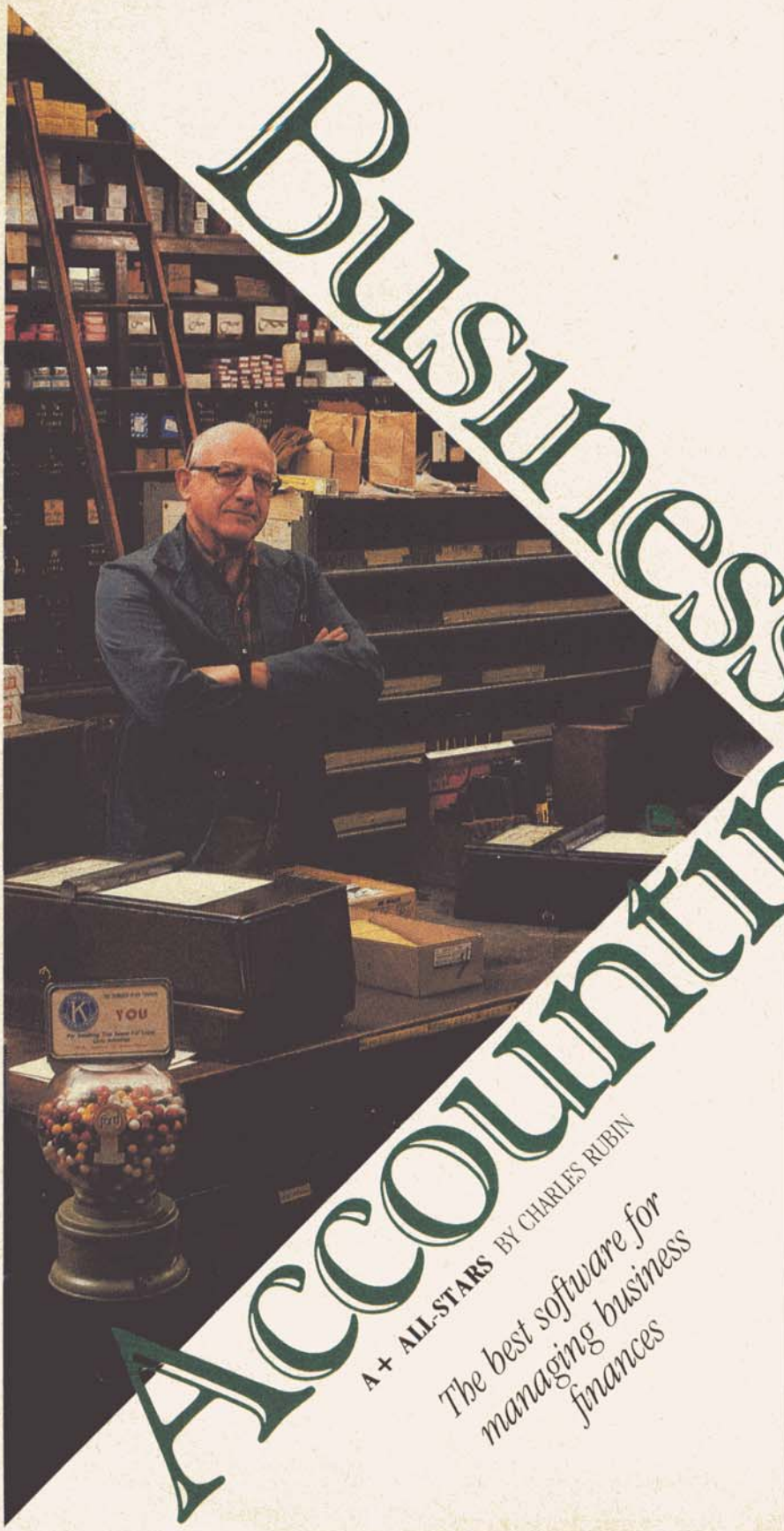


A+ ALL-STARS BY CHARLES RUBIN

The best software for managing business finances

Any Apple II owner who's running a business needs to track income and expenses, and a business accounting program is usually the way to go. Many small-business owners actually buy an Apple specifically to set up an accounting system, whereas others who begin businesses at home migrate to accounting from other applications. If your business is very small, you may be able to manage it with a personal accounting system such as one of those described in the personal-finance All-Stars article in this issue. These programs (called one-write systems) work like checkbook registers, in which you enter all transactions only once.

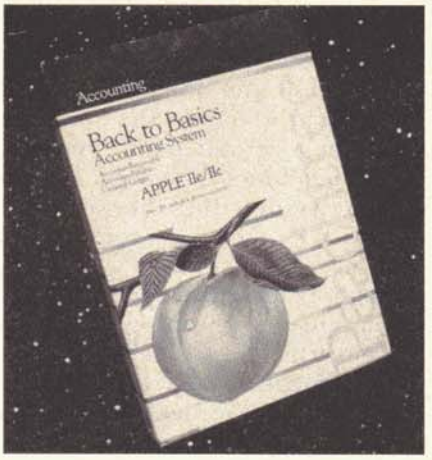
The accepted method of maintaining books for any serious business, from a corner store to a Fortune 500 firm, is called double-entry accounting. This kind of accounting balances assets (such as cash receipts or the value of equipment) and liabilities (such as outstanding loans or stock) against one another on each side of a ledger. The concept of double-entry accounting is that the two sides of the ledger are always in balance, so that the company always has assets equal to its liabilities. The standard measure of a company's financial position is a balance sheet that lists its assets and liabilities.

Bankers and accountants use balance sheets and income statements to evaluate a company's finances, so you must be able to prepare and understand these tools. That's why most accountants recommend double-entry accounting systems for their clients. Unfortunately, many Apple II owners haven't had accounting courses to prepare themselves for implementing a double-entry accounting system.

In searching for the All-Stars of business accounting in the Apple II world, I looked for programs that offered the standard features and functions of an accounting system while providing good introductions to the principles of double-entry accounting. I have found that most Apple II users need some kind of explanation of the double-entry method before they can suc-

cessfully set up such a system.

Another criterion I used was ease of use. Even if you understand the basics of accounting, you shouldn't have to spend weeks getting a system running. And once the system is running, it shouldn't require a user with total recall to run it effectively. Beyond using these essential criteria, I sought the programs that were widely supported by local



dealers or that offered abundant technical support.

The three outstanding business accounting programs I located were Peachtree's Back To Basics, Manzanita Software's BusinessWorks, and BPI's Entry Series.

Back To Basics

This program was originally sold as three separate modules that you could buy individually or at a discount in an all-in-one package. Peachtree now sells all the modules in one package only. Peachtree is one of the oldest companies in the personal-computer accounting-software business, dating back to 1975. The company makes a more complete accounting system with extra modules, but not for the Apple II line. Back To Basics is a professional accounting system that handles receivables, payables, and general-ledger bookkeeping for small to medium-sized businesses.

Winner of the 1986 and 1987 *A+* Reader's Choice Awards, Back To Basics is popular for its ease of use and flexibility. You can run any of the modules as a stand-alone program, or you can integrate the payables and receivables into the general ledger. The general ledger can handle annual revenues up to $10 million, but it is limited to 254 accounts and 1700 entries per month. The receivables module can handle 300 customers, and the payables module tops out at 115 vendors. Payroll and inventory modules are not available for Back To Basics. Because of these limits, this package appeals mainly to smaller businesses.

The main virtue of Back To Basics is its ease of use. The package is designed to get a business running within a day. All three modules have a well-designed interface that uses menus and prompts for selecting and confirming options. You can press Escape to back out of a menu, an entry, or a set of entries. It is difficult or impossible to make unwitting errors with this program, as it always asks you to confirm the choices and entries you make. Once you're up to speed on the program, you can select the Advanced mode, which disables some of the prompts that ask you to double-check your entries.

Another convenient feature is a predefined chart of accounts in the general-ledger package. The program comes with a few dozen account names and numbers already entered and divided into logical groups for proper accounting. You can choose to create a completely different chart of accounts from scratch or customize the predefined one.

The program has no on-line help, but the Back To Basics manual is excellent in describing principles of double-entry accounting as well as the installation and use of the program. Its 38-page introduction to accounting principles was written by a Harvard Business School professor.

The bulk of the manual contains walk-through tutorials and reference guides for each software module. The extremely useful last section of the manual shows how to use the programs in various accounting situations. Written by a CPA and an accounting professor, the section covers 39 specific accounting situations, including retirement of plant assets and issuance of stock.

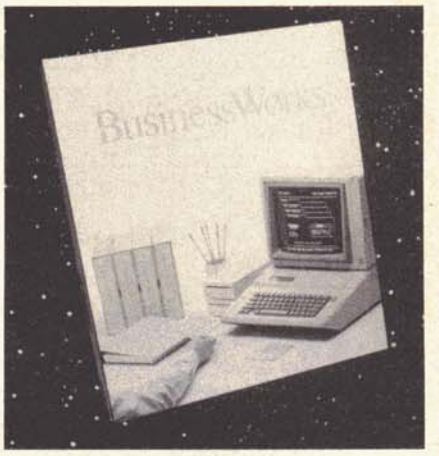
Back To Basics is available on many different computers, so its manual is generic. A separate hardware booklet describes specific commands, program capacities, and installation procedures on the Apple II. Back To Basics can't use a hard-disk drive, and it requires you to use a new data disk for each module every month.

Peachtree offers a toll-free technical-support line; it charges by the minute for support calls. Back To Basics is widely distributed, and since the same program runs on a variety of computers, many dealers should be able to offer good local support. The program carries a 30-day money-back guarantee.

Back to Basics comes from Peachtree Software, 4355 Shackleford Road, Norcross, GA 30093; (800) 247-3224. It runs on an Apple II Plus, IIe, IIc, or IIGS with 64K of RAM and costs $195.

BusinessWorks

BusinessWorks is a complete, full-featured accounting system that offers general-ledger, payables, receivables, inventory, and payroll modules. With a required System Manager module, you can use any of the accounting modules alone, or you can integrate them all into a complete system. Responding to encouragement from Apple, Manzanita Software designed BusinessWorks so it works with either two UniDisk 3.5-inch disk drives



or one UniDisk or 5¼-inch drive and a hard disk.

One nice feature of BusinessWorks is its ability to save data in the AppleWorks spreadsheet or database format, so you can analyze your accounting data in AppleWorks. In fact, Manzanita says the biggest single reason people buy the system is its ability to integrate with AppleWorks.

In contrast to Back To Basics, whose users are primarily individ-

uals with small businesses, half of BusinessWorks' users are companies with more than $1 million in annual revenues. The program can handle companies with up to $20 million in annual sales. It can maintain records on an unlimited number of separate companies (if you use a high-capacity disk to store the data), and it can handle up to 1000 accounts and 20,000 entries per month.

BusinessWorks has many advanced features. You can specify and print a series of reports at once with a single command and take advantage of a full-year budgeting feature for both revenue and expense accounts. You can also produce instant reports on the current status of your books at any time. The payables module lets you make partial payments and can do automatic check reconciliation, and the payroll module can print government reports such as W-2 forms.

Although it is powerful and full-featured, BusinessWorks manages to be very easy to use. It has a file-card interface like the one in AppleWorks and uses similar menus, prompts, and selection features, so AppleWorks users will be comfortable with it quickly. In addition, it has context-sensitive online help. If you don't understand what kind of entry the program needs at a certain point, you can type open-apple/? and get a help screen that describes the particular response for which the computer is waiting. You can also get more-general help about specific functional areas of the program. Help screens usually include page-number references for the module's users' manual. Excellent error messages help with incorrect entries.

One common problem with accounting systems is the variety of accounts they define and the difficulty of remembering account codes. BusinessWorks has a unique feature called Show Windows, which displays all the accounts in its chart of accounts. If you can't remember an account code, you can pop up a window and then select the account you want by highlighting it and pressing the Return key.

BusinessWorks has an excellent set of manuals that thoroughly describe the program's operation. They include tutorial and reference sections, and each module's manual begins with a section explaining the accounting principles you must understand before using the module.

BusinessWorks is priced about the same as other accounting systems with a full set of modules, but it is far easier to set up and use than its competition. The company offers free technical support via a toll-free number for the first 90 days you own any module; unlimited technical support is $150 per year after that.

BusinessWorks comes from Manzanita Software Systems, 1 Sierra Gate Plaza, Suite 200-A, Roseville, CA 95678; (916) 781-3880. It requires an Apple IIe, IIc, or IIGS with 128K of RAM. The System Manager module is $95, Payroll is

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$445, and the other modules are $395 each.

BPI Entry Series

A longtime favorite of Apple II-using accountants, the BPI Entry Series is marketed by Computer Associates of San Jose, California. The Entry Series includes separate modules for general ledger, payables, receivables, payroll, and inventory. You can run the modules individually or integrate them into a complete system. As with BusinessWorks, you can transfer data from the BPI Entry series to the AppleWorks spreadsheet for further analysis.

This set of modules is relatively easy to use, although not quite as easy as BusinessWorks. The Entry Series doesn't provide on-line help, nor does its documentation provide an orientation about principles of double-entry accounting, so you're pretty much on your own in this respect.

All Stars

Like BusinessWorks, this program lets you maintain the books on several different businesses at a time, simply by using a separate data disk for each client. The program does not maintain a historical record of each month's ledger, so, unlike BusinessWorks, it can't produce a full-year budget.

On the other hand, the Entry Series is the most widely distributed of the full-featured accounting programs for the Apple II, so local support should be easy to find. If not, Computer Associates International offers 60 days of free telephone support for each module (although it has no toll-free number for this service), and you can buy a year's worth of support at a toll-free number for $95.

The BPI Entry Series is marketed by Computer Associates International, 2195 Fortune Drive, San Jose, CA 95131; (408) 432-1727. It runs on an Apple IIe, IIc, or IIGS with 128K of RAM and costs $295 per module.

AppleWorks Templates

Templates provide a less expensive accounting alternative for AppleWorks owners. Many larger users' groups offer general-ledger templates for AppleWorks, but these often have little or no documentation. The Q-Mar Group of San Diego, which produces an AppleWorks newsletter and a series of AppleWorks templates, sells a well-documented general-ledger template. The template's 80-page manual includes an introduction to accounting principles. Q-Mar will soon be releasing accounts-payable and accounts-receivable modules, which are expected to sell for $69.95 each.

The Q-Mar General Ledger Template is available from The Q-Mar Group, 5677 Oberlin Drive, San Diego, CA 92121; (619) 455-7513. It requires an Apple IIe, IIc, or IIGS with 128K of RAM and costs $89.95. ✚

Charles Rubin is an A+ contributing editor and the author of five books about personal computing, the latest of which is Microsoft Works *from Microsoft Press.*

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ALL STARS

For Apple II computer-music stalwarts, the arrival of the Apple IIGS was just as sweet and spirit-lifting as Roy Hobbs' final home run in the movie *The Natural*. Yes, we had suffered a string of drubbings from the Amiga and ST teams—and even our Macintosh pals were beginning to laugh at us behind our backs. You could almost hear them jeering, "The Apple II Tunesmiths? Those has-beens are about as musically relevant as Perry Como and Tennessee Ernie Ford . . ."

Then, with one towering home run, the Apple IIGS turned the game completely around.

Thanks to the IIGS's amazing Ensoniq digital oscillator chip and the vivid hues of the RGB monitor, the Apple II family has leapfrogged from also-ran status back up to a contender's position in the Micro Music League. Although we IIGS owners have achieved only parity with Commodore and Atari (and the Mac) in terms of sequencing and other professional applications, we're really widening our lead in the educational market. The extraordinary sound and color of the IIGS are breathing new life into venerable Apple II music-software packages—especially in the realm of K–12 educational courseware.

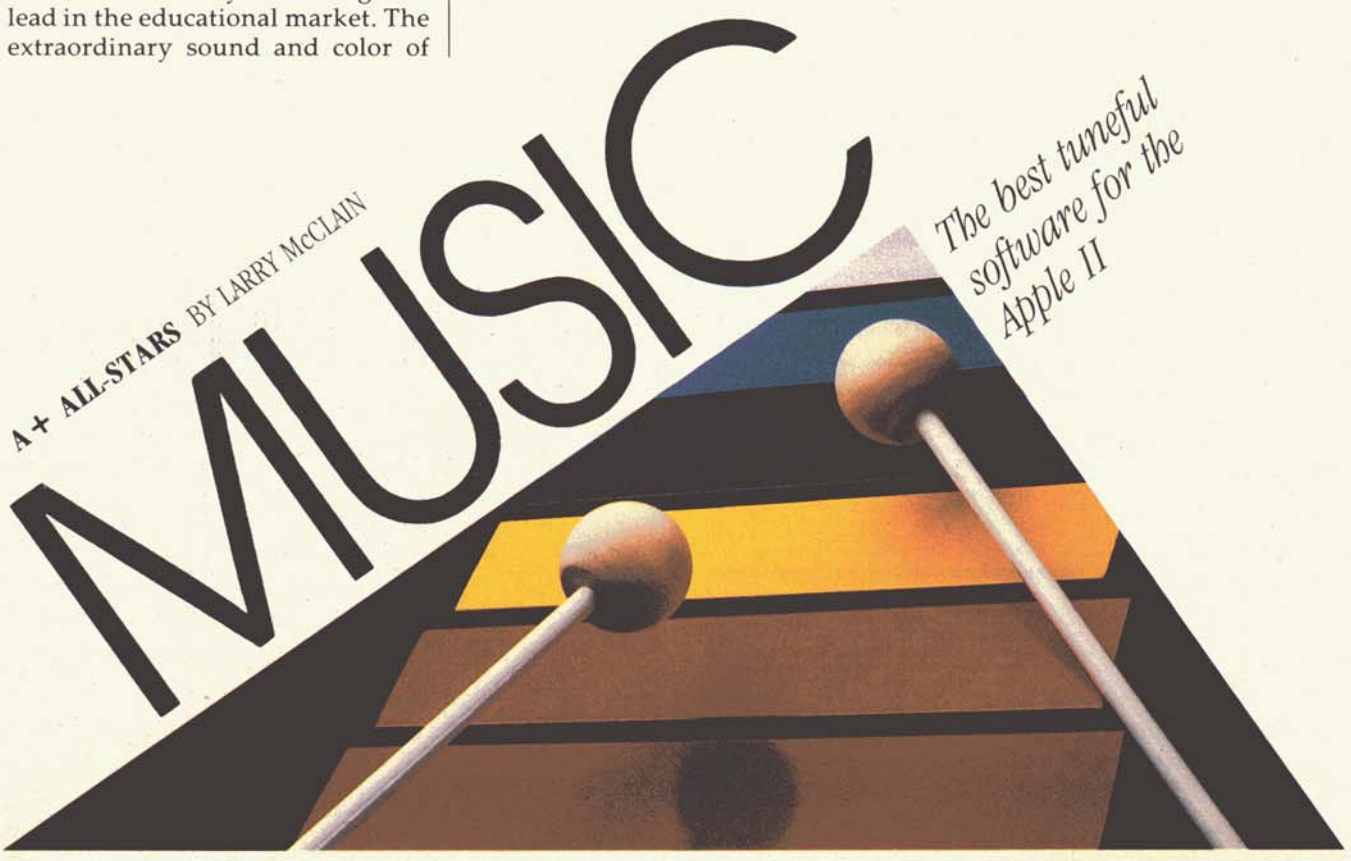
This All-Stars segment focuses on music-education packages and didactic compositional packages (the primary purpose of which is to instruct and entertain, rather than do studio-caliber sequencing). Frankly, most of the serious sequencing software has moved over to the Mac, Amiga, and ST, never to return. It's in the role of teacher/entertainer that the Apple II family continues to reign supreme. Software for the II now brilliantly handles the job once reserved for the likes of Victor Borge and Leonard Bernstein: multifaceted musical mentor.

So without further whole rests, let's take a look at the All-Stars, beginning with an inspired line-up of GS packages.

The Music Studio

The only thing about The Music

Studio that isn't top drawer is its lackluster intro song. Once you've weathered that, however, you're in for a treat. It's the most comprehensive GS compositional package around. Its easy-to-use pull-down/pop-up menus let you drag color-


A+ ALL-STARS BY LARRY McCLAIN
MUSIC
The best tuneful software for the Apple II

coded notes to a grand staff (both treble and bass clefs). The Music Studio takes full advantage of the GS's 15-voice capabilities—*voice*, in this context, is synonymous with timbre rather than human speech.

For example, you can use the mouse to drag down a color-coded C note in the tenor-sax voice, followed by a color-coded E in the vibes voice, and then by a G in the string-bass voice. If you stack this triad of notes vertically, you'll get a rich C-major chord in three voices. (You can stack up to 15 voices in complementary bass and treble chords, but the result sounds a bit crowded and experimental, à la John Cage!)

The program furnishes three sets of voices (classical, rock, and jazz), plus a set of vocal phonemes that let you create simulated voice-voices. (Confusing, eh?) That just means that you can add a layer of simulated a cappella singing—anything from Gregorian chant to doo-wop.

The Music Studio lets you transpose entire compositions from one key to another with just one mouse click on a pop-up menu. Its screen icons certainly make sense to musicians around the globe: a human ear for playback, a trash can for getting rid of stinko compositions. The Options menu allows you to rearrange musical blocks (Move Block, Copy Block, and so on) just as easily as most word-processing programs shift paragraphs.

Sometimes The Music Studio's elegance can be too much of a good thing. For instance, the mouse does a full run (or glissando) as you search the staff for a place to plunk your note. It sounds classy but sometimes makes note-placing confusing. Considering all its amenities, the software does have one surprising omission: It lacks automatic measure breaks.

These minor quibbles are like mere oboe squeaks in a masterpiece, though. The Music Studio is one of the few Apple II software packages with across-the-board appeal—to serious home composers and students alike.

The Music Studio comes from Activision, P.O. Box 7287, Mountain View, CA 94039; (800) 227-9759; in CA (415) 940-6044. It requires an Apple IIGS with 512K of RAM and costs $79.95.

Instant Music

Seldom has a piece of music software offered so much unabashed fun as Instant Music, a IIGS package from Electronic Arts. The program lets even musical neophytes cut loose with what its creators call mousejamming—wild improvisations that never stray from a recognizable melody and beat, thanks to the program's nifty artificial-intelligence-type programming.

Here's a for instance:

When you call up a song called

"Fun 1962," the IIGS starts throbbing to a beat and melody reminiscent of vintage Jan & Dean. You simply click on the Mousejam icon and then start sliding the mouse around to create a surprisingly tuneful "jam." You can slide the mouse slowly (to add occasional nuance) or feverishly (to enhance every twist and turn along this playful dead man's curve).

Instant Music uses a nonstandard form of music notation rather than notes on a grand staff. Therefore, it's easier to jam just with existing tunes than to create your own sonic masterpiece. Whether you're jamming or composing, however, Instant Music serves up plenty of interesting sound clusters: four different digitized instruments at a time, each able to play three notes simultaneously.

The canned songs on Instant Music are fabulous. Most of them can best be described as "Herbie Hancock Meets the Night Court Theme Song." Weird, campy, and a lot of fun to jam with. Some folk and classical selections are also available for highbrows who prefer to jam along with a famous opus such as "The Sabre Dance."

If you tire of Instant Music's basic repertoire, you can also obtain two disks entitled It's Only Rock & Roll and Hot & Cool Jazz. The former contains 40 mousejam-ready songs chronicling the history of rock 'n' roll. The latter has dozens of jazz tunes, from turn-of-the-century Jellyroll Morton-type ditties right up to the present.

Instant Music is the only music package I've ever found that makes me immediately feel like Miles Davis, Eric Clapton, and Itzhak Perlman all rolled into one whenever I move my mouse.

Instant Music is a product of Electronic Arts, 1820 Gateway Drive, San Mateo, CA 94404; (415) 571-7171. It runs on an Apple IIGS with 512K of RAM and retails for $49.95.

KidsTime II

KidsTime II, a IIGS educational program for ages 3 through 10, might unfairly get lost in the shuffle. Although its ABKey section is a fairly routine, if colorful, learn-your-ABCs program, the real jewel here is KidsNotes, an imaginative music-education program that uses a grand staff and a simulated piano keyboard to assist young students.

Unlike most other Apple II com-

positional packages, KidsTime II doesn't require you to drag notes down to the staff. You just select the note duration you want, point to the appropriate piano key, and then click. It's actually faster than note-dragging. On playback, students see both a scrolling grand staff (with automatic measures) and piano keys that are highlighted in red as the melody moves along.

KidsTime II isn't as sophisticated as some of its musical GS brethren, of course. For example, you have only three key signatures to choose from. But its parallel piano/grand-staff graphics make it very accessible for young children.

For kids who'd rather listen than compose, the program contains several familiar childhood refrains: "Jack & Jill (Went Up The Hill)," "Here We Go Round (The Mulberry Bush)" and "Mom's Asleep (Let's Play Some Van Halen)." (Just kidding about that last selection!)

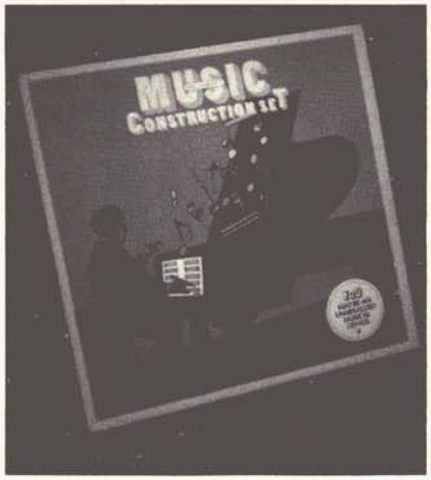
The documentation even has a section for harried parents entitled "Notes to the Musically Unsure." If you don't know a dotted quarter note from a quarter horse, this section is an oasis of reassurance.

The KidsNotes section of KidsTime II is a surprisingly full-featured GS music program. Most parents will find it just as fascinating as their young ones do.

KidsTime II is from Great Wave Software, 5353 Scotts Valley Drive, Scotts Valley, CA 95066; (408) 438-1990. It runs on an Apple IIGS with 512K of RAM, and its list price is $39.95.

Music Construction Set (GS)

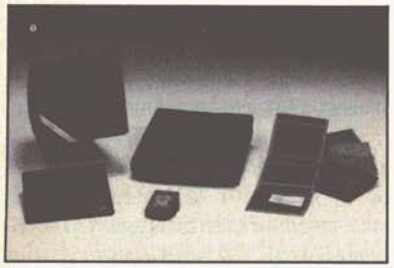
Reviewers who give thumbs down to Music Construction Set are like film critics who knock *Star Wars* a decade after its release. Star Wars was an original that spawned



dozens of imitations. Likewise, Music Construction Set was the first Apple II program to popularize note dragging and Cut & Paste—features that many competitive products quickly latched onto.

Granted, the GS incarnation of Music Construction Set isn't as graphically imaginative as some of its competitors, and some of its voice selections now seem a bit dated (especially "Laser Gun"). It *was* the first kid on the block, however, to offer things like a chest-thumping opening song and one-click control over things like time and key signatures.

So let's give a pioneer an even break. Music Construction Set for the GS is still a standout product. It



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CIRCLE 136 ON READER SERVICE CARD

remains the most foolproof of the note-dragging programs because you hear only one tone, *after* you've clicked the note into place.

The simplicity and innovation that made Music Construction Set a winner on the IIe are still alive and kickin' on the GS.

Music Construction Set (GS) comes from Electronic Arts, 1820 Gateway Drive, San Mateo, CA 94404; (415) 571-7171. It runs on an Apple IIGS with 256K of RAM and retails for $49.95.

ALL STARS

A Quintet with Class

Now let's take a look at the exemplary music programs that don't require an Apple IIGS to bring music to your ears.

The Music Class. The Music Class is a five-part, ten-disk music-instruction series for second graders on up to collegians. It's better to move through the series sequentially rather than skip around. (Like a wise guy, I tried to jump right into Part 3 and got rather confused!) The proper sequence is Fundamentals, Rhythm, Ear Training, Music Symbols, and Note Reading.

Although The Music Class was written by distinguished music professors of the University of Akron, the series is never lofty or dry. Matter of fact, it features clever on-screen characters such as Mr. Metro Gnome (whose tapping foot teaches you the difference between 4/4 and 3/4 time) and an animated cat that teaches basic intervals.

Teachers will appreciate the many on-disk tutorials and the automatic record-keeping feature of The Music Class. Because each student has a separate password, teachers can track the performance of as many as 125 budding talents.

Although Mr. Metro Gnome was a tough taskmaster for me (3/4 time had me stymied for a while), I can vouch that The Music Class is both a whimsical and a comprehensive training series.

The Music Class is a product of Coda Music Software, a Wenger Company, 1401 East 79th Street, Bloomington, MN 55420; (800) 843-1337. It requires an Apple II Plus, IIe, IIc, or IIGS with 64K of RAM and costs $195 for the entire series.

Note-Us. Note-Us has intensive drills in sightreading and interval recognition—lessons spiced up aurally by MIDI-equipped synthesizers. The program's easy-to-read spiral-bound documentation helps move students briskly through the basics: scales, arpeggios, major and minor chords—followed by a lot of the practice that ultimately makes perfect.

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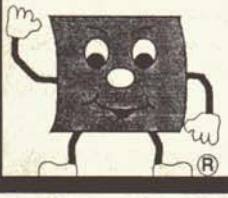

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ALL STARS

& Me, Ltd., 10 Ashbrook Road, Exeter, NH 03833; (603) 772-4399. It runs on an Apple II Plus, IIe, IIc, or IIGS with 48K of RAM and retails for $129.95.

MIDI Music Tutor. This program covers the same basic terrain as Note-Us but comes with a special Record Keeper disk: four utilities

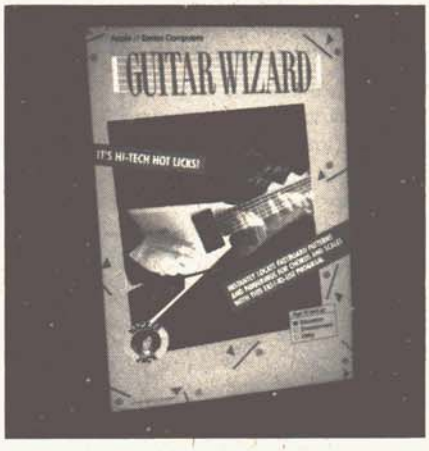
that let teachers maintain exhaustive records and quickly modify lesson content. For schools that have made sizable investments in pre-GS machines, both Note-Us and MIDI Music Tutor let students hear chords and intervals in all their glory—something that unaided II Plus and IIe computers aren't very good at.

MIDI Music Tutor is from Passport Designs, Inc., 625 Miramontes Street, #103, Half Moon Bay, CA 94019; (415) 726-0280. It requires an Apple II Plus, IIe, IIc, or IIGS with 64K of RAM and costs $229.95.

Guitar Wizard. Most music software is extremely keyboard-oriented, probably because it's easier for beginning students to map out exotic augmented or 13th chords on a keyboard than on, say, a guitar.

Unless you've got Guitar Wizard, that is.

I defy any would-be Yngwie Malmsteen or Eddie Van Halen to



come up with a guitar chord or scale that *isn't* on the Guitar Wizard disk. It's astonishingly complete, full of scale runs and unusual chord voicings you seldom see in guitar books.

Guitar Wizard has four basic ar-

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eas of study. Chord Wizard helps you locate chords at different positions on the neck. Scale Wizard displays fingerings, intervals, and notes for a whole slew of scales. Fretboard Wizard teaches the rudiments of fretboard harmony and open tunings. And for advanced axmen and axwomen, Improvisation Wizard suggests scales for your next blistering solo.

So, whether you're a novice picker or a seasoned player, Guitar Wizard is almost as educational as having Yngwie, Eddie, and Chet Atkins as next-door neighbors.

Guitar Wizard is a product of Baudville, 1001 Medical Park Drive S.E., Grand Rapids, MI 49506; (616) 957-3036. It requires an Apple II Plus, IIe, IIc, or IIGS with 64K of RAM and retails for $29.95.

Honorable Mentions

Here's a quick summary of some other noteworthy music packages for the Apple II family:

Stickybear. Stickybear Music and Stickybear Music Library, although not as comprehensive as KidsTime II, are nonetheless more kid-friendly than most instructional

packages for the 7-and-up crowd. Stickybear Music uses the space bar (in lieu of a mouse) for placing notes on the grand staff. The notes are big and fat, helping young kids follow along.

Stickybear Music is a Weekly Reader Family Software product developed and distributed by Optimum Resource, Inc., 10 Station Place, Norfolk, CT 06058; (203) 542-5553 or (800) 327-1473. It re-

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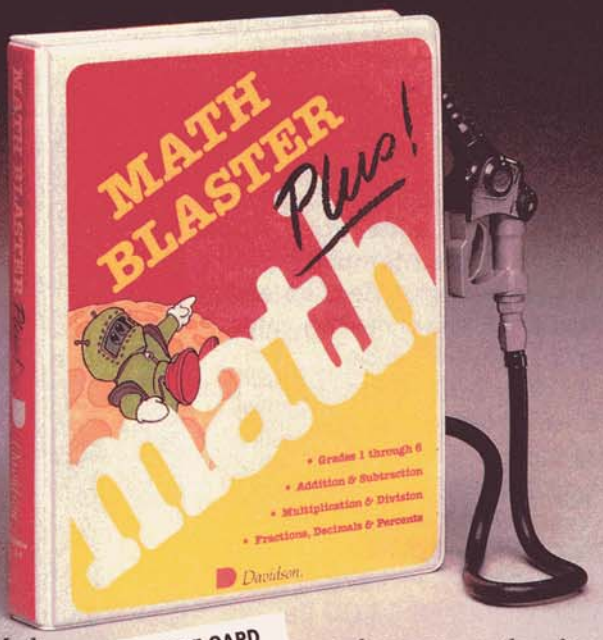

Davidson's new Math Blaster Plus is the highest octane math software program you can buy for your kids. Built by teachers to grow with kids—from addition and subtraction to multiplication, division, fractions, decimals, and percents.

Math Blaster Plus pumps in confidence and motivation, prints out Certificates of Excellence, and improves kids' grades from 1st grade through 6th.

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CIRCLE 220 ON READER SERVICE CARD

ALL STARS

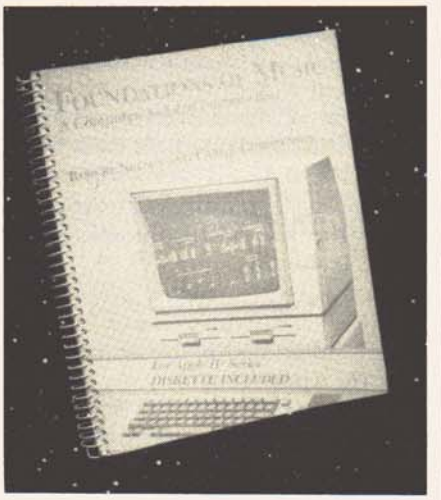
quires an Apple II Plus, IIe, IIc, or IIGS with 48K of RAM and retails for $39.95.

Peter and the Wolf Music. This one is expressly for children 3 through 7, using Prokofiev's famous piece to give kids an intro to pitches, chords, and melody.

Peter & the Wolf Music comes from Fisher-Price Learning Software, 1 Kendall Square, Cambridge, MA 02139; (617) 494-1222. It runs on an Apple II Plus, IIe, IIc, or IIGS with 64K of RAM and retails for $39.95.

Foundations of Music. Despite its rather stodgy title, *Foundations of Music: A Computer-Assisted Introduction* is a beautifully written and produced textbook with accompanying floppy. If you're looking for full-fledged *chapters* (instead of quickie definitions) on scales, intervals, and the like, this book/floppy combo is ideal.

Foundations of Music is from



Wadsworth Publishing Company, 10 Davis Drive, Belmont, CA 94002; (415) 595-2350. It runs on an Apple II Plus, IIe, IIc, or IIGS with 48K of RAM and costs $31.25.

En Garde, Commodore and Atari!

Just 18 months ago, Amigas and STs were on the verge of dominating the micro music field, getting ready to drive the Apple II clan from America's music classrooms. Now the Apple IIGS has brought new vitality to an Apple II application that was in danger of becoming humdrum. Maybe that's why Woz, that diehard music fan, scrawled his name so proudly on the machine that put us "back in the high life again." ✚

Larry McClain is an ad-agency copywriter in Southern California who once tried his best to be a rock star. He's a former staff writer for Popular Computing *and ex-editor of* HARDCOPY, *a DEC-oriented magazine. An Apple IIGS was provided for this review courtesy of Net Profit Computers, Anaheim, California.*

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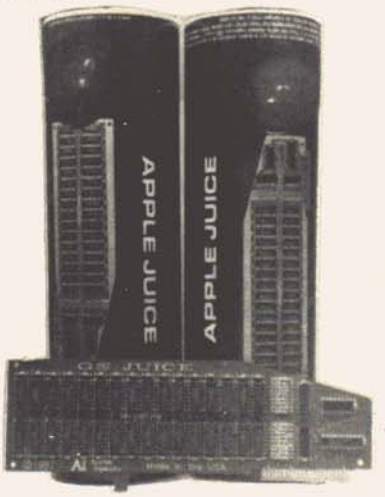

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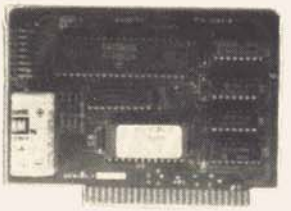

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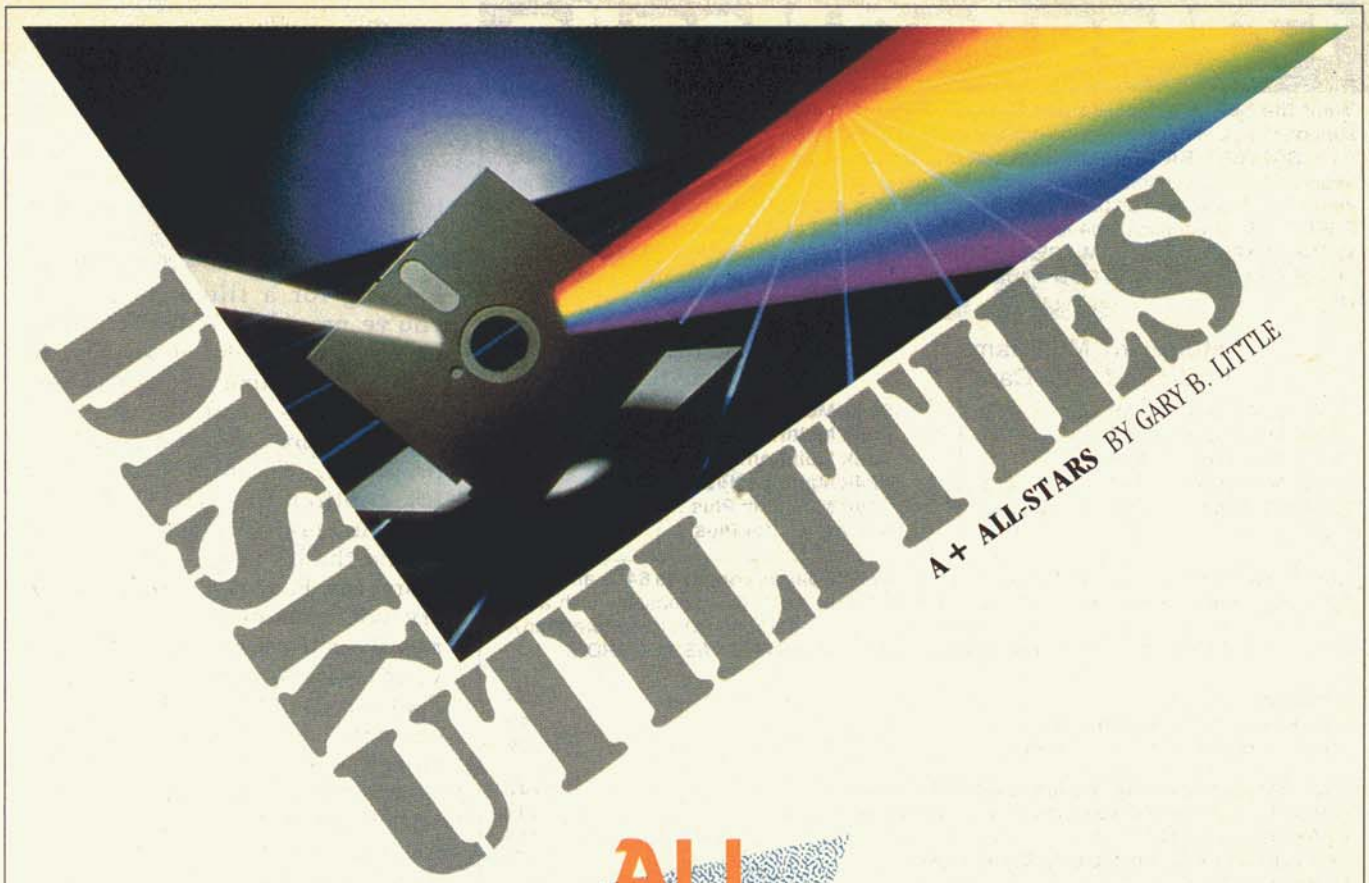

DISK UTILITIES

A+ ALL-STARS BY GARY B. LITTLE

ALL STARS

The best programs for disk management

Every all-star team needs quality utility players, players capable of substituting for injured or slumping first-stringers so that the team can continue to win. It's just not possible to assemble a perfect lineup that does it all, day to day and year to year, without fail. This verity holds whether your team is the Los Angeles Lakers, New York Yankees, Chicago Bears, or that prized collection of software that makes your Apple II so valuable to you.

Disk utilities are particularly important to Apple II users, especially users with high-capacity 3.5-inch drives or hard-disk drives that are littered with dozens, perhaps hundreds, of files. Such utilities perform a variety of useful chores that major application programs usually don't handle adequately: general disk and file maintenance (cataloging, copying, deleting, renaming, locking, verifying, and so on), disaster recovery (fixing damaged disk blocks and scrambled catalogs, restoring deleted files), and other miscellaneous activities (searching for files and editing disk blocks).

In this article, I describe the very best disk utilities available for the Apple II today. Interestingly, none of Apple's standard programs (Filer, System Utilities, DeskTop, and Convert) are good enough for inclusion. I suspect, however, that many *A+* readers are still using them, simply because they come free with the ProDOS operating system. Believe me, you'll become much more productive if you switch to the best third-party disk utilities, so read on.

ProSel

ProSel is a startlingly comprehensive software system that includes more than a dozen disk-utility programs, as well as a popular program-selector utility, from which it derives its name.

The module you'll use most often is called Cat Doctor. Similar to Apple's Filer program, it is much more powerful and convenient. It performs a variety of operations on groups of files or on entire subdirectories. The basic operations are Catalog, Copy, Lock, Unlock, Delete, Verify, Rename, Wipe (it zeros all disk blocks the file uses), Sort Directory, Change File Date, Create Directory, and Show Volume Names.

One of Cat Doctor's strong features is that it can display a tree diagram that shows how the various subdirectories on a disk are interconnected; you can then move to a subdirectory of interest by positioning the cursor over its name and pressing Return.

The Copy module is for making copies of entire disk volumes. A unique feature of Copy is that it copies between disk volumes of different sizes, provided the destination volume is the larger one. This ability is useful for quickly copying all the files on a disk to a RAMdisk, for example.

ProSel also sports a deluxe disk-zap program called Block Warden for reading, writing, and editing individual blocks on a disk volume. Block Warden understands many advanced commands, including one for disassembling the contents of a block and another for directing it to display, in order, the contents of the blocks a particular file uses.

Another ProSel utility I find par-

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Copy II Plus 7.4 (Best Apple Utility)	29.

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CIRCLE 105 ON READER SERVICE CARD

ticularly useful, now that my ten-megabyte hard disk is almost full, is Find File. It scans a disk volume, looking for a file whose name you've provided. When it finds a match, you can either display the file in hexadecimal form or as lines of text (if it's a text file), run it (if it's a system file or an Applesoft program), or continue searching for another file with the same name in another directory.

And there's more—much, much more. Mr. Fixit is a disaster-recovery tool for fixing damaged directories. Even if you manage to destroy your entire volume directory, Mr. Fixit can usually rebuild it, at least enough to let you use all files stored in subdirectories. Beach Comber effectively speeds up disk activity by restructuring the disk so that directories are packed together and files occupy contiguous blocks. Backup is for quickly making archival backup copies of disk volumes, and Restore is for transferring backups back to the original volumes.

At $40, ProSel is truly a bargain, but don't rush down to your software store to buy it. It is available only by mail from Glen Bredon, the Rutgers mathematics professor who wrote it (521 State Road, Princeton, NJ 08540; [609] 924-5976). It runs on an Apple II Plus, IIe, IIc, or IIGS with 64K of RAM. For technical support, you leave messages for Bredon on the CompuServe information service.

Copy II Plus

Copy II Plus initially earned its reputation as a superb utility for making backup copies of copy-pro-

tected software. It continues to provide that function, but it additionally offers a more traditional set of disk utilities.

Longtime users of Apple II software will think they've been transported back to 1979 when they boot up Copy II Plus, because screen messages and menus appear in all uppercase text on the 40-column screen. But fear not, the program is far better than its ancient user interface implies.

The major commands in Copy II Plus are Copy (files or volume), Catalog, Delete, Lock/Unlock, Rename, Alphabetize Catalog, Format, Verify, View Files, Disk Map (shows block usage on a 5¼-inch disk), Undelete Files, and Create Subdirectory. Like ProSel's Cat Doctor, it shows a directory tree diagram when you select a file operation; it lets you move to any directory without typing a complete pathname.

Three features of Copy II Plus distinguish it from similar programs. One is that it works with both ProDOS- and DOS 3.3-formatted disks. In fact, you can even copy files from one type of disk to another—Copy II Plus automatically takes care of making all necessary conversions.

Another unique feature of Copy II Plus is that it lets you specify the order in which files are to be copied. This provision is especially convenient if you're attempting to arrange files in logical groups in a directory. Most file-copying programs copy files only in the order in which they appear in the source directory.

Yet another special feature is the ability to copy a smaller disk to an image file on a larger disk. After making this copy, you can make multiple copies of the smaller disk by repeatedly copying the image file to blank disks.

Copy II Plus comes from Central Point Software, 9700 SW Capitol Highway, Suite 100, Portland, OR 97219; (503) 244-5782. It requires an Apple II Plus, IIe, IIc, or IIGS with 64K of RAM and costs $39.95.

Diversi-COPY

Diversi-COPY has one goal in life: to make copies of entire disks as quickly as possible. Much to the delight of single-drive users (especially 800K-drive users), it has achieved this goal.

The problem with most disk-copying programs is that they require multiple passes to make a copy because they can't get at enough RAM memory to hold an entire disk, meaning that you must insert and eject disks several times during the copying process. Diversi-COPY is able to use all memory in the computer, even expansion memory that other programs ignore (such as extended memory in the IIGS or multiple auxiliary memory banks and memory in I/O slots in the IIe). So if you have a IIe with a RamWorks card with plenty of memory, or a GS with a one-megabyte OctoRAM, for example, you can copy an entire 800K disk in just one pass.

Diversi-COPY has a multiple-copy option, which simplifies the making of several copies from one master. When this option is active, you transfer your original disk into

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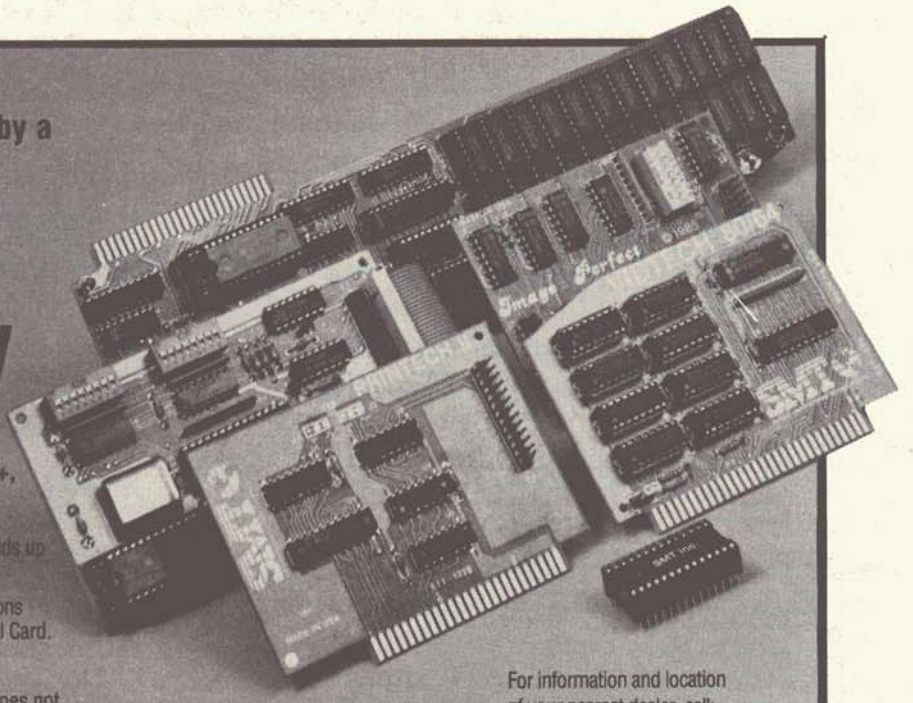

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memory once and then keep copying the memory image to blank disks until you are done—a wonderful alternative to buying a multithousand-dollar disk-duplicating machine.

Diversi-COPY is a product of Diversified Software Research, Inc., 34880 Bunker Hill, Farmington, MI 48018-2728; (313) 553-9460. It runs on an Apple II Plus, IIe, IIc, or IIGS with 64K of RAM and costs $30.

MouseFiler

MouseFiler is unique to the group of utilities I'm presenting here, in that it uses a Macintosh-style pull-down-menu and window interface. This interface uses the 80-column text screen for maximum speed. If you're a mouse user who delights in pointing and clicking, then MouseFiler will be your favorite disk utility.

MouseFiler performs the standard functions you might expect: renaming, deleting, and copying files; formatting, copying, and renaming disk volumes. It can also compare two files or disks to see if they are the same, a useful feature if you need to verify that you've updated a certain file or disk.

An attractive feature of MouseFiler is the ease with which it lets you move through the directories on a disk volume. To catalog a disk, you simply double-click on the volume name. To see what's in lower-level subdirectories, you keep double-clicking on the subdirectory names in the path. At any time, you can move back up to the previous subdirectory level by clicking in the close box of the window in which the directory appears.

MouseFiler uses a Clipboard to facilitate the copying of files. To copy a group of files, you first highlight their names by dragging the mouse across them and then select the Copy item from the File menu. Finally, you highlight the name of the destination subdirectory or disk and select the Paste item from the File menu. Very slick. As with the other file-copying utilities mentioned above, you can copy entire directories at once.

MouseFiler is a product of Harbor Software, Inc., 403 Great Road, Suite #8, Acton, MA 01720; (617) 263-1870. It runs on an Apple IIe (enhanced), IIc, or IIGS with 128K of RAM and retails for $69.95.

Bag of Tricks 2

Bag of Tricks is the ultimate utility for recovering data and files from damaged disks. If you have a disk you can't boot or a file you can't load, then Bag of Tricks may be your salvation. It works with ProDOS, DOS 3.3, DOS 3.2, Pascal, and CP/M disks.

Bag of Tricks has four modules. TRAX examines sectors on a 5¼-

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All Stars

inch at the lowest level and displays sector overhead data as well as the actual file data. This overhead data encapsulates each data block on disk and serves to frame and identify the block properly. TRAX automatically flags unusual patterns, enabling you to isolate problems easily.

The INIT module can format individual tracks on a 5¼-inch disk, which is useful if your disk drive can't read a particular sector in a track. By using INIT, you can reformat the track (usually enabling access to the bad block) and restore the data in the other blocks of the track. You can then try to reconstruct the bad block by using the ZAP module. This module is a general utility for reading, writing, and editing individual blocks on a disk.

The fourth module, and probably the most useful, is Fixcat. It is for recovering DOS 3.3 catalogs or ProDOS directories that you may have totally or partially lost on your medium. It is powerful and can often recover a directory without any user intervention.

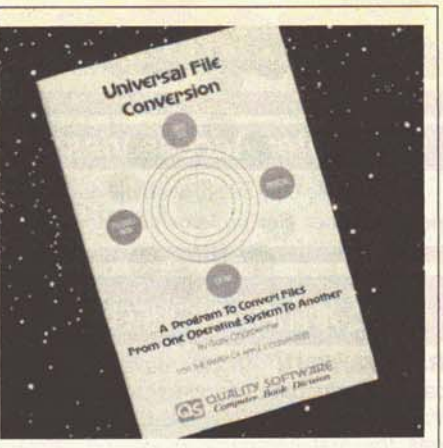
Bag of Tricks comes with a comprehensive 158-page book that explains how to use each module. It also includes a useful tutorial on how to approach a typical disk-recovery session.

Bag of Tricks 2 comes from Quality Software, 21610 Lassen Street, #7, Chatsworth, CA 91311; (818) 709-1721. It works with an Apple II Plus, IIe, IIc, or IIGS with 64K of RAM and costs $49.95.

Honorable Mentions

Universal File Conversion. With this program you can transfer files from one Apple operating system to another. The operating systems with which it works are ProDOS, DOS 3.3, Apple Pascal, and Apple CP/M. If you're just using ProDOS and DOS 3.3, you can simply use Copy II Plus instead, but if Pascal or CP/M disks frequent your drives, by all means consider Universal File Conversion.

Universal File Conversion is a product of Quality Software, 21610 Lassen Street, #7, Chatsworth, CA 91311; (818) 709-1721. It works



with an Apple II Plus, IIe, IIc, or IIGS with 64K of RAM and costs $34.95.

Diversi-CACHE. This program doesn't perform disk- or file-maintenance operations, but it deserves recognition nevertheless. Diversi-CACHE is a caching program for the Apple IIGS with an Apple 3.5 Drive. It speeds up 3.5-inch disk operations by copying disk data blocks to RAM when the operating system first reads them. The second time the operating system requests the block, it bypasses disk access and takes the data directly (and more quickly) from where it was cached in memory. The advantage of using a cache over utilizing a RAMdisk is that you don't have to transfer your files to RAM at the beginning of a session or save changed files back to disk at the end of a session.

Diversi-CACHE installs itself as a Classic Desk Accessory, and the cache size is changeable. One of Diversi-CACHE's wonderful features is that it survives a hard reset (Control/open-apple/Reset), which most RAM-based CDAs do not.

Diversi-CACHE comes from Diversified Software Research, Inc., 34880 Bunker Hill, Farmington, MI 48018-2728; (313) 553-9460. It runs on an Apple IIGS with 512K of RAM and costs $35.

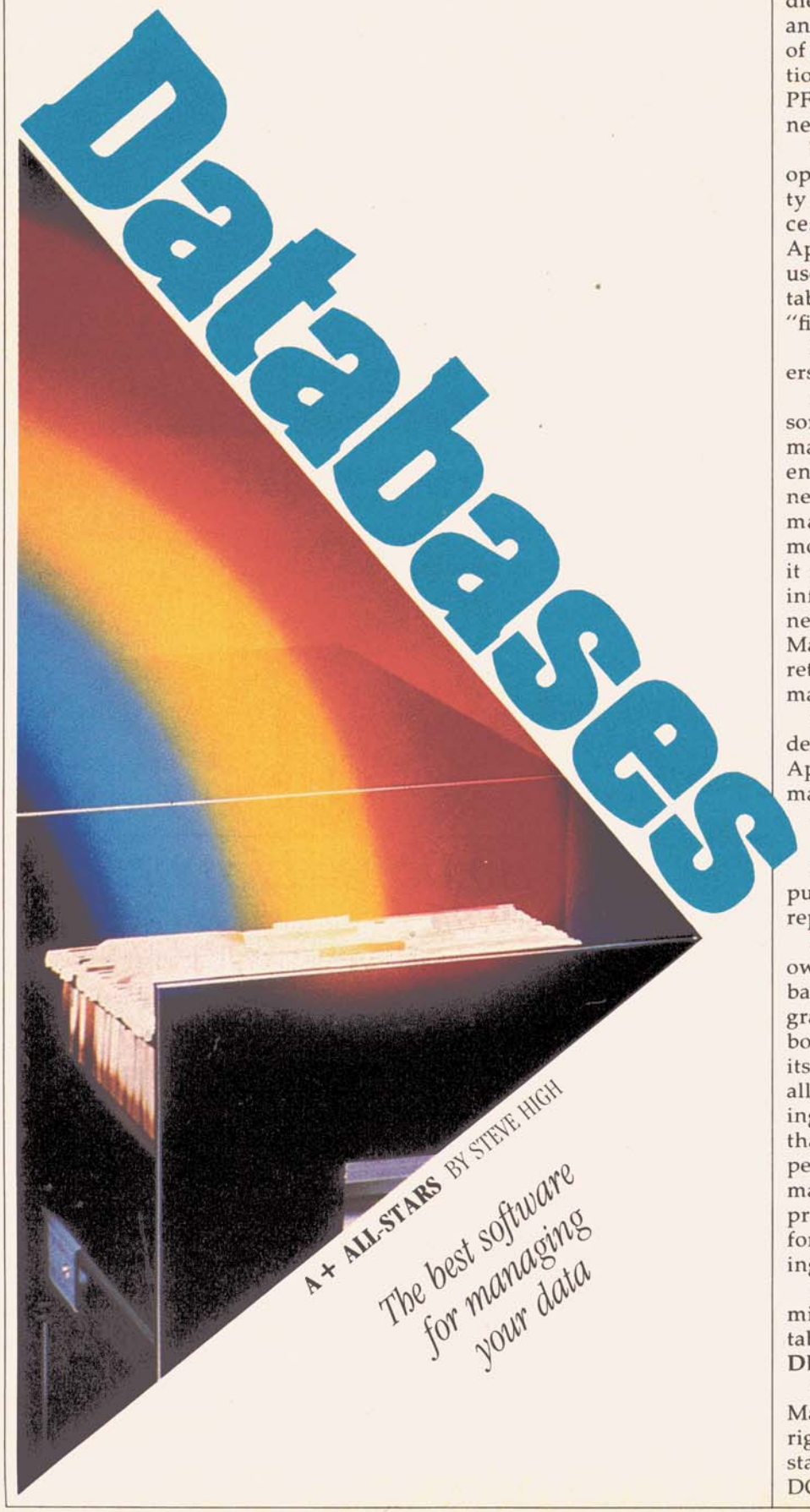
All-Star Wrap-up

So there you have it—the best disk utilities on the market today. The next time your superstar software falters or twists its knee on a bad disk block, trot these utilities out to save the day. ✚

Gary Little is A+'s senior technical editor. His latest book is Exploring the Apple IIGS, *from Addison-Wesley Publishing Company.*

ALL STARS

Databases



A+ ALL-STARS BY STEVE HIGH

The best software for managing your data

In the early 1980s, DB Master dominated the database category of the Apple II best-seller charts. This product eventually died because of lack of marketing and technical support and because of competition from a new generation of database products such as PFS:File; Quick File; and, preeminently, AppleWorks.

The new database products were optimized for personal productivity rather than hard-core data processing. Purists, who found AppleWorks disgustingly easy to use, complained that it wasn't a database program at all, but simply a "file manager."

If so, the market for file managers turned out to be pretty brisk.

Actually, you hear less of this sort of talk than you used to, primarily because cheap memory and enhancements by Applied Engineering and Apple Computer have made the AppleWorks database module much more powerful than it was when first introduced. The influential and reliable technical newsletter *Open-Apple* wrote last March that AppleWorks "sorts and retrieves data fast enough to make mainframes blush."

So why use anything else? Well, despite its very high performance, AppleWorks is missing, by design, many of the features a mainframe data-processing manager would expect to find, such as indexing, multiple field attributes, merge/purge, and essentially unlimited reporting options.

Nevertheless, many Apple II owners use the AppleWorks database module as a stand-alone program to manage large and complex bodies of information, finding that its speed, power, and convenience allow them to work around missing features. But the fact remains that AppleWorks is better used as a personal productivity tool—a file manager, if you will—than as a professional data-processing tool for such things as payroll, invoicing, and inventory control.

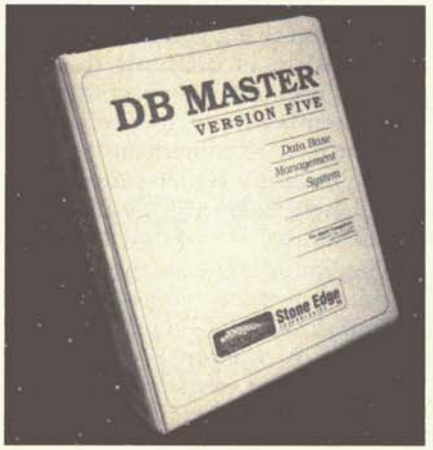
With this frame of reference in mind, here are my picks for the database All-Stars.

DB Master

The original developer of DB Master has obtained the marketing rights to the product and has substantially revised it. The new ProDOS-based product is called DB

Master Version Five.

In a refreshing display of candor, Stone Edge Technologies (the successor company to StoneWare) shipped a version of DB Master for several months that was admittedly unfinished and labeled "pre-release." (The final version became



available shortly after this article went to press.) DB Master is most suitable for previous owners of DB Master or others who are experienced in the ways of complex database programs (such as Ashton-Tate's dBase).

Even the prerelease version has some significant advantages over AppleWorks. DB Master allows up to 200 fields per record, compared to 30 in AppleWorks, and permits up to 250 characters per field, compared to about 70 characters in AppleWorks. To handle all of these fields and characters, DB Master allows up to 30 screens per record. In addition, a single DB Master file can be as much as ten megabytes in size on a hard disk, whereas AppleWorks runs out of steam at about 6 megabytes.

The DB Master report generator is better than AppleWorks for creating, or filling in, forms. Unlike the AppleWorks labels-style report format, DB Master is not limited to 15 lines (2½ inches) and can print out invoices, bills of lading, and similar forms up to four pages in length when you have 60 lines to a page.

In AppleWorks, you have to worry about only three different types of fields: date, time, and everything else—and you worry about them only to the extent that you type `date` or `time` in the appropriate field names and omit those words from all other field, or "category," names.

ALL STARS

DB Master, by contrast, has 13 field types. Depending on your attitude, this variety is either a curse or a blessing. You need to specify which of these types you want, as you name the categories in your database file. The program has three kinds of date fields alone, including two that the computer automatically fills in.

You can have DB Master date and time fields calculate days and hours elapsed between two events. This important function is not easily available in AppleWorks. In addition, all of DB Master's math functions are present in the database as well as in the report generator, so you can enter a formula into a field that automatically calculates a value.

I have to say, however, that if you are used to AppleWorks and want to switch over to DB Master, you'll find the experience like going to the garage to start your car in the morning and finding instead a small plane parked there with an instruction manual in the cockpit. To be sure, the Piper can fly over buildings, which your car cannot, but even after you learn how to do it, you will find that the plane is hard to park and that it's simply not suitable for most routine trips.

The standard version of DB Master costs $179, and the prerelease of DB Master Version Five Professional (with relational capabilities) sells for $295. Far greater than its retail cost will be the time cost of learning and using it, however, so you should be positive that you need its advanced features before abandoning AppleWorks.

In the prerelease version I reviewed, DB Master offers only partial file-transfer capabilities. You can convert only old DB Master files to Version Five, print Version Five files to disk, and then read them into AppleWorks. The publisher says, however, that the final version lets you import AppleWorks database files as well as export DIF and ASCII files.

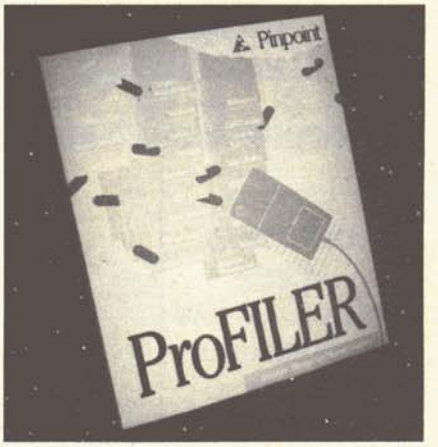
DB Master comes from Stone Edge Technologies, P.O. Box 200, Maple Glen, PA 19002; (215) 641-1825. It requires an Apple IIe, IIc, or IIGS with 128K of RAM.

ProFILER 3.0

An alternative database program that combines some of the best of both AppleWorks and DB Master is ProFILER 3.0 from Pinpoint Publishing. Like all of Pinpoint's programs, this one has an exceptionally good user interface. It is very Mac-like in appearance, but, in recognition of the small mouse population in the Apple II world, it is also convenient to use with just the keyboard.

ProFILER reads from and writes to AppleWorks files, albeit a little clumsily. This feature could be available without the necessity of pathname typing, but at least it's present.

ProFILER is able to handle 65,000 records, Pinpoint Publishing claims, each record with up to 250 fields. In this respect, the product is in the DB Master class. On the other hand, you can modify ProFILER databases at will, adding or deleting new categories without risking data loss, an AppleWorks feature that ProFILER's manufacturer wisely imitated.



ProFILER has a useful search-and-replace command, something you'll find in the AppleWorks word-processing module but not in the database module. One AppleWorks feature missing from ProFILER is multiple record layout. In ProFILER, you can view only one record at a time. Mail merge, a vitally necessary business function, is available now in both AppleWorks and DB Master but missing from ProFILER. You use AppleWriter II to produce form letters with ProFILER.

The AppleWorks database module handles about 5000 records,

provided you have enough RAM. With Applied Engineering's software patch, you can have about 15,000 records, again provided you have enough RAM. If size is the only AppleWorks limitation that concerns you, ProFILER may be an excellent alternative for you, since it can import your already overgrown files and let you make them even bigger. ProFILER does not give you the sheer control over your data that you get from DB Master, however. The trade-off here is between number of features and simplicity of use. ProFILER is attractively priced at $129.

To integrate some additional features with ProFILER, you can add Pinpoint's popular desk accessories, providing pop-up access to a calculator, notepad, and other handy tools.

ProFILER is from Pinpoint Publishing, 5865 Doyle Street #112, Emeryville, CA 94608; (800) 633-2252; in CA (415) 654-3050. It runs on an Apple IIe (enhanced), IIc, or IIGS with 128K of RAM.

Integrated Programs

Two programs that compete not only with the AppleWorks database module but also with its word-processing and spreadsheet modules are DoReMe and Foundation. Of the two, I find DoReMe easier to use, but the program is, unfortunately, DOS 3.3-based. This factor disqualifies it, in my view, from consideration as a high-powered database. A ProDOS version is supposed to be under development, and it may emerge as a major AppleWorks competitor, as DoReMe seems to contain an excellent blend of power and ease of use.

Two other DOS 3.3 database programs that should be revised to run under ProDOS are Bank Street Filer, a well-designed, easy-to-use file manager, and 9 to 5, a more ambitious program that includes most AppleWorks features as well as some things missing from AppleWorks, such as the ability to do date math.

Foundation. Foundation is a powerful integrated program that runs under a proprietary operating system, GigaDOS. Despite this peculiarity, Foundation can read AppleWorks directly and print ProDOS text files to disk. One of the first things you notice about Foundation is its rapid disk-access time, a consequence of its unique operating system.

The next thing you realize is that Foundation is difficult to learn how to use and, I suspect, difficult to remember how to use. In appearance, it is something like Lotus' Symphony, which most people find bewildering if they don't use it constantly.

The Foundation database is relational, however—something that no other Apple II program can claim. DB Master Professional, when finished, is supposed to have relational capability, but whenever the final version is ready, all the other programs mentioned in this article may well also have additional enhancements. As it exists at this writing, Foundation is more powerful than DB Master. A Foundation database file can poll other database files and automatically load data from them. You can also "re-

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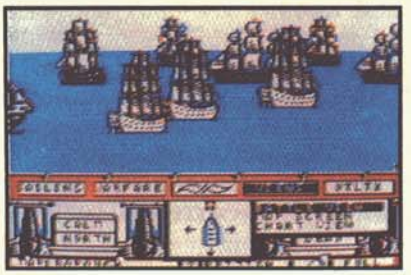
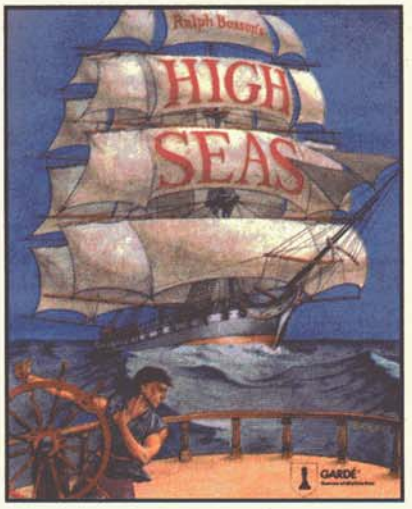


From the crow's nest, your topman bellows, "Enemy ship ahoy!" You immediately order battle sails, your guns loaded and prepared to fire. You change your course in anticipation of your enemy's next move. Now, the wind is in your favor, and so is lady luck. Before the enemy captain can bring the ship about, you level a broadside amidship; crushing her main mast, taking sails and rigging down with it. She's dead in the water, gunports blocked by the fallen mast and sails. Your next broadside explodes into her hull, ravaging her decks; then another until finally, she strikes her colors. The prize is yours.



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All Stars

late" or link data in a Foundation spreadsheet document to a Foundation database.

Foundation is impressive. The only major AppleWorks feature that it is obviously missing is the ability to view multiple records on the screen. Like most database programs, Foundation prints a report

to screen instead. A Foundation database is harder to modify than one you've created in AppleWorks or ProFILER, although you can create a new database with fields you forgot to include the first time and then move the old data into it.

You can use the Foundation database to construct a full-scale accounting, general-ledger, and payroll program. You can link your checkbook file to an accounts-payable database so that when you enter a check, the accounts-payable file is automatically posted. In fact, you can use Foundation for almost any data-processing application you are clever enough to know how to do.

Foundation is a product of Foundation Corporation, 506 West Armitage, Chicago, IL 60614; (312) 880-5761. It runs on an Apple IIe, IIc, or IIGS with 128K of RAM and costs $300.

AppleWorks

Foundation will not replace AppleWorks as the most popular personal productivity tool for the Apple II. AppleWorks has more features than most people use, and Foundation has more features than AppleWorks, with a corresponding price tag in complexity. The installed base of AppleWorks users is many times greater than that of all the other programs I've mentioned here combined. Many people are pushing its database module to its limits and beyond, and it is a good idea to talk to some AppleWorks experts—every users' group has dozens—before concluding that the program won't do what you want it to. In addition to soliciting lots of free advice, you might also consider paying somebody to set up an AppleWorks system for you.

AppleWorks comes from Apple Computer, Inc., 20525 Mariani Avenue, Cupertino, CA 95014; (408) 996-1010. It requires an Apple IIe, IIc, or IIGS with 128K of RAM and costs $249.

Honorable Mention

Notes•n•Files. An honorable mention of interest to GS users is Notes •n•Files from DataPak Software. With it you can create simple fixed-form mailing-list databases to which you can attach short notes or messages. Although you can't refer to is as a full-featured database manager, Notes•n•Files satisifes a common database need—keeping track of names and addresses—very well. It uses the standard desktop interface and clever icons (a photocopy machine to represent

printing and a filing cabinet to represent a database, for example), meaning it is easy—and even fun—to operate.

Notes•n•Files comes from DataPak Software, 14011 Ventura Blvd. #507, Sherman Oaks, CA 91423; (818) 905-2201. It runs on an Apple IIGS with 512K of RAM and costs $129.95. ✚

Steve High is a public-relations professional whose clients include Applied Engineering and Bob Lissner, the author of AppleWorks.

Personal Finance

A+ ALL STARS BY STEVE HIGH

The best home financial software for your Apple II

The best of the best home financial software packages help you balance your checkbook, budget family expenses, and prepare your records for tax time. They require almost no knowledge of, or aptitude for, accounting. This approach is good, because if you have such knowledge or aptitude, you can balance your checkbook on the back of your bank statement, and you probably even keep a running balance after you write checks or mug the automatic-teller machine in the small hours of the night.

A good home financial package, in my view, is one that helps people who would otherwise be calling the bank all the time to find out how much money they had and, what is worse, taking the bank's word for it.

I don't know about your bank, but mine has been making so many multimillion-dollar loans to governments in Latin America that I make tellers show me two pieces of identification before they cash a check. Dealing with banks is never a day at the beach, and your Apple, used correctly, is a potent self-defense weapon.

Since you can handle the basics of home finance rather easily with AppleWorks, with its unrivaled speed, why look elsewhere? Well, personally, I don't. But I spend four or five hours daily working with AppleWorks, so I'd rather use it for almost everything else than learn new software.

Building the database and spreadsheet files that turn AppleWorks into a home finance machine requires more than a beginner's knowledge of the program, however. Also, the data-entry job, which tends to involve the least computer-literate members of the family, is less intuitive with AppleWorks than in either Quicken or On Balance, my choices for the best products in the personal-finance category.

Checkbook-balancing programs sell well because people seek relief from a nasty job. Paradoxically, however, the first thing you have to do after buying one is a lot of work. Since all computerized home-finance solutions require heavy-duty data entry, you might want to think that aspect over before you buy one. And since the chances are excellent—I would say overwhelming—that you'll someday want that hard-won data available for use in another computer program, think long and hard before you buy a program that has no data pathway out of it. Both On Balance and Quicken offer just such an exit, as does Dollars and Sense, my choice for runner-up.

Almost all home accounting programs use checks that you can order specially for printing on your computer, but many more people buy home accounting packages than actually go to the next step of ordering checks. It's sort of like memberships in a physical-fitness club: If everybody who paid to join actually exercised, you'd have human gridlock in the showers, but that doesn't seem to happen. Inci-

dentally, you can also print checks from the AppleWorks database by using a labels-style report, if you're so inclined, but if you want to print out the check amount twice, the way banks seem to like, you'll have to type it in twice, in two separate categories. Both Quicken and On Balance automatically use your single amount entry to fill out both blanks on the check.

The real advantage to printing out checks with your computer is that it guarantees that you'll get the same information in your computer that appears on your check. Granted, it's hard to do in a bar or a grocery checkout line, but it's a pretty groovy way to pay bills at the end of the month.

Quicken

In Quicken, you enter a check by filling in a blank that looks just like a check, and, to fill out the check register, you type into a blank that looks just like a check register.

Quicken provides helpful prompts and data-entry shortcuts

that are simply missing from the general-purpose AppleWorks. For example, after you enter check number 1001, these programs automatically supply check number 1002 in the next record, on the reasonable assumption that check 1002 is what comes next. Now, that's not always the way things work at our house, since my wife and I don't always agree on whether to add new checks from the top or the bottom of the stack, but it's a reasonable and helpful guess from the computer just the same.

Quicken also keeps a running balance for you every time you enter a check and it has a feature called Memorize and Recall that works sort of like AppleWorks

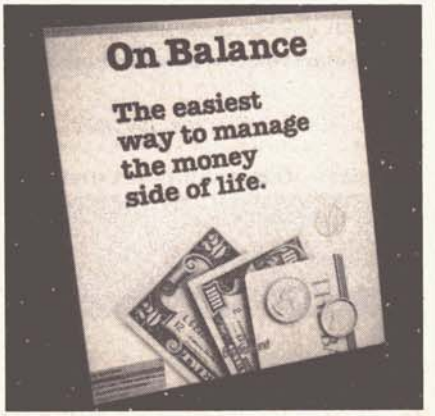
standard values, only more so. You can use it, for example, to automatically code all checks to Alpha-Beta as Food. Used thoughtfully, Memorize and Recall can simplify data entry.

Of the best programs, Quicken may be the easiest to use. It follows the AppleWorks file-folder interface closely, and, if you know how to fill out a check, you pretty well know how to use Quicken. Quicken saves to disk after each entry, which I found a bit overprotective, notwithstanding the megabytes I've lost in my time through forgetting to save. If you insist on being a Real Man, the manual tells you how to set up an auto-load utility with a short BASIC program that cons Quicken into saving to your RAMdisk, where you can lose your data all at once.

Quicken is a product of Intuit, 540 University Avenue, Palo Alto, CA 94301; (800) 624-8742; in CA (800) 468-8481. It runs on an Apple IIe, IIc, or IIGS; requires 128K of RAM; and retails for $49.

On Balance

On Balance, like Quicken, has automatic check numbering. Another helpful feature in On Balance that Quicken lacks is in the Account category. If you enter `food` in the account memo, the next time you type in an `F`, the program automatically fills out `food`. On the other hand, if you make out a check to Disneyland and put `fun` in the memo, the program will look for `Fo` or `Fu` before completing the word. Quicken's Memorize and Recall feature can do the same thing, but



it is not automatic.

Both On Balance and Quicken offer a utility for exporting data to AppleWorks. You need to create an AppleWorks spreadsheet, as directed, and then run the utility.

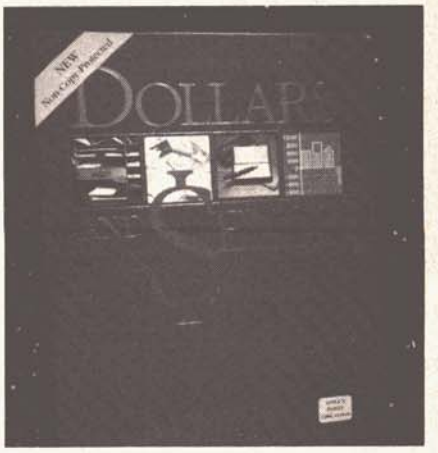
On balance, I like On Balance better than Quicken. It has a mouse-based interface but also works intuitively with the arrow and Return keys if you don't have a mouse, and it reports information in both statistical and bar-graph form, a happy feature you won't find in Quicken.

Both Quicken and On Balance have only a limited ability to classify records for taxes or expense statements. You can look at only a single classification at a time. If simplicity is what you're looking for, however, a simple "taxable/non-taxable" code on each check entry might be all you need.

On Balance is from Brøderbund Software, 17 Paul Drive, San Rafael, CA 94903; (415) 492-3200 or (415) 492-3500. The $99.95 product runs on an Apple IIe with an Extended 80-Column Card, IIc, or IIGS and requires 128K of RAM.

Dollars and Sense

If you really think you need more features than you can find in On Balance or Quicken, or Apple-



Works, you should probably look at Dollars and Sense, the runner-up in this category. It comes from Monogram, 367 Van Ness Way, Torrance, CA 90501; (213) 533-5120; sells for $119.95; and requires an Apple II Plus with 48K of RAM or an Apple IIe, IIc, or IIGS with 128K of RAM.

Although not really AppleWorks-like, Dollars and Sense is internally consistent with concise on-screen documentation. Enter-

ing data is reasonably easy, and the program automates data entry of check numbers and dates. On the other hand, if you want to put something other than a check number in the Check # category, (such as "other"), you won't be able to. More restrictive than this limitation is the requirement to modify the preexisting chart of accounts, or use it as is, before you can categorize your checks. In AppleWorks, you can put down any old thing and then standardize later with the open-apple/Ditto command.

Like a real CPA, Dollars and Sense doesn't stand for any of that guff.

Dollars and Sense doesn't have a direct AppleWorks export utility, but it does permit saving data to a DIF file. This method is actually better, in many ways, than the approach of the Quicken and On Balance utilities because it allows immediate access to the AppleWorks database module, as well as to the AppleWorks spreadsheet module, VisiCalc, SuperCalc3a, or anywhere DIF is spoken.

If you accidentally use the wrong data disk in Dollars and Sense, you can kiss your old data good-bye, because Dollars and Sense will format it out of existence. In this respect, Dollars and Sense is true to its MS-DOS antecedents. Apart from that bit of gratuitous violence, Dollars and Sense seems to have made a more successful adaptation to the world of Apples and ProDOS than most of its competitors have.

But Quicken and On Balance are far more convenient and more forgiving about errors.

What these programs are superbly good at is balancing your checkbook. This allegedly trivial function is occasionally ridiculed, but it seems to me that any program worth its salt should be able to do it easily and without complaint before graduating to more exotic functions. Don't forget that the same MBAs who sneer at using a computer to balance your checkbook are the ones who worked for my bank when it was making dumb loans to failing farmers, useless supertankers, and third-world gangster governments.

On Balance has an inspired tag line—"for the money side of life"—which suggests, correctly, that it is the perfect program for users who don't want to make a career out of waiting for programs to load, learning to use alien commands, and agonizing over a quarter of a point of lost T-Bill interest. Quicken is a close second. If you need more horsepower, Dollars and Sense is a decent bet, and you should also look at honest-to-goodness accounting programs, discussed elsewhere in this issue, such as Manzanita Software's Business Works.

Finally, when all else fails, AppleWorks. ✚

Steve High is a public-relations professional whose clients include Applied Engineering and Bob Lissner, the author of AppleWorks.

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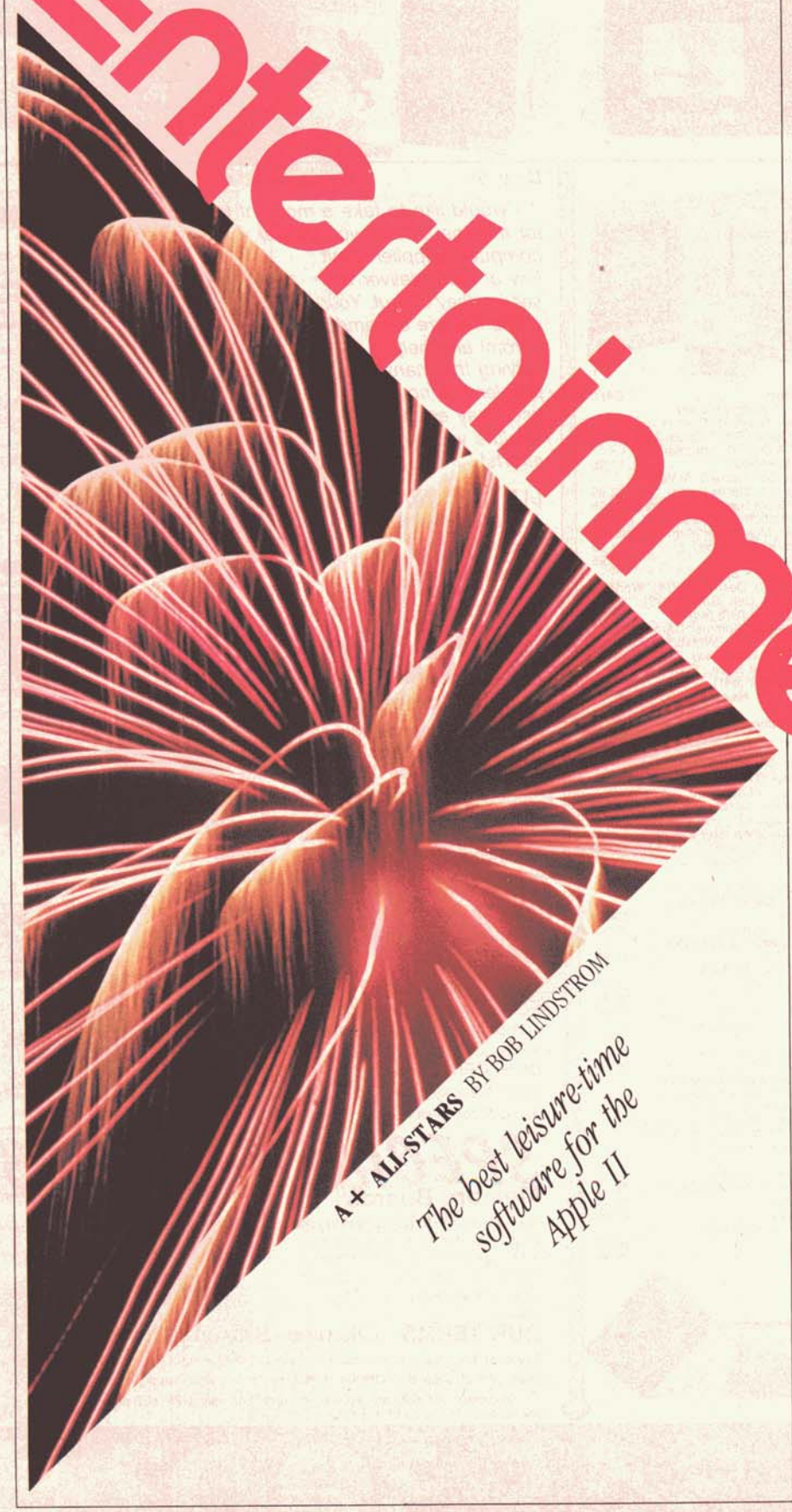


A+ ALL-STARS BY BOB LINDSTROM

The best leisure-time software for the Apple II

Come with me on a walk down Random Access Memory lane.

A decade of spreadsheets and databases and word-processing programs has taken Apple personal computers from one garage in Silicon Valley to millions of homes around the world. In those ten years, Apple computer owners have recalculated millions of cells, searched countless fields and spell-checked innumerable text files.

And they've booted up lots of games.

Although VisiCalc is recognized widely as the business application that put Apples on desks, application software didn't do it alone. More than a few Apples were picked because their owners were transfixed by Bill Budge's Raster Blaster (BudgeCo), intrigued by Scott Adams' Adventureland (Adventure International), or taken to joystick-driven distraction by Olaf Lubeck's Apple Panic (Broderbund).

Almost as soon as there was an Apple computer, there were Apple-computer games. Breakout, Hammurabi, Hunt the Wumpus —as much fun as those first titles happened to be, they quickly became primitive relics compared to Micro-soft Decathlon or Space Eggs (Sirius).

Perpetually on the razor's edge of programming virtuosity, the creators of Apple II games have shown that you *can* teach an old computer new tricks. If the catchphrase "Apple II Forever" remains one of the few constants in the randomized universe of microcomputer technology, it is partly because game programmers have been among those pioneers always uncovering new capabilities in the Apple hardware.

Choosing a handful of All-Star games from the thousands that have been published was no easy task. To narrow the field, I disqualified games that were no longer in print. They unfortunately included many arcade classics, such as the unsurpassed line of Sirius Software games such as Nasir Gebelli's Gorgon and Mark Turmell's Beer Run.

Then I faced the hard work of narrowing the field. Traveling through those software shelves from floppy disk to floppy disk became a sentimental journey. Replaying a familiar game recalled the excitement I'd experienced when the program was released and provided a reminder of the astonishment I felt when I realized an Apple II computer could do *that*!

After several hours of sniffling, wistful smiles, renewed acquaintances, and uncontrolled swearing (some games are killers no matter how much you have played them), this list emerged. It's subjective and opinionated and doubtless omits some programs that I really intended to include. But no matter—here they are: the *A+* All-Stars of Entertainment.

ADVENTURE GAMES

Zork I-III. Text adventuring began underground with Crowther and Woods' Adventure (also known as Colossal Cave), but it was the Great Underground Empire of Marc Blank and Dave Lebling that pointed the genre toward the future. Cleverly conceived and written, the Zork adventures are as timeless

as Grimm's fairy tales, and solving them is like winning the Triple Crown of adventure.

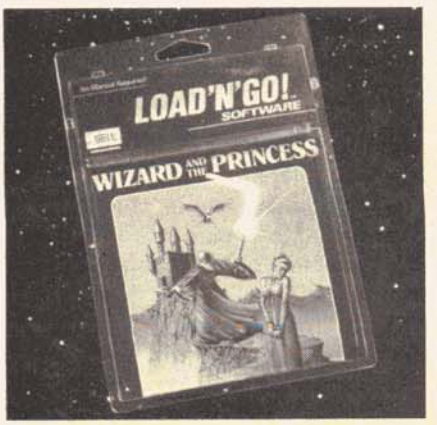
The Zork Trilogy comes from Infocom, 125 Cambridge Park Road, Cambridge, MA 02140; (617) 492-6000 or (800) 262-6868 (mail-order department). The games run on an Apple II Plus, IIe, IIc, or IIGS with 48K of RAM and cost $69.95 each.

Suspended. The conceit of text adventuring is that the player can control his universe from a keyboard. Most games just take it for granted. Michael Berlyn's Suspended was one of the first text adventures to offer an explanation. You are an intelligence directing the life-support system of a planet, but something has gone seriously wrong, and people are dying on the surface. Only you can guide a group of robots toward the solu-

tion. Since you are pure mindstuff, the robots act as your eyes and hands and report back to you through a computer system. Neat, huh? Suspended sets up a dramatic situation so potent that you become completely, believably involved in the plot.

Suspended is a product of Infocom, 125 Cambridge Park Road, Cambridge, MA 02140; (617) 492-6000 or (800) 262-6868 (mail-order department). It requires an Apple II Plus, IIe, IIc, or IIGS with 48K of RAM and retails for $14.95 (available by direct mail from Infocom).

The Wizard and the Princess. At first, adventuring was text only. Then Roberta Williams decided to do something about it. She added pictures of each location and invented the graphic adventure. Although her later projects (such as the monumental Time Zone) were larger and more complex, The Wizard and the Princess is the most delightful (and manageable) of Williams' early creations.



The Wizard and the Princess is from ShareData, 7400 West Detroit Street, Suite 170, Chandler, AZ 85226; (602) 961-7519. It runs on an Apple II Plus, IIe, or IIc with 64K of RAM and costs $7.99.

King's Quest I-III. After adding graphics to adventures, Williams decided to add animation. The result was King's Quest, the first fully animated, joystick-controlled graphic adventure. Two sequels followed. Although moving a Little Man through numerous loca-

tions is more time-consuming than typing GO DOOR, the result is charming and challenging.

King's Quest I and II (III scheduled first quarter 1988) are products of Sierra On-Line, Inc., P.O. Box 485, Coarsegold, CA 93614; (209) 683-6858. They require an Apple IIe or IIc with 128K of RAM or a IIGS (for the IIGS version) with 512K of RAM. The list price is $49.95 each ($10 for upgrade from IIe/c to IIGS version)

FANTASY/ROLE PLAYING

Ultima I-IV. Richard Garriott, aka Lord British, was an Apple-game trailblazer with Akalabeth, a hit in the days when software hung in plastic bags on computer-store walls. The basic design concepts of that program—tile graphics, monster combat, point-of-view dungeon exploration—grew into Ultima, one of the longest-running series in computer-game history. Epic in scope and fascinating in detail, the Ultimas games are essen-

ALL STARS

tial to any software library.

Ultima I, III, and IV come from Origin Systems, 340 Harvey Road, Manchester, NH 03103; (603) 644-3360. They are distributed by Brøderbund Software, 17 Paul Drive, San Rafael, CA 94903; (415) 492-3200 or (415) 492-3500. They run on an Apple II Plus, IIe, IIc, or IIGS with 64K of RAM. Ultima I and III cost $39.95 each; Ultima IV is $59.95. (Ultima II is currently out of print, but copies may be available at retail software outlets.)

Wizardry I-III. Robert Woodhead and Andrew Greenberg stole sleep from Apple-computer owners with Wizardry: Proving Grounds of the Mad Overlord. Somehow, Woodhead and Greenberg had given their computerized characters the illusion of life. Players stayed up nights getting to know and love their party members. And as two sequels followed, they took their best characters with them. No other role-playing game has

matched the personality or the deliciously devilish wit of the Wizardry series.

Wizardry I-III come from Sir-Tech Software, P.O. Box 245, Ogdensburg, NY 13669; (315) 393-6633. They run on an Apple II Plus, IIe, IIc, or IIGS with 48K of RAM. Wizardry I costs $49.95, II is $34.95, and III is $39.95.

The Bard's Tale I and II. Hack-and-slash role playing meets graphic grandeur in Michael Cranford and Brian Fargo's Bard's Tale games. Although not as epic as Ultima or as inventive as Wizardry, BT I and II hypnotize the senses with stunning animated visuals. Just roaming down the scrolling streets of Skara Brae is a thrilling experience. Add the stunning graphics and sound of Bard's Tale I

on the Apple IIGS and encountering a party of monsters becomes melee madness.

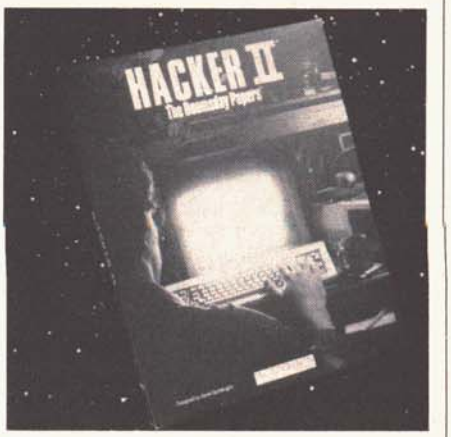
The Bard's Tale I and II are from Electronic Arts, 1820 Gateway Drive, San Mateo, CA 94404; (415) 571-7171. They require an Apple II Plus, IIe, or IIc with 64K of RAM (or a IIGS with 512K of RAM for the IIGS version) and cost $44.95 each.

STRATEGY

Shanghai. Designer Brodie Lockard took the game pieces of Mah Jongg and piled them into a classic. Something like an Oriental version of solitaire, Shanghai may be the ultimate in Relax and Enjoy computer games. Programmer Ivan Manley brought Shanghai to the IIGS with elegant visuals that are as pleasing to the eye as the game is pleasing to the mind. And for those who can't live without tension, a timed-competition mode lets head-to-head opponents test their quicksilver playing techniques.

Shanghai for the IIGS is from Activision, Inc., P.O. Box 7287, Mountain View, CA 94039; (415) 960-0410. It requires an Apple IIGS with 512K of RAM and costs $44.95.

Hacker II. Like Suspended, Steve Cartwright's Hacker II creates a dramatically convincing reason for being at the computer. In Hacker II you remotely maneuver robots through an enemy security installation and track their movements on your video monitors. Animated screen graphics persuasively simulate four video monitors. After a few hours of scanning those screens, you'll swear the installation really exists, along with the animated guard patrolling its hallways. Good puzzles, split-second strategy, and 11th-hour surprise.



Hacker II comes from Activision, 2350 Bayshore Parkway, Mountain View, CA 94043; (415) 960-0410. It requires an Apple IIGS with the old ROMs and 512K of RAM and retails for $39.95.

Chessmaster 2000. Computerized chess—the way it ought to be. Graphically vivid and strategically accomplished, Chessmaster 2000 is a ready, willing, and able-to-win chess opponent.

Chessmaster 2000 is a product of Software Toolworks, 13557 Ventura

ALL STARS

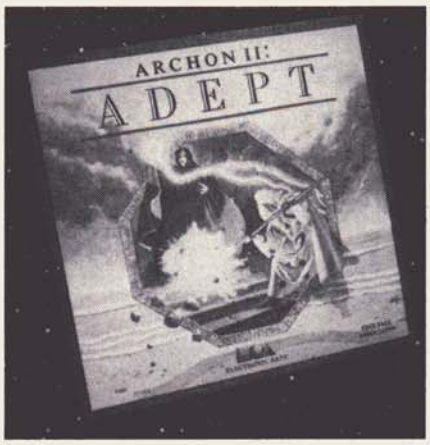
Boulevard, Sherman Oaks, CA 91423; (818) 907-6789. The game is distributed by Electronic Arts, 1820 Gateway Drive, San Mateo, CA 94404; (415) 571-7171. Chessmaster requires an Apple II Plus, IIe, IIc, or IIGS with 64K of RAM and costs $39.95.

Lords of Conquest. Inspired by the board game Risk, Lords of Conquest proves that strategy games don't have to be confusing to be intricate. Reach out and dominate someone in Eon Software's simulation of military, political, and financial power. Conquer 19 different worlds, have the computer dream up new ones at random, or omnipotently design your own.

Lords of Conquest is a product of Electronic Arts, 1820 Gateway

Drive, San Mateo, CA 94404; (415) 571-7171. It runs on an Apple II Plus, IIe, IIc, or IIGS with 64K of RAM and retails for $39.95.

Archon II: Adept. A sequel that's better than the original, Archon II is Jon Freeman, Paul Reiche III, and Anne Westfall's elegant mix of board-game strategy and arcade action. In a world of varying energies that can aid or cripple your influ-



ence, you marshal a militia of fantasy characters. Jockey for position on a constantly shifting game board. When creatures go head to head, the game turns to joystick-controlled combat action.

Archon II: Adept is from Electronic Arts, 1820 Gateway Drive, San Mateo, CA 94404; (415) 571-

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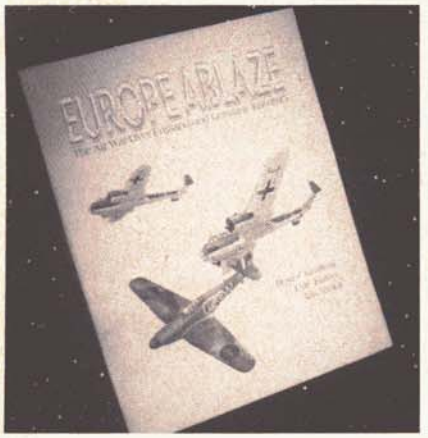
7171. It runs on an Apple II Plus, IIe, IIc, or IIGS with 64K of RAM and costs $14.95.

Europe Ablaze. The volumes of statistics that make war games authentic can also make them unplayable for ordinary mortals. Strategic Studies Group of Australia



created a system of menus that makes this simulation of WWII air combat accurate, fast-paced, and easy to learn.

Europe Ablaze comes from Strategic Studies Group, 1747 Orleans Court, Walnut Creek, CA 94598; (415) 932-3019. In the U.S., it is distributed by Electronic Arts, 1820 Gateway Drive, San Mateo, CA 94404; (415) 571-7171. It requires an Apple II Plus, IIe, IIc, or IIGS with 64K of RAM and costs $50.

Rebel Charge at Chickamauga. Chuck Kroegel and David Landrey

made a war game for the rest of us. The Battle of Chickamauga was one of the largest and most evenly contested battles of the American Civil War. This grand tactical simulation contains introductory to advanced versions of the game and dynamically captures the intensity of the two-day battle. Robert S. Billings' superb owners'-manual essay brilliantly sets the historical scene.

Rebel Charge at Chickamauga is a product of Strategic Simulations, Inc., 1046 North Rengstorff Avenue, Mountain View, CA 94043; (415) 964-1353. It runs on an Apple II Plus, IIe, IIc, or IIGS with 64K of RAM and retails for $49.95.

Conflict in Vietnam. With the memory of Vietnam still with us and revived in recent films about the war, Ed Bever and Sid Meier's war-game/simulation has a fascinating way of answering as well as raising some questions about U.S. involvement in S.E. Asia. An intelligently written manual explains the historical context, and a solidly designed game replays the victories and the sometimes surprising defeats.

Conflict in Vietnam is from Mi-

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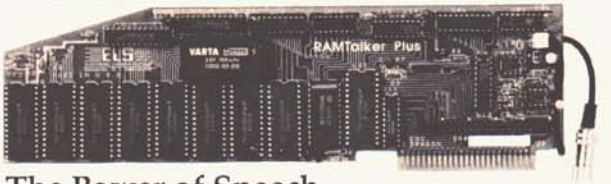

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ALL STARS

croProse, 120 Lakefront Drive, Hunt Valley, MD 21030; (301) 771-1151. It requires an Apple II Plus, IIe, IIc, or IIGS with 64K of RAM and costs $39.95.

SIMULATION

Wilderness. This blend of adventure and simulation puts you in the middle of the Sierra Nevadas with nothing but the supplies you can salvage from a crashed airplane. Take on the elements, wild animals, and threatening terrain as you use survival techniques to find the safety of the ranger station. Scrolling graphics give you a 360° view of the surroundings.

Wilderness comes from Electric Transit but is distributed by Spectrum Holobyte, 2061 Challenger Drive, Alameda, CA 94501; (415)

522-3584. It requires an Apple II Plus, IIe, IIc, or IIGS with 64K of RAM and retails for $29.95.

Flight Simulator II. Bruce Artwick's original got a facelift and speed-up in this revised version of

the popular flight simulator. For those who don't want to deal with the totally authentic details of the simulation, a World War I arcade mode lets you go ape in the air.

Flight Simulator II is from Sub-Logic Corporation, 713 Edgebrook Drive, Champaign, IL 61820; (800) 637-4983 or (217) 359-8482. It runs on an Apple II Plus, IIe, IIc, or IIGS with 48K of RAM and costs $49.95.

The Seven Cities of Gold. The Spanish Conquistadors braved natural hazards and distrustful natives in their 16th-century quest for untold riches. Bill and Dan Bunten and programmer Jim Rushing teach you history while you think

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CIRCLE 180 ON READER SERVICE CARD

CIRCLE 113 ON READER SERVICE CARD

you're playing an adventure game. As the natives surround you in their village, you may find you're not as much of a humanitarian as you thought you were. With good graphics and animation, this excellent simulation has a way of revealing as much about the player as it does about history.

The Seven Cities of Gold comes

from Electronic Arts, 1820 Gateway Drive, San Mateo, CA 94404; (415) 571-7171. It runs on an Apple II Plus, IIe, IIc, or IIGS with 64K of RAM and costs $14.95.

ARCADE

Loderunner. More levels than you can imagine and a build-it-yourself (if you can) construction set. Race your Little Man across levels and up ladders, collecting objects and avoiding baddies in pursuit. Swift animation and addictive, puzzle-solving game play.

Loderunner is from Brøderbund Software, 17 Paul Drive San Rafael, CA 94903; (415) 492-3200 or (415) 492-3500. It runs on an Apple II Plus, IIe, IIc, or IIGS with 48K of RAM and retails for $34.95.

Pinball Construction Set. The father of construction sets from the master of computer pinball, Bill

Budge. The computer gives you all the pieces to build your own pinball machines. Enjoy the fruits of your bumper- and bell-infested creativity. Pinball Construction Set is from Electronic Arts, 1820 Gateway Drive, San Mateo, CA 94404; (415) 571-7171. It requires an Apple II Plus, IIe, IIc, or IIGS with 48K of RAM and costs $14.95.

Choplifter!. Dan Gorlin gave arcade games a heart in this unique game. Fly a chopper behind enemy lines and rescue hostages. Incredible as it seems, the waving white figures on the ground convey an urgent, surprisingly touching desperation. The aircraft and tanks

that oppose you aren't just raster-scanned baddies; they represent a malicious force. Arcade story-telling par excellence.

Choplifter! comes from Brøderbund Software, 17 Paul Drive, San Rafael, CA 94903; (415) 492-3200 or (415) 492-3500. It runs on an Apple II Plus, IIe, IIc, or IIGS with 64K of RAM. It is packaged with another program, David's Midnight Magic, and together they cost $14.95. +

Bob Lindstrom is an A+ contributing editor and author of our monthly "Gameport" column.

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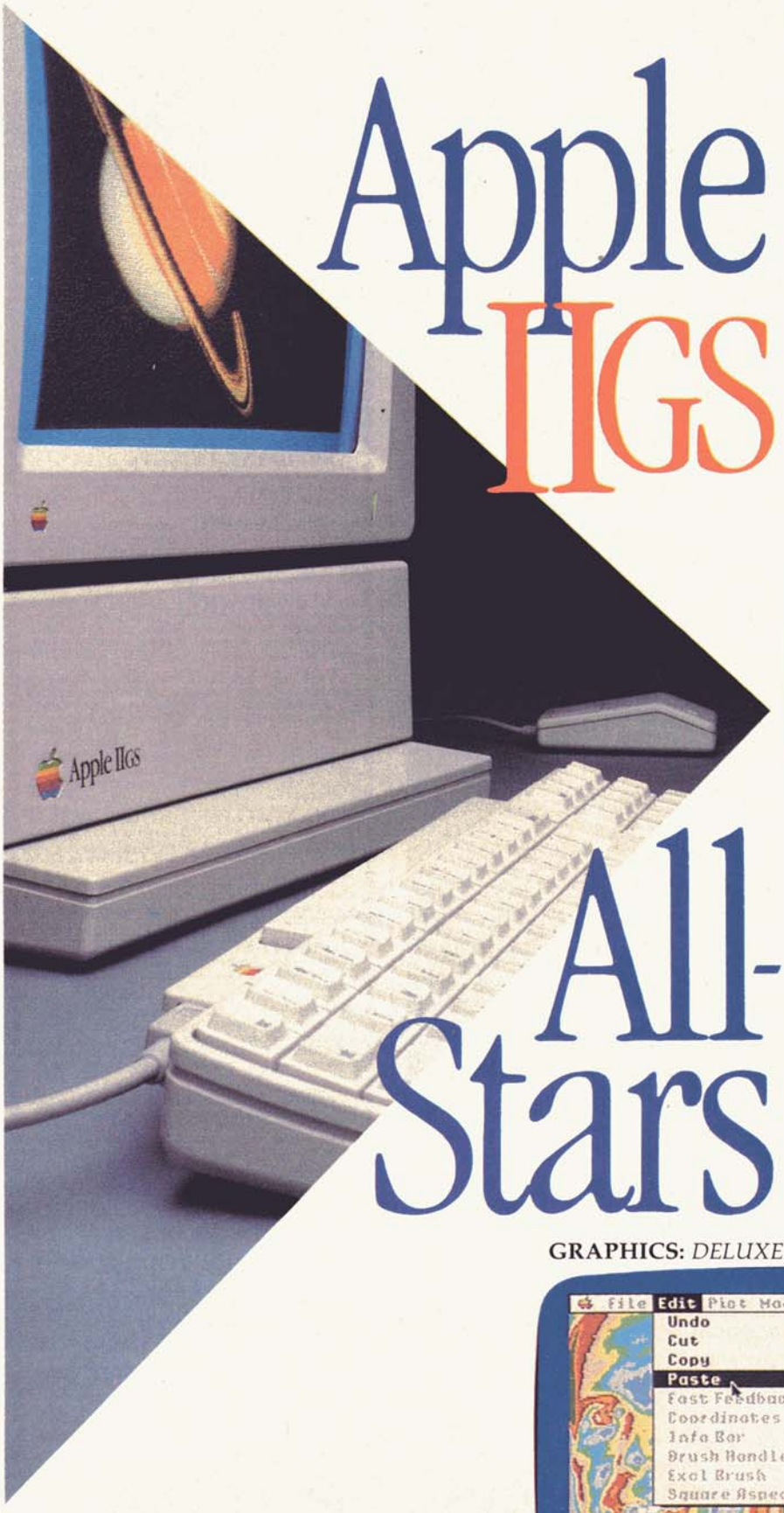
ALL STARS

Apple IIGS All-Stars



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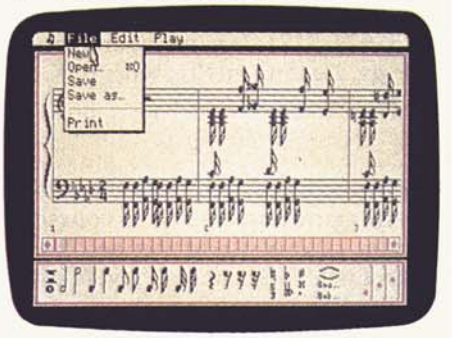
MUSIC:
MUSIC CONSTRUCTION SET



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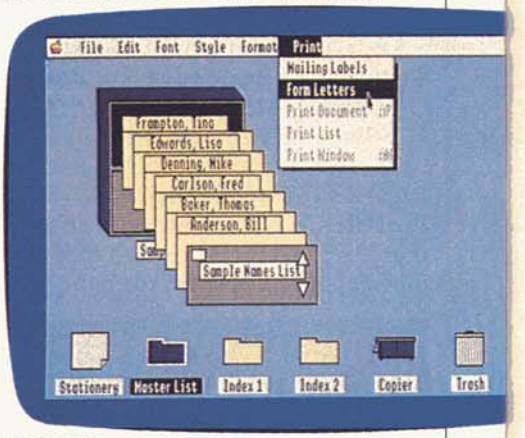

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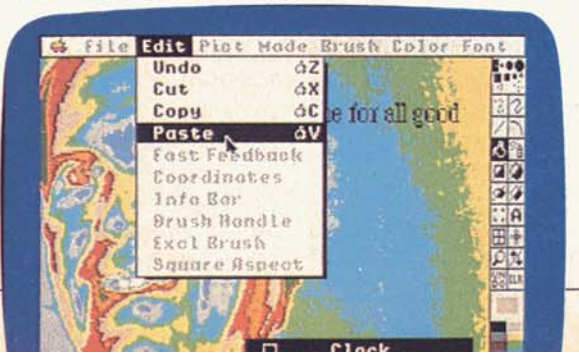
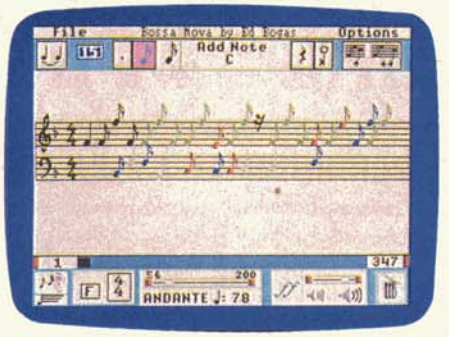


All-Stars

MUSIC: *THE MUSIC STUDIO*

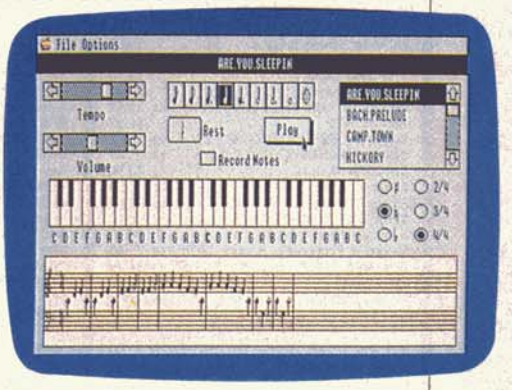


The Apple IIGS has been out for just over a year and has inspired the development of many new and innovative software programs. Some of these titles are so exceptional they've made our All-Stars list. Of the 96 programs selected as the best of Apple II software in this issue, 11 of them were designed specifically for the IIGS. Here's a visual round-up of the GS programs you'll find described elsewhere in this issue; captions indicate the section in which you'll find a full description.

Not pictured are FreeTerm GS, which is one of the telecommunications All-Stars, and DiversiCACHE, which gets an honorable mention as an All-Star disk utility.

ENTERTAINMENT: *SHANGHAI*

MUSIC: *KIDSTIME II*



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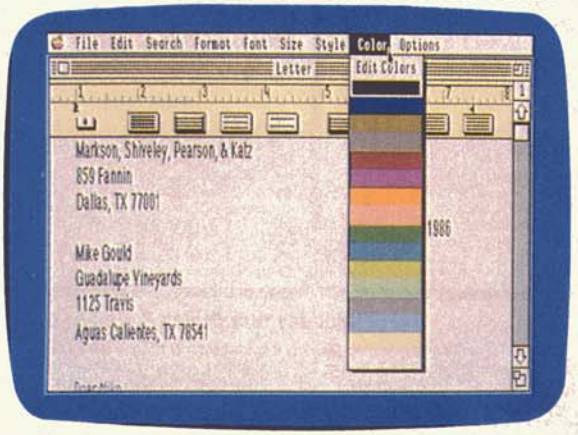
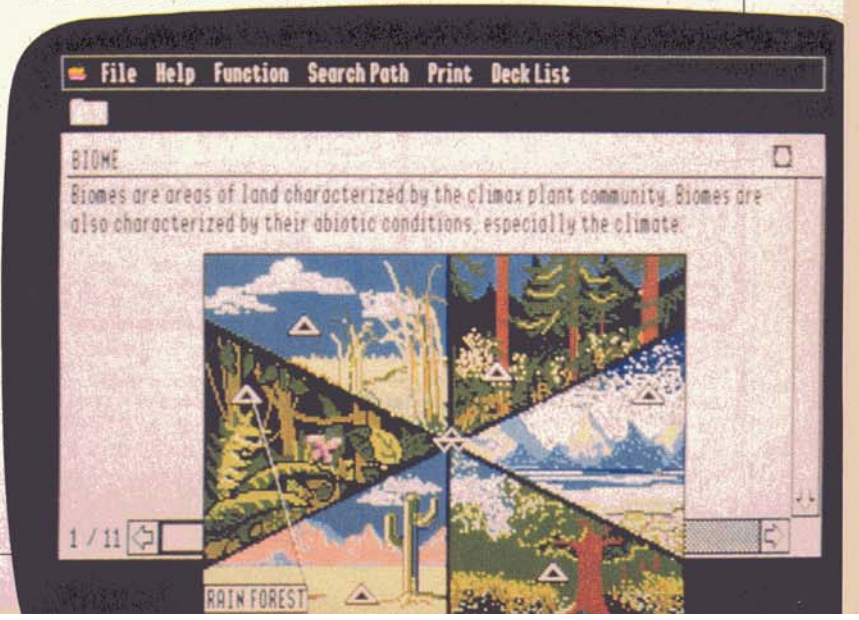
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