The Monthly Review of the Best Packages

PERSONAL SOFTWARE

SEPTEMBER 1984 • THE TOP 20 PROGRAMS

This Month We
Share ‘Test Drives’ of:
dBASE III • PAGE 77
MultiMate • PAGE 83
Jack2 • PAGE 90
The Home Accountant
Plus • PAGE 98
Choplifter • PAGE 109

This Month 164 New
Products Were Released
DETAILS BEGIN ON PAGE 11

This Month’s 90 Best-
Sellers Were Headed By
Lotus 1-2-3
DETAILS ON PAGE 72

A Buyer’s Guide
To Spreadsheets
BEGINS ON PAGE 117

A Hayden Publication
Canada & International $2.50

http://www.cxmelody.net/AppleUsersGroupSydneyAppleIIIDiskCollection.htm
What if . . . your software gets too soft?

You need software insurance.

Diskettes are fragile, and when a protected program is damaged, the results are expensive and inconvenient. If you have a backup diskette, though, you can have your Apple, IBM or compatible computer back on line within seconds . . . affordably. That's software insurance.

Copy II Plus (Apple II, II Plus, IIe)

This is the most widely used backup program for the Apple. Rated as "one of the best software buys of the year" by Incider magazine, its simple menu lets you copy every disk command at your fingertips. The manual, with more than 70 pages, details protection schemes, and our backup book" is this simple instruction for backing up over 200 popular programs.

A new version is now available that is easier to use and more powerful than before. Best of all, Copy II Plus is still only $39.95.

WildCard II (Apple II, II Plus, IIe)

Designed by us and produced by Eastside Software, WildCard II is the easiest-to-use, most reliable disk card available. Making backups of your total load software can be as easy as pressing the button, inserting a blank disk and hitting the return key twice. WildCard II copies 48K, 64K and 128K software, and, unlike other cards, is always ready to go. No preloading software into the card or special, preformatted diskettes are required. Your backups can be run with or without the card and can be transferred to hard disks. $39.95 complete.

CENTRAL POINT Software, Inc.

The Backup Professionals

To order, call 503/244-5782, 8:00-5:30 Mon.-Fri., or send your order to: Central Point Software, 9700 SW Capitol Hwy, Suite 100, Portland, OR 97219. Prepayment is required. Please include $3 for shipping and handling (881/2 U.S. or Canada).
VisiCalc Eclipsed

FlashCalc operates within ProDOS, which means that it can address expansion RAM cards, 80-column cards and electronic and hard disks that VisiCalc does not serve in the Apple environment. More importantly, it can work on Apple's new IIc, which also uses ProDOS. And because FlashCalc takes advantage of such things as electronic disks and expanded RAM, calculation speeds are markedly faster than those of VisiCalc.

In the Apple market, however, nothing is more important than ease of use. For many users, FlashCalc will be their first spreadsheet experience, and as such, it was for an earlier generation. FlashCalc makes the learning process so smooth that some users may never work with VisiCalc at all. The program features "pull-down" menus that are easily accessible and a "financial functions" package that allows users to make financial calculations—such as internal rate of return, net present value, future value, payment, payment periods, interest and interest discount rates—without having to create a spreadsheet. The user simply fills in the blanks with the required information, chooses the calculation to be performed, and submits the program to carry out the command.

The manual provides detailed coverage of each command and its function, from fundamental operations to advanced formatting techniques. There is even a shorter manual for those who like to get involved in using a product before reading through the manual. The "Getting Started" guide is designed to help you do just that—lead you up the program and start playing. The serious business, like saving and printing spreadsheets, can wait until later.

The manual explains each basic FlashCalc command step by step. The commands are the familiar slash plus single letter common to all spreadsheet sheets. A "/M", for instance, will move a column or row; a "/J" will delete a column or row, depending on the option chosen. The manual is generously illustrated with representations detailing everything from the care and feeding of a floppy disk to screen shots and large displays of the available commands.

While FlashCalc goes a long way toward bringing the software up to date with today's hardware, it doesn't go quite far enough. The failure to support graphics cards and a mouse—even for the Apple IIe and IIc, may reduce its impact on a user community that is highly gadget-conscious. VisiCalc is often credited with giving the Apple II its first serious reason for being. FlashCalc could have done the same for the Apple mouse.

Reportedly, VisiCorp is working on a Mac version of FlashCalc that will indeed make use of these peripherals. "If we were to put a spreadsheet on the Mac we would design it to take advantage of the windowing environment and the mouse," a VisiCorp spokesman explains. But much can we realistically expect from a $498 package? In ordinary times, FlashCalc's price performance would blow the competition out of the water. Unfortunately, there are many hardware companies, like Apple, that make the Apple IIe and IIc at a comparable price. More user interest and a desire to work with VisiCalc on the Mac might make some of these companies consider changing their hardware strategies, which are more likely to make other products by this yardstick.

However, at $99, FlashCalc is designed to put perhaps the final nail in the coffin of that grand old lady, VisiCalc. VisiCalc's love affair with VisiCalc is apparently over. "The only ones (who will still buy VisiCalc) will be those looking for a brand name," says the VisiCorp spokesman.

Those may be harsh words coming from the company that adopted VisiCalc's first name for itself only two years ago. But it's proof of the fact that success and failure in the software market are only a "flash" apart.
Communicating With Style

PC COMM-PLETIE runs on IBM Personal Computer and dose compatibilities (prices include: Eagle Spirit, Compaq, Compaq Plus, Columbia, TeleVideo, and Panasonic) equipped with 200 or more; modem: $229.95 (for software), $590 (for software plus a 300/1200-baud PC ModemCard), $675 (for software plus a 300/1200 baud external modem). The package includes a discount offers for numerous on-line data bases and communications with high-Transend Corporation, 2190 Paragon Drive, San Jose, CA 95131, (408) 466-4700.

In the dark ages of personal computing, way back in the days before the Internet, user were not only deprived of a fair amount of grief, they were deprived of the ability to communicate with each other. The ability to support multiple devices, or communicate with other computers, was limited to the use of modems, which were expensive, bulky, and difficult to use. Even then, the ability to communicate was limited to the use of text-based communications, which were slow and difficult to use.

The new generation of users is looking for packages such as Transend's PC Comm-Plettie at $229 for a communications package. The package includes a modem, a software modem, and a transfer program. The software modem is a low-cost, high-quality modem that is compatible with the most popular personal computers. The software modem is a cost-effective solution for users who want to communicate with others using a standard telephone line.

This new generation of users is looking for packages such as Transend's PC Comm-Plettie. The package includes a modem, a software modem, and a transfer program. The software modem is a low-cost, high-quality modem that is compatible with the most popular personal computers. The software modem is a cost-effective solution for users who want to communicate with others using a standard telephone line.

Accounting For Beginners

BACK TO BASICS ACCOUNTING runs on 48k Apple II Plus, Atari 800XL, Microsoft Bob, Commodore 64, and 128, and Apple IIgs. The program is written in Apple BASIC and is compatible with the Apple IIgs and other Apple II computers. The program is also compatible with the Commodore 64 and 128, and Microsoft Bob. The program includes a complete accounting system, including general ledger, accounts receivable, and accounts payable. The program also includes a complete set of reports, including financial statements, balance sheets, and income statements.

The program is written in Apple BASIC and is compatible with the Apple IIgs and other Apple II computers. The program is also compatible with the Commodore 64 and 128, and Microsoft Bob. The program includes a complete accounting system, including general ledger, accounts receivable, and accounts payable. The program also includes a complete set of reports, including financial statements, balance sheets, and income statements.

For more information circle 101 on the reader's service card.
“I’m finally having fun managing my money.”

I was looking for a package that would organize my finances. Balance my checkbook. Set up budgets. Help me with my taxes.

I wanted something fast and easy to use for all my accounts . . . my credit cards, checking, savings, money market and more.

I found it with The Smart Checkbook, by Softquest. It’s my complete personal finance manager.

Starting my own account was easy. I used the built-in budget and tax categories, changed some, rearranged some, added my own—even forgot a few, too. But that wasn’t a problem because it was easy to go back and add more.

I’ve got up to 200 budget and 200 tax categories to use! Checkbook reconciliation is painless . . . almost automatic. The Smart Checkbook finds amounts that don’t match my bank statement and corrects errors on the spot. It locates duplicate entries and even catches bank mistakes!

The Smart Checkbook can even print my checks, and gives me the option of automatically including the payee address. That saves me time!

It does my tax “dirty work” for me, keeping track of all my taxable income and deductions. At tax time, I just push a button to get itemized lists and totals for each category. I can even combine my accounts for a single report. The totals are there, ready to be entered on my 1040. The Smart Checkbook makes tax time simple!

And I can see how I’m spending my money and how I planned to spend it . . . for each account separately and all together. The “what if” capability makes budget set-up and revision a breeze.

I can split a transaction into any 15 tax and 15 budget categories. Now I can make sure that I don’t lose any deductions, and I can track every penny in my budget.

The Smart Checkbook even prepares net worth statements that I can use for credit applications and investment decisions.

And it’s a snap to learn, with an on-screen tutorial and a user manual full of hints and examples. So get smart with The Smart Checkbook. And have fun managing your money!

Available for the IBM-PC family, including jr., PC compatibles and most MS-DOS and CP/M microcomputers.

Softquest, Inc., P.O. Box 3456, McLean, Va. 22103, (703) 281-1621.

Tracking Stocks Via Apple

| INVESTOR’S WORKSHOP runs on Apple IIe with one disk drive, Apple Modem 300/1200, Hayes Smartmodem 300 or 1200, or acoustic modem; 48k Apple II or 64k Apple IIe with one disk drive, Apple Modem 300/1200, Hayes Smartmodem 300 or 1200, or acoustic modem; Dow Jones & Co., Inc., Dow Jones Software Publishing, P.O. Box 500, Princeton, NJ 08546. (699) 452-2000.

There are as many ways to pick stocks as there are to pick racehorses. Whether the investor believes in fundamental analysis, technical analysis, following simple trends or just a gut feeling that the time is right, understanding past history of a stock’s performance is critical to making an intelligent decision.

This need has made the Dow Jones News/Retrieval service one of the more popular on-line data bases. But simply accessing row after row of numbers is only a partial solution. The investor still has to analyze those voluminous numbers. Spotting trends in a gray sea of digits is difficult and time-consuming at best. At worst, the trend can go on unobserved.

With packages such as Investor’s Workshop and an Apple II computer, potential investors can turn stock prices into charts of moving averages and trendlines. These charts can represent a composite daily volume and price action; simple moving averages of closing prices; either support or resistance trendlines; or prices and dates of short sales. This Dow Jones package can also allow the user to maintain a portfolio, generate reports of profits and losses or, using its communications software, access any of the Dow Jones data bases.

Using Investor’s Workshop is relatively easy. The program comes on three diskettes, one for the main program, the second disk is for storing stock portfolio records and a third “test” disk for storing information downloaded from the Dow Jones News/Retrieval Service data bases. When the program is run, simple, straightforward menus of options are presented, any of which can be selected by highlighting the selection and hitting Return. Dialog and log on through such services as Tymnet, Telenet and Uninet are readily automated.

In setting up a portfolio, the user is led through the process with prompts that request the stock symbol, the type of activity (buy or sell), fees, dividends and the like. Similarly, when checking a portfolio the simple selection of menu choice “A” for Portfolio Report and entry of the portfolio title initiates display of current price per share (obtained from the News/Retrieval Service) almost automatically for the entire portfolio when stock quotes are requested.

The ability to create and update portfolios simply and quickly is by itself enough to make Investor’s Workshop a valuable asset for any stock market investor. Graphics add a tool that makes the program stand out. This capability is not novel. Proficient spreadsheet users can download data from Dow Jones News/Retrieval Service into spreadsheets and subsequently turn them into graphs. A Lotus 1-2-3 (Lotus Development Corp.), Framework (Ashton-Tate) or Symphony (Lotus Development Corp.) user sophisticated enough to write his or her own macro commands can even automate this process so that a single name drives it. But it is rare indeed outside of the IBM Personal Computer and compatible world.

Dow Jones’ Investor’s Workshop now offers a specialized version of that capability to Apple owners in a simple, easy-to-use package. Reviewing a portfolio or logging onto the Dow Jones News/Retrieval Service to update prices is well-facilitated so that no one can use the difficulty or time involved as an excuse for not keeping up with their investments, stock market and other financial holdings.

However efficient it may be, this package does have its limitations. Its graphics capabilities may be easy to access, but they are relatively simple and lack versatility. Similarly, the documentation, while adequate, offers little more than the bare necessities, with limited explanations and examples, and attempts to put uses in context. And while the financial news services can be acquired through the communications section of this program, there is no attempt to simplify Dow Jones News/Retrieval’s arcane command structure or further compensate for its lack of on-line help. A Dow Jones password is required at additional cost.

Also, the hardware configurations supported by Investor’s Workshop are apparently somewhat limited. Although it works with Apple Modem and Hayes Smartmodem, a Super Serial Card support for other cards and modems is not documented. Unfortunately, we were able to widely test the program with a variety of hardware configurations.

Judged as a stand-alone package Dow Jones’ Investor’s Workshop does its job well. To put this in context, a moderately proficient personal computer user with a good communications package, spreadsheet and graphics programs could do even more with these general purpose programs than this dedicated program offers. But for the casual user or the Apple owner with a limited software library, Investor’s Workshop may be all he or she needs to greatly improve his or her ability to track a portfolio. A few hours saved on short selling decisions can pay for your personal computer, not to mention this software, in an hurry.

—James E. Fawcette

For more information circle 105 on the reader’s service card.
The Family Financier

Keeping Investors Informed

DOW JONES HOME BUDGET runs on IBM Personal Computer XT, Apple Macintosh (512K), Commodore 64/128; retail: Dow Jones Information Services, Div. of Dow Jones & Co., P.O. Box 300, Princeton, NJ 08540; (609) 625-2500.

All 50 states recognize my credentials as a layman in personal finance. In fact, before the Dow Jones Information Services software package fell into my hands, I would have told you that "double-entry bookkeeping" was probably a technique used by someone who will eventually take the night plane to Brazil.

It’s not, of course. It’s an accepted, so- phisticated accounting methodology, one that actually tends to be favored by the IRS as support for your feeble answers to their tough questions. So are you. Dow Jones trying to convince people like me—whose idea of a "transaction" is what happens when whatever is left in your pants pockets goes into the top drawer—what can we play? If we ante up and play along, the ratio nae goes, we will gain intimate knowl edge, if we can realize, of every nick el that passes through our fingers. We will not only be able to tell exactly why ends don’t meet, we’ll know the tax—microwhich far apart they are.

The package can in fact deliver on this offer—provided the inexperienced family financier on the keyboard end is willing to devote enough time and effort to the program and its documentation to learn slightly more about accounting than, most probably, he or she ever wanted to know.

The menu-driven program is de signed to enable you to enter trans actions—real ones, like checks and credit card charges—into up to 200 separate budget accounts, using the afore mentioned double-entry technique, after just a brief sample run-through. And no pondering over the meaning of "debit" or "credit" assignments to your various accounts (the heart of the double-entry system), because you are prompted merely to increase or de crease the key account balances in the first entries. That’s right—the program won’t accept a wrong entry.

But wait. All the above is predicated on the fact that you already have the necessary information into the documentation to set up your accounts—assigned as either "Asset," "Liabilities" or "Reserves"—already in the first place. And that you noted and committed to memory the invisibility of the Prime Accounting Equation—Assets equals Liabilities plus Reserves—as stated in the introductory section. (Don’t dwell on its ambiguity; accountants apparently know a liability is always a "minus." If you do this and press on, leaving full comprehension of it all to the software au thor, you can follow the menu direc tions for making transaction entries or adding account classifications. You are also invited to add up this data to your transactions in various accounts, so that subsets of transactions can be retrieved and examined immediately. Having done this, you may return, in the manner that you have become accustomed to, to creating a full-featured data base out of what was once your personal fiscal chaos.

Furthermore, you may have cause to reflect that creating the data base wasn’t all that difficult. You can, after all, "roll over" the account titles and code structure from the sample accounts which occupy the third (demonstration) disk in the set. Sure you have to add, delete and rename some of them—ever change account assignments to codes and vice versa—to fully customize the data base, but the roll over facility saves tons of input. Another convenience fea ture jumps up right away: You can set up automatic entry for regular transactions via accounts like home mortgage, salary or loan payments. These can be triggered monthly or at any regular set of days with a couple of keystrokes.

As to what you do with the data base once you’ve established and are maintain ing it, there are options galore. Taxes, taxes and taxes rule up the first three... fed, state and local, that is. You know every minute of every day, with this program, the exact amount of your annual financial expenses is deeply being drained away by government at any level. You also know, as a matter of course every time you type in the first transaction Sheet option with a keystroke, your Net Worth. Monthly summary for any of your (up to 200) accounts? Two key strokes. Bar graph of the same summary? Another keystroke. Previous month’s performance in the same account or group code set? No more than three additional keystrokes.

And strictly as an ancillary benefit, the program of how to entertain your in-laws is gone for good. You simply print out every DJB report option, including alphabetic summaries of every account you have. They aren’t ign. Some of the program’s power, to be sure, is purchased at the price of conven nience. Various utility operations are available. You can follow the sec ond program diskette—not an unusual process, but when you’re first trying to make contact with these menu-driven features, it is a switch mode unintentionally. Then you have to change over, call up the program you didn’t want and escape back to the one you did. If you have any responsibility to formal accounting procedures, of course, are less than desirable, due to a lack of a catch, can, as we, eliminate transactional entry prompts and decide on their own debts and credits.

Thus if you want to set up a house on your home finances with the double-entry method, this package is for you. But you are committed to hours of dedicated input and maintenance, without which the most sophisticated accounting system ever devised is so much Swiss cheese. Operating expenses do exist for misinterpretation and misdirection of accounts and entries, so don’t spend what this costs if all you want is a simple elec tronic checkbook.

—Robin Nelson

For more information circle 108 on the reader's service card.

PORTFOLIO DECISIONS runs on IBM Personal Computer and PC-DOS (versions 1.1 or 2.0) compatible machines with a minimum 128K memory, two double-sided disk drives or one double-sided disk drive with hard disk: $249.95 retail: Eagle Publishing Publish ing, Inc., Suite 405, Old Eagle School Rd., West Chester, PA 19380. (215) 964-8060.

The first thing an investor is likely to notice about Portfolio Decisions, a new investment software package from E agle Software Publishing Inc., is that it is downright slick. From the very beginning, there is little doubt that the designers of this program— owners have reached deep into a bag of tricks to come up with a captivating tool for serious investors, whether their portfolio involvement is professional or personal. Take the opening menu screen, for example. Every time you exit these run-of-the-mill stock market quotes float by—Big Board, ticker tape style. Even Eagle has to admit that this touch leaves toward showing.

It would be a mistake, however, to pass off this program as nothing more than that of a menu-driven or a handful of added touches, and to some degree as a result of these extra details, Portfolio Decisions has honest-to-goodness potential due to its information management capabilities. Portfolio Decisions hews to no particular textbook investment theory. It promises no surefire technique for picking stocks or to know when to buy or sell. Rather, the program makes a legitimate case for itself as one of the easiest to use, most comprehensive and flexible portfolio management packages available. Its left hand in one simple yet difficult to dispute tenet: The more information an investor has, the better.

To start, Portfolio Decisions provides an automatic-keeping func tion so that all security transactions, from purchases to sales to dividend dec larations, can be neatly feed-an-updated purchase list. The purchases and sales information are fed into the pro gram by typing the data for insertion onto an index card. These become the purchase and sales records. The two disk package also has a built-in communications program for linking with a real-time quote ticker by now an almost obligatory feature of the genre. Finally, there are the various reports that the program is able to gener ate by compiling all or part of the portfolio data in various config urations.

Still, investors who become familiar with Portfolio Decisions are likely to appreciate it as much for what it doesn’t do as for what it makes. The pro gram leaves the stock picking to the human expertise. It is a sophisticated stab at investment analysis is the provision of price earning ratios and annualized gains. Even these run-of-the-mill technical guideposts are, in fact, geared to the truer face of the program—that of a reliable accounting tool for the exam ination of audit trail reports and year end tax summaries.

Portfolio Decisions is a menu-driven program that can generate a detailed, one-page financial report for any of your accounts. There is an all-inclusive Portfolio Activity Report that will detail any transaction in an investor’s portfolio, stocks or other securities such as trea sury bills, mutual funds, options, war rants or certificates of deposit. The user simply determines the starting date and ending date of this report and any activity is duly noted for the prescribed time frame. The Portfolio Summary Report provides a quick and easy way to look at the financial performance of an investment portfolio as a whole. And of course there are reports that provide updates on the transactions involving individual securities.

The Tickler report is an ingeniously simple way to call up pending activity, such as upcoming dividend dates or options expiration dates that loom ahead.

Essentially, the Tickler Report contains information that would ordinarily require a good memory or an expert secretary to keep track of. For the forward thinking investor more concerned with the bottom line, the Monthly Income Forecast Report provides a look at future investment cash flow.

The company’s background can be examined from the develop ers of Tax Decisions, the newer Port folio Decisions shows a serious concern for the investor who is the order of a matter of rare simplicity. All the data screens in the program are divided so that the top portion is available for infor mation and the lower portion contains a menu of selections called "next action." Even the menu selection screens are taken up by the first letter of each function, such as "S" for Sell and "D" for Dividend. On the whole, it is details such as these that make this one to concentrate on the investments—and not on the program.

"Help" PM from Portfolio Manager produces a curious result. An organizational chart of the program appears on the screen with the current "location" highlighted. Your first reaction to this unusual screen might be something like, "You call this help?" But the net effect is that the user knows which portions of the program he can and cannot get to directly from his current location. It is different. It is slick. And like most everything else in Portfolio Manager, it is intelligent and it works.

—Fred Abatemarco

For more information circle 109 on the reader’s service card.
Cellular Warfare

CELL DEFENSE runs on Commodore 64; Apple II series; IBM Personal Computer (EGS remodeled); $34.95 (others) retail; Human Engineered Software; 150 North Hill Dr., Brisbane, CA 94005; (415) 469-4112.

Cell Defense, from Human Engineered Software, is a science fiction game based on the struggle of a space station against the cell warfare that destroys the station and its inhabitants. According to Suanne Abraham, EGS's director of educational software, it is "part of a science fiction series designed to get kids excited about science by telling real science concepts that work well on the computer and building games or simulations around them."

Cell Defense meets at least part of that specification. Certainly the concept it presents works well on the computer, at least as a game. In fact, it is riveting entertainment, with all the strategy elements and the illusion of a top-notch arcade game. But how many budding microbiologists will it inspire to see a cell in the body?

To some degree, any game such as Cell Defense "educational" is problematic. Visually and conceptually it may be more resemblance to Pac-Man than it does to a biology textbook. Undoubtedly it has some educational value—indeed, the game's excellent graphic representations of the viruses and the cells they invade are based on photographs of living cells and viruses. To win the game you must learn how the body employs each of the immune system's basic weapons against viral invasions—but still, the game's coverage of the subject is purely surface-level. What there is to learn from Cell Defense you learn in the first 20 moves. After that, the only thing to be had in it is entertainment.

To their credit, the creators of Cell Defense seem to have recognized that its lasting value will be as a game. They've produced one of the best action games to come along in a while and one that remains challenging as your skills improve, thanks to its four adjustable parameters: The number of cell layers to defend (each layer contains 64 cells), the virus reproduction rate, the cell regeneration rate, and the overall health of the organism you're defending (which controls the effectiveness and availability of the weapons you use against the virus).

With eight level settings for each parameter, there are over 6400 levels of play, ranging from the ridiculously easy to the nearly impossible.

In addition, like any successful game, Cell Defense has a good "hook." (That is, a theme to which you can easily transfer your fantasies.) For instance, in Castle Wolfenstein the hook is escaping from a Nazi prison. In Cell Defense, the hook is the struggle for life and death itself, fought on the cellular level. If you design the defense of the cell, you get to see the viability of the organism. At the start of the game a parasitic viral infection has attacked the organism, invading cells and—as the game's short but well-written documentation puts it—"turning it into "virus-producing factories" that will eventually destroy the host cell and infect its neighboring cells.

You've got several weapons at your disposal, but also many strategic factors to keep in mind. The screen displays during the game has two major components: an 8 by 8 grid showing which cell is the target; and the status bar showing health of the organism, in cells and the virus, and the status of the cell (healthy, infected or destroyed).

If you move the scanner to a cell when a virus is merely in the cell's vicinity, you can most likely find a macrophage floating in a neighboring cell and use it to consume the virus. But if the virus has already penetrated the cell, you don't have the option of destroying the infected cell with one of the much rarer Committed T-cells or attach the antibodies produced by the infected cell to its neighbors, which may or may not prevent the virus from spreading. You also have to carefully plan which viruses you attack first. For instance, a row of red cells might be more of a threat than a single cell, since the speed of the infection will increase if the bloodstream becomes infected. Depending on how you set the parameter controlling the number of cell layers, you also have to be careful about which cell layers you defend most energetically. The first few layers are made up of labile cells which can divide and produce new cells, so you can sustain up to 60 percent loss of cells on that layer before the organism dies. But the upper layers are made up of stable cells and are very slow to reproduce. The organism will die after a loss of 50 percent or 40 percent, respectively, of those types of cells.

The game's manual explains the nature of each of the cell types, of viruses and of the weapons you use against them. Thus, it certainly furthers the eductional goals. Unfortunately, the game requires only that you know you must defend perpendicular cells at all costs, not that you know why you're doing so. Still, Cell Defense does serve as an introduction to cellular biology and the form in which it is presented is both educational and fun.

So Easy You'll Think You're on Vacation

New for the Apple IIc and Ile Easy Com /Easy Go Communications Software

Its Built-In Text Editor Is Always Ready to Go

Now with Easy Com/Easy Go you can write or receive a message, type in a paragraph, or modify the margins. All this is a simple job for Easy Com/Easy Go. Then with just one keystroke you have sent it—and at a speed of over 670,000,000 MIPs. Print it, or save it on disk just as easily.

It's Simple But Not Stupid

It knows the basics such as telephone number notation, Auto-Logon, on-line printing, has a big Capture Buffer and auto disk save. But that's not all. Easy Com/Easy Go also handles advanced operations including keyboard macros, redefinition of the keyboard, XON/XOFF verification protocol, and multible flow control options. It works as well with modern as it does with Tran-}

SEPTEMGER 1984
Learning With The Gang

Random House’s development center in Tulsa, Okla., where approximately 20 people worked nearly 10 months on the program, Schulz and his firm, Creative Associates, were involved all along. Creative Associates worked with Random House programmers and maintained the final approval of everything—from content to artwork, graphics to text and documentation.

All of the illustrations are in color and the music is a central element of each description. Without doubt, the most remarkable aspect of the program is its spectacular animation. The program incorporates animation on both large and small scale. Sometimes an entire character moves across the screen; there may only be slight movement of a character’s eyes or lips. Essentially, they are created to give the program the preshadow through its effective animation. The program also requires that an operating system be running before the program is loaded, but there are no restrictions on hardware, peripherals, or software. The program is running, skip to step 7. Skipping to step 7, Green would read: “Remove the DOS diskette from Drive A. Do not turn the PC off or touch any keys. Insert the tutorial diskette into Drive A, type Intro and press the Enter key. After a few seconds you will see an introductory screen. The tutorial will explain everything else you need to know.”

At this point Green might slip the diskette out of the drive and say, “You should now have a program called ‘Intro’ on your screen. The program is designed to take you through a series of tutorials. It is interactive and allows you to learn at your own pace.”

The computer’s immediate environment was described as a computer literacy A/B box.

The Intro Series runs on IBM Personal Computer, XT, PCjr, compatibles; $59.95 (each) retail; from Comprehensive Software, 2010 Artesia Boulevard, Long Beach, CA 90807 (213) 624-1460.

For more information circle 111 on the reader’s service card.

Computer Literacy In A Box

As you see fit, a well come-taking feature, and guides you through the initial setup of your hardware, peripherals, operating systems and various types of software packages. It’s a gentle teacher, holding your hand, pausing occasionally to question you on your understanding—rewarding you with positive responses when you’re right and asking you questions when you’re wrong.

The data base tutor, entitled “Intro duction to Databases,” first defines a database, then shows examples of applications. It introduces terms, such as fields, records and data types, then quizzes you on what you’ve learned. You can test your knowledge by using the F9 key, which fills in the blanks for you. If you want to review a section, press F7 and the program goes back to the previous topic. You can cancel the current topic and return to the main menu by pressing the Esc key at any time.

The program point out that the advantages of using a data base manager include reducing data redundancy and keeping data of the same format. This makes it easier to keep track of information that otherwise would be far flung and therefore unmanageable.

The program also takes a quick look at three popular database managers: dBASE II, Lotus 1-2-3 and T.I.M. Two other diskettes included with the package are dBASE III plus, which offers a full navigation of the PC Base, a functional, menu-driven database base manager.

The standout in this series is “Introduction to the Operating System,” a reiteration of the PC Tutor program updated to cover PC-OS 2.1 and to set up on the PC-BIOS.

This program is an excellent primer on PC-OS. It leads from one topic to the next in logical steps. It treats, for example, for example, internal commands, such as Cls, Dir, Copy, Path, as well as external commands (e.g. Assign, Mode, Format and Copy) so thoroughly that you had no idea what they meant before, you surely will afterward. In fact, if you were to run a problem with this program, it’s in your hands—on the one hand you feel as though you will be a crafting case of information overload. But on the other hand too long you weren’t for more detail on topics that are brought up and dropped just as quickly. For example, is describing communications hardware, the program explains that there are two types of communication boxes, synchronous and asynchronous, but fail to say what they are.

There are useful bits of information interspersed throughout, including an explanation of the INT command, the line-oriented text editor included with PC-OS. Also, there is an extensive treatment of directory functions, describing the use of directory paths and writing and using batch programs. It also explains how to use the special command key sequences of PC-OS, such as freeing program execution by pressing Control Num Lock.

The Intro Series provides solid groundwork, a strong step in the right direction for beginners and a useful view for old-timers.
A Program For Preschoolers

Learning with FuzzyWuzz

A pattern matching game. On-screen are eight picture dominoes, each displaying a different number combination. When the game's animated computer produces a random domino match, the child uses the joystick to point FuzzyWuzz at the matching domino.

The fourth game, Make-A-Monster, lets the child create a monster from a large inventory of body parts. Players choose a head, body and feet for their monster. Once the monster is complete, the player finishes the game in an arcade-like game, aiming and firing a hairdryer at moving targets.

Each of the different games is designed to teach children a new skill. Juggling Clowns helps them recognize the quantity that a numeral stands for—a critical math readiness skill, according to Sierra.

FuzzyWuzz fosters learning about the perception of quantities. Juggling Clowns teaches pattern matching, and Bubble-Up teaches the concept of matching objects with the numeral indicating their quantity.

In terms of both educational and entertainment value, FuzzyWuzz gets an "A." Unfortunately, the child cannot be said for its command structures and documentation.

For one thing, the game's commands aren't consistent across the four games, making them harder to catch on than they need to be. In three of the four games, for example, pressing Escape will bring the child to a more difficult level of play. Once at the highest level, pressing Escape will bring him back to the menu. In Make-A-Monster, however—the fourth game—there is only one level of play. Why? What is even harder to understand is that there is no way to escape this program short of playing it all the way through. Pressing the Escape key will not return you to the main menu from the one back to the on-screen game it does for the other three games.

There are other examples of inconsistency. Sometimes the program will give the child correct answers, no matter how many times through with a game, other times it will automatically assume the player wants to continue.

These inconsistencies may seem trivial, but considering the program is intended for children as young as 3, they may prove too difficult for some—especially for children 5 or 6 years old who write by the rules—"I only eat my cereal from the green bowl!"—and any deviation from the standard will be unwelcome.

The documentation does little to clear up the confusion. For the sake of brevity, it omits any explanation of the different levels of the multilevel games—how many levels are available and just what the next level will bring you. It doesn't mention the dysfunctions of the program's ability to escape from some programs and not from others. You have to test through trial and error.

The documentation presents its brief explanations of the games in an order that's entirely different from the order in which the games appear on the menu. There are only 52 lines of text, single-spaced into a small cardboard folder. That's 10 times the usual number of colors or illustrations, it is about as visually appealing as an electronic textbook. It almost seems as if Sierra could not have been more forthright, rather than an integral part of the software package.

Given the current limitations of the program with some very nice extra features. The sound can be toggled on or off with Control-S. The menu is comprised of pictures, not words, to make the selection process easier for a child.

But ironically, the program's extra touches make its inadequacies even more obvious. FuzzyWuzz has the ingredients of an outstanding program—high-quality graphics, entertaining animation and good educational value. Yet, in skimping on the documentation and user interface, the program settles for being only a demonstration of some of the techniques FuzzyWuzz could have been an extraordinary program.

--Lynn Walker

For more information circle 113 on the reader's service card

Basic Skills Help

The Language of Math runs on Apple II series, Commodore PET and PET 64; $239.95 retail; Krell Software Corp., 3320 Stony Brook Rd., Stony Brook, NY 11790; (516) 751-5159.

Student competency in the basic skills of reading, writing, and mathematics is a subject much discussed in many school and parent-teacher organizations. It is also the goal of a series of software packages from Krell, collectively called the Basic Educational Tutor (BEST) system. Krell says its BEST packages help prepare students for the competency/proficiency exams which are now required for high school graduation in some states.

The Language of Math serves as an introduction to the 10 packages in Krell's BEST system. It provides individualized drill and quizzes on math topics which are expanded on in later packages.

The Language of Math combines sound educational methods and the inherent fun of using the computer. As if they grew out of good lesson plans, topics covered in The Language of Math are often prefaced by interesting introductions, and new concepts are connected with previously taught ones. The program entices students to interact with the material, maintaining the opportunity for plenty of drill. Graphics, an integral part of all the lessons in The Language of Math, demonstrate concepts in a more effective and entertaining way than a blackboard ever could.

The Language of Math is categorized into 15 interrelated modules. Module 1, titled Numbers, uses a sometimes corny story of a prehistoric couple, Homer and Homa Sapiens, as the foil for instruction on the concepts behind numbering systems, fractions and decimals. Generally, the text builds a good conceptual foundation, but is not fully developed, partly because too childish for high school students. A highlight of this module is the way graphics are used to "build" Roman numerals—a technique that helps clarify the topic in an innovative way.

Module 2, Processes, uses an eclectic mix of offbeat stories to help explain arithmetic concepts. These stories give the impression of trying too hard to be entertaining, and may in fact get in the way of student understanding. The strength of this module is the drill it provides in addition to subtraction, multiplication, division, exponentiation and root extraction.

Geometry is the topic of Module 3. Unsuperficial but generally effective computer graphics really come into play here, demonstrating the properties of various geometric shapes. The story used borrows vaguely from a "Star Trek" TV show. Although it's clever, it is probably too abstract for basic skills instruction. The module's high point is the "UFO" quiz on geometric shapes.

Module 4, Graphs and Charts, may be the best module of the bunch. The topic is well-suited to computer graphics, and this module uses graphics very well to demonstrate concepts.

Module 5 focuses on Money, using graphics to show the various denominations of bills and change, providing plenty of drill on how much money various combinations of bills and coins add up to. Giving its teenage audience a situation to relate to, Module 5 tells the story of a young man who wants a motorcycle and must guess with the meanings of down payments, sales tax, discounts, loans and monthly installments.

Measurement is the topic of Module 6. Focusing on the English system and all but ignoring metrics, Module 6 relies on straightforward explanation and draws its examples from mundane situations. The text tends to be boring, and some concepts are not fully developed, partly because the graphics which move on the screen to demonstrate how measurements relate to each other are this module's best feature.

Module 7, Rates and Ratios, repeats the pattern of straightforward explanations that Module 6 employed, and also lacks imagination in its presentation. The student does get plenty of drill, and is encouraged intelligently. For example, I calculated and reduced a ratio in one step, then was given the message instead of just a "correct."

Inspired presentation returns in Module 8, Comparative and Descriptive Terms. The module opens with a story about Imshael, who has a rock group called Pequod and goes to a talent agency headed by Colonel Albat. While some literature teachers may drop their jaws at the irreverent reference to the classic novel Moby Dick, the dialogue is an entertaining introduction to the concept of comparison.

Module 8 also explains mode, median, mean and range by making useful analogies. Drill is plentiful, and the Al A Mode quiz is another good use of imaginative methods.

Module 9, Dictionary of Mathematical Terms, is a computerized glossary. The student can review definitions of terms on about 100 math concepts. A Review is self-paced and includes a sentence with each definition. The quiz takes the form of a game, in which the student can choose the severity of the penalty for wrong answers. This module is probably more fun and may be used more willingly than the glossary of a book.

Individual modules of the Language of Math can be purchased for $49.95 each.

Modules differ in number of disks: Modules 1, 2, and 3 each have three disks; Modules 4, 7, 8, 9 and 10 each have one disk; Module 6 has four; and Module 4 has five.

As a whole, The Language of Math is an ambitious and helpful package with a somewhat steep price tag. Still, an investment in this BEST series may be more economical than the cost of a private tutor. And no tutor is likely to be as readily available as a computer and its software.
Pilots In Peril

**FLAK** runs on Apple II series: IBM PCjr, Atari 800, Xl series; Commodore 64 (joystick optional on Apple version); $39.95 retail; Funsoft, 3921 Garwood, Agoura, CA 91301, (818) 991-6540.

In Flak, a new high-flying combat game, a maneuverable jet fighter armed with a focused-beam energy weapon must be flown over heavily defended hostile territory. The player must reach and destroy a renegade war computer before the sophisticated anti-aircraft missile batteries that it controls team up to annihilate the jet. The closer you get to your target, the more deadly and determined the opposition becomes. You'll need two traits to survive: coordination and aggressiveness.

Do you have a killer-instinct? If so Funsoft's newest arcade-style game will provide a rich outlet for it. The people at Funsoft claim, with merit, that Flak pushes 8-bit computers to their graphic/animation limits. And Flak pushes people with equal strength to their aggressive limit.

The meek don't inherit anything here. In Flak, they just get blown out of the sky. So promptly and repeatedly, in fact, that they are likely to quit in despair. The game's architecture mandates aggressiveness, or you simply dodge missile batteries because they'll get you from behind and in between banks of launchers if you don't take them out first. It's kill or be killed. Flak scores you on the number and type of batteries you destroy, with extra points awarded for blowing up the enemy computer itself.

The game has a realistic "feel," even though personal computer graphic limitations make the landscape scenario somewhat schematic. But you do get a colorful and seamless scrolling landscape and enough surface detail and color to satisfy your interest. Graphics features include forests, lakes, an ocean (only on the Commodore version), roads, buildings, and the anti-aircraft installations. Flak also functions well in monochrome, although you may have to strain, at times, to spot missiles.

As the jet pilot, the player travels over this landscape at a constant speed, guided through most of the action, covering one screenful of territory in about seven seconds. The aircraft is seen from above, with the player looking down at a scale viewing altitude of about 9000 feet and a scale velocity of some 900 miles per hour. Each Flak mission provides the player with four aircraft with which to attack the missile bases on the ground.

The anti-aircraft installations fire unguided missiles at you, all except the Apple version have proximity fused warheads. You can generally get out of the way of one missile, but you usually have more than one to dodge. The enemy launchers actively track you and change tactics with every round. You fire your own weapon in pulsed bursts of up to about two per second. You can only demolish a target if you "acquire" it in your crosshair's focus at the moment your pulse arrives on target, although you can hover briefly in front of a target to acquire it (at no small risk). The crosshairs float some distance ahead of your craft.

You can hash about on your joystick to accelerate, decelerate and maneuver laterally within the confines of the scrolling screen. If you make it to the enemy computer, you will likely notice a droll touch: A resemblance to the motherboard of the computer you're using, right down to the labeled 6502 microprocessor. The game saves the top 10 scores.

Thus far, the different versions of Flak resemble each other. Yet, in fact, AppleFlak differs greatly from CommodoREFlak and AtariFlak—which closely resemble each other. The action moves much more slowly on the Apple, the somewhat mushy craft response to joystick inputs. The most difficult of the five levels on the Apple version barely approach the pace and difficulty of the other version's first two levels. All versions use a joystick, though dexterous masochists may want to try AppleFlak's optional keyboard control.

The Atari/Commodore versions begin with a cute, "Star Wars"-style two-part harmony. However, the Apple landscape seemed to have richer hues. Another distinction is the craters that appear after a successful hit on the Atari/Commodore game. The other version only showed a point score on the "hit" battery. In the Commodore versions you pass over a small ocean with hidden underwater batteries before reaching your target. This creates a sense of drama. Making it to the water's edge gives you an exhilarating sense of accomplishment. The Atari and Commodore versions are nearly equal in terms of difficulty, but the Atari version has an edge thanks to sharper graphics and is just enough faster than the Commodore version to discourage some timid or uncertain newcomers to the game.

We tested AppleFlak on several II Plus, IIe and IIc machines. All worked well, except for one IIe which wouldn't boot the game despite considerable fiddling and it required a fair number of attempts before it would run on the IIc. CommodoreFlak worked fine. But the first dozen times we tried to boot AtariFlak the program decided we were trying to copy it (not true!) and gave us a smirking "happy face" instead of the game at the end of the boot, proudly announcing the brand of protection (Syncrolok). We changed drives and tried many more times and it finally loaded. Heavily protected programs like this are often fussy about disk drive speed and alignment. Loading the program takes about 90 seconds on all versions.

Flak delivers ferocious fun. To more bloodthirsty game players, it is likely to become one of the more replaceable two-dimensional games. It even merits comparison with Xevious, the challenging and popular arcade game that Flak passingly resembles.

—Lea Thé

For more information circle 115 on the reader's service card.
May The Force Be With You

The object of the game is simple enough: you try to score as many points as you can before all your shields are dismantled and yet pass the test with nine shields and lose a shield every time you’re hit. Your score and the number of shields are constantly displayed on-screen.

But two factors cause confusion. Scoring in the second and third rounds varies according to a complex set of conditions that are hard to keep track of. More important, you can’t always tell when something will hit your ship because you have control only of your proton torpedo sightings on the screen. Your guns and ship are represented by stationary icons on the screen.

As you move the joystick, the game is in front of you will respond accordingly, but because it’s not always easy to tell what’s happening, you may misjudge your position. You get zapped just when you think you’ve avoided something.

There are three rounds, or screens, to get past before you encounter the Death Star. Firing battleships before they hit you is easy on the first round. Tie (energy) fighters, also buzzing around the first screen, cannot hurt your ship but can damage one that is much tougher than hitting a fireball.

Fireballs and towers attack you in the second round, making preservation of your shields more difficult. The third round has frequent fireballs coming at you very fast as you speed down the Death Star’s equatorial trench. Here, evasion and attack are equally difficult, and you’re almost sure to lose some shields before you make it to the main reactor port.

Ah, but that reactor port! It can give your game a new life, even if you haven’t been scoring very well. It’s the only point the port graphic comes fast during the third round and you may not even recognize it the first few times you see it. It goes off-screen as fast as it comes up. If you miss it, you have to go through the trench again. Just like in real life.

Hitting the reactor rewards you with a colorful graphic explosion of the Death Star, the game’s visual and emotional climax. But worse than signaling the end of the game, blowing up the Death Star gives you a new start in the first round as well as three new shields. One bonus point.

The wide variance in bonus points depends on a variety of game circumstances, including use of your shields. There is an unconfirmed report that mysterious weapon whose operation Parker Brothers says it has left intentionally vague.

Though the manual does tell you how many extra bonus points you get for using “The Force,” it doesn’t tell you how to use “The Force.” You are left to guess at that, but the game’s creators say it does relate to how familiar you are with the movie series. If you are familiar with the movie, you’re probably frustrated in trying to figure it out, you can call Parker Brothers to find out. But that’s no fun.

In a word, although, especially for me, shoot-em-up joystick games tend to wear out fast, I still enjoyed this one almost two hours of play. Since you score points quite easily, frustration is never total, and as long as you make it to the reactor, you have a chance at a respectable score.

If, or rather when, your final shield is gone and you are hit, the screen motion stops until you press the fire button again. Possibly this is the only way you can see your final score. It also gives you a chance to go out smoking, with your guns blazing—a lift that carries you into the next game.

There seems to be almost unlimited opportunity for improving your skills in this game, since you can win extra shields (though you can never have more than nine at one time) and stay alive a long time. Personally, I’d rather see one of the movies again, with their dazzling special effects and colorful characterizations. But I’m not so bored through the game that it’s your favorite way to relax, Star Wars, The Arcade Game should do the trick.

—John F. King

Criminal Negligence

CRIME AND PUNISHMENT runs on IBM Personal Computer, PCjr, Apple II series; $34.95 retail; Imagic, 981 Union Ave., P.O. Box 340, Lathrop, CA 95330; (408) 399-2200.

Imagic, a company known largely for its efforts of the shoot-em-up variety for Commodore 64 and then personal computers, has set out to image its own words—"redefine computer entertainment" with four new product lines. One of these is Fun With Experts, premiers with a program on Crime and Punishment.

The experts in this instance are Graeme Newman, Professor of Law at the University of Wisconsin and President of the School of Criminal Justice for the State University of New York, and Jack Kress, a professor at the University of Delaware Law School who has written extensively on crime and punishment.

Criminal Negligence is a game based on the judicial process in the United States, but rather than thrusting you into the midst of a courtroom drama, it takes you into the judge’s chambers. The defendant has already been found guilty, presumably through due process, and it is up to you to determine what his sentence will be. You are aided in this weighty decision by the examination of pertinent information on the offender, the crime and the trial proceedings.

The object of the game is to come as close as possible to the "model sentence," determined, according to Imagic, by actual government research into the sentencing practices of real-life judges. The concept is intriguing—the game, unfortunately, is less so.

Crime and Punishment opens by allowing you to either delve right into the game or read some background information. Personally I’d rather see one of the movies again, with their dazzling special effects and colorful characterizations. But I’m not so bored through the game that it’s your favorite way to relax, Star Wars, The Arcade Game should do the trick.

—Christopher O’Malley

For more information circle 118 on the reader’s service card.
One of the world’s leading children’s book publishers and the world’sest-loved characters are together again.

The results are these
brilliant new PEANUTS®
programs for your children.
They’ll learn spelling,
vocabulary, math and, above
all, learn to love learning.
Each of these exciting
new programs uses vivid
color graphics and truly
lifelike animation designed
for your home computer.
Plus they’re on two-sided
disks to give you twice the
fun for the price of one.

Visit your neighborhood
computer software dealer
now and bring back some
bright new friends for
your children. The kind of
friends who never have to
go home.
No matter what line of work you’re in, you can use MEGAFINDER!

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

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

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

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

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

MEGAFINDER IS ALSO FULL OF ITS OWN IDEAS!

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

MEGAFINDER WORKS ON THE MOST POPULAR COMPUTERS!

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

Remember—Megafinder is a TOTAL organizing tool. If you keep any kind of file at all, you’ll NEED Megafinder!

The more you learn about software, The more you’ll need it.

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

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

Choppers To The Rescue

Evading the enemy on a hostage rescue mission is one of the challenges in Chopper. Learning to fly a helicopter is the other.

TEST DRIVE/CHOPLIFTER

CHOPLIFTER runs on Apple II, II Plus, llc, llc, Atari 400, 800XL; Commodore 64; joystick required; $34.95 (Apple, llc disk, Commodore disk), $39.95 ( Commodore cartridge), $44.95 (Atari cartridge) retail: Broderbund Software, Inc., 317 Paul Drive, San Rafael, CA 94902; (415) 479-1170.

A full moon hovers over the desert. The wash from an idling helicopter stirs the American flag perch atop an isolated post office compound. A rescue mission is afoot—a daring nighttime raid into Kurdistan to rescue 64 United Nations delegates to the Peace and Childhood conference who are being held hostage by the Bangeling Empire. A chance to rewrite history, perhaps. Apply full power to the joystick and the chopper shoots into the air, spinning first one way, then another. You must struggle to maintain control and avoid a crash.

Thus begins Chopper, the best-selling action game from Broderbund Software. At the very outset, John Wayne fantasies of immediate, impulsive action quickly fade with the realization that rescue will be impossible without some rudimentary flying lessons. Learning how to fly, it turns out, is a large part of what Chopper is all about. And mastering the quirks of helicopter flight in a combat situation is not an easy assignment.

Chopper’s main character, if you will, is a military transport helicopter. As the game opens, it is shown idling on its home base helipad. The turret blades are spinning. In the background, the essentially flat horizon is occasionally interrupted by the jagged profile of distant mountains. Tiny stars flicker in the night sky which dominates the screen throughout the game. Later, when the player/pilot takes to the air, new objects begin to appear on the screen: desert scenarios, stick-figure hostages, enemy jets, missiles and tanks.

A quick perusal of the documentation tells you all you need to know to get started. Hostages in groups of 16 are imprisoned in four different barracks. One of these buildings has been blown up and its hostages are now wandering aimlessly. When the rescue helicopter lands, the hostages will run toward the craft and jump in. The pilot must then fly the hostages back to the safety of the post office compound. Once the craft sets down on the landing pad, the hostages disembark to safety. But the pilot must return to the desert until all 64 hostages are rescued. There are three helicopters—each with a capacity of only 16 passengers. If these are lost, the mission is a failure. To succeed, the Chopper pilot must overcome the
deadly obstacles that lurk in the cold desert night.

The enemy Bunglers must be taken far more seriously than might be implied from their name. Their tanks move across the desert floor shooting at the helicopter when it is on or near the ground. In the air, enemy jets strike suddenly from any direction. Deadly heat-seeking bombs buzz in from time to time. Still, these hazards are secondary to the novice pilot who is on the verge of a flaming crash before confronting a single enemy threat or saving even one hostage.

Choplifter provides some "flight school" training. When the program is initially booted, there is a brief demonstration tour of the game. The demonstration shows the helicopter lifting smoothly from the landing pad, maneuvering into a 180-degree spin, and finally, zooming across the screen just above ground level. The demonstration helps create an illusion of flight: The landscape scrolls along the bottom third of the screen, while the full moon looms steadily. The chopper then swoops down among the hostages. They dash toward the helicopter, which stays on the ground for mere seconds. It lifts off again in barely enough time to elude an approaching tank. The demonstration is effortless and smooth.

The concept of flying a helicopter with joystick control is simple, but the experience is not. For Choplifter, a two-button joystick is required. Push the stick forward and the craft will rise. Pull it back and the aircraft descends. Move the stick either left or right and the flight direction corresponds. A push on one button of the joystick will point the helicopter in the direction of the hostages. A sustained push reverses the direction of the helicopter. A second single push turns it 90 degrees.

Once the helicopter is pointing in the direction of the hostages, a hard push on the joystick tilts it forward and increases its speed. Most combat pilots will want to skim slightly above the terrain to avoid radar detection and enemy planes. But this is dangerous. A novice can easily crash the chopper in seconds. With a brush against the ground at full speed, the helicopter will crash and burn.

Soon after the chopper leaves the post office, the flight path leads over a long fence that merges with the horizon. The perspective created by the barrier provides a three-dimensional perception that draws you into the game as if you were watching a large-screen movie. On the return trip back to the compound recrossing the fence means that you're home free. No planes or enemy tanks can chase you past the barrier. Outhound, however, the fence signals danger ahead. Beyond it, as veteran wartime helicopter pilots might say, is "Indian country."

When you finally reach the battlefield on your initial sortie, you spot a barracks in flames and hostages running in panic. Your goal is to land the chopper and save them. You should try to touch down as close as possible to the people. Once the helicopter is on the ground, the hostages turn and run toward it. Here's where your flying skills come into play. The game instructions warn, "Don't land on the hostages. That kills them." You may laugh at first, thinking, "That's obvious. But I'm no klutz." But avoiding such a calamity isn't as easy as it sounds.

The problem is that the people are running in panic and your flying skills at this point are a bit shaky. If you try to land in a crowd, you inevitably land on someone, killing them instantly. You know they're dead because of the running body count tallyed across the top of the screen. The red lemon on the left keeps tabs on the dead hostages. The blue lemon in the middle tells you how many are inside the helicopter. And the green lemon on the right shows you how many you've rescued. (You can play Choplifter on a monochrome screen, but then the tanks and the landing pad blend in with the ground pattern, making them difficult to spot. And you miss some of the effect of graphics such as the flaming barracks.)

### 2 Reasons Investors Are Getting "Street" Smart.

#### Dow Jones Investor's Workshop™

If you venture on Wall Street, you have to know the territory. Now a new software product from Dow Jones improves your "Street" smarts. The Dow Jones Investor's Workshop®, developed especially for the Apple Ilc, brings you:

- The latest stock quotes (delayed a minimum of 15 min.) and business news from Dow Jones News/Retrieval®, the leading online information service.
- Reports that show exactly what your portfolio is doing, at the touch of a few keys.
- Charts® that give you a clear picture of your stocks' performance, helping you know when to buy and when to sell.

#### Also Runs on the Ilc and II Plus

The Dow Jones Investor's Workshop runs on the Apple Ilc and II Plus, as well as the Ilc. It's so easy to use, you'll be creating charts and reports moments after you're up and running. With a suggested retail price of $149 and full support from our toll-free Customer Service hotline, the Investor's Workshop is a value any investor can appreciate.

Now you can be "Street" smart.
Before you master the flying techniques, landing can be dangerous, especially when tanks are shooting at you. As the hostages scurry about and you concentrate on dropping the chopper safely among them, enemy tanks zoom toward you. If you’re a student of military science, you realize that tanks aren’t great anti-aircraft weapons. What they’re best suited for is moving rapidly over flat terrain and blasting things on the ground—in this case, the running hostages or the chopper as it lands. But to the skilled pilot, the tanks are more of a nuisance than anything else. To destroy them, you have to turn the helicopter into a tank attack posture, which means spinning the craft until it faces you. Then you fly directly above the tank and push the fire button. Bombs drop from the belly of the ship toward the tank. Getting on target can be a bit tricky because both the tank and the helicopter are moving. But if you swing back and forth while dropping the bombs it’s not that difficult to destroy the tank. The problem is, as soon as one tank is demolished, another seems to take its place. It’s best to keep the chopper in tank attack position at all times when loading hostages. It’s much easier to lift off, bomb a tank and land again when you have to constantly spin the helicopter.

Ideally, it would be nice to get a full load of 16 people before heading back to base. But things get a little hairier out on the battlefield. For the sake of your ego, if not the lives of the hostages, you’ll want to spirit a few to safety just so you know you’ve accomplished something. This sounds easy but a jet attack may imperil the mission.

J ust as a tank is no match for a helicopter, your chopper is in deep trouble against a jet fighter. These sky fighters swoop down at you, firing air-to-air missiles. They attack from the front or from behind. The higher the chopper is off the ground, the more vulnerable it is to the jets. You can shoot the jets down—but you have to be facing them to do it. Your cannon is only fire forward. When a jet attack comes from behind, you have to spin the chopper around before firing. If one comes at you head on, you still have to slow the chopper down and line up the speed when you’re flying at top speed because the chopper’s nose tends to pitch down. If you don’t correct it, your cannon sprays the ground instead of the incoming jet.

One tactic aviators and cowards can use to evade the airplanes is simply to land. In this game, the jets and the missiles tend to cruise over your head when you’re on the ground. But then that leaves you vulnerable to the tanks. Get the picture? Chopper pilots must have total chaos. You’ll often find yourself, cruising at top speed back to the post office while you glance nervously around, hoping you reach the safety barrier before a jet catches you.

Once there, you still must contend with errant drone bombs. These are like mines that float through the air and bounce in the helicopter whether it’s on the battlefield or in the “safety” of the post office. The drone by itself is not much of a hazard to the expert pilot, but the inexperienced pilot is liable to crash his chopper in trying to elude it.

By now, you should have the feeling that it’s not easy to be a hero. But don’t give up. Chopper pilot teaches you that heroes are made, not born. The more you practice, the more lives you save. And that gives the game a nice feel. You don’t get a single point for zapping a tank or shooting down a jet—only for saving lives.

After you secure the first 16 hostages, you fly on to the next barracks where 16 more are up. Here the game throws you a curve. You’re expected to swoop down and rescue people, but they’re nowhere in sight. The hostages are locked in the barracks and you have to figure out how to get them out. Tanks and planes are bearing down on you, giving you an overwhelming desire to get back to the post office. But if you can stand the heat long enough, the riddle solves itself. When an errant shell hits the barracks, the hostages quickly scramble out.

Some games will reward you for meeting certain tasks on the field of play. But not Chopper Pilot. Surviving with one or more choppers and proceeding to the next barracks is a hollow feeling if the chopper crew is not intact, mind, body, and soul. Saving lives is your mission. This is in itself sets Chopper Pilot apart from the type of game you’ve seen in arcade games. And the graphics give you the feeling that you’re saving real people. As the hostages get closer to the helicopter, they duck to avoid the propeller. The game works well because they disembrace to freedom.

When at last the tally reads 64 saved, 0 killed, the game is over. No more runs to ascend. No more points to break. You’ve won. You’re an official hero. You’ve accomplished all that a chopper game can do after a few stutters. Saving 64 people against impossible odds for over an hour, takes a long time just to learn how to fly.

—Craig Zorley

For more information circle 123 on the reader’s service card.
Last Word

Finding the Right Computer Book
Just bought a computer? Are you tired of flipping through the computer store catalogues and not being able to find the perfect computer for your needs? Then Book Bytes may be for you! Book Bytes, by C. W. Thompson, is a concise description of the book’s main features, its organization, design, packaging, style, level of sophistication and comparative ranking with similar books. Thompson also offers his opinion of the book’s overall merits. Book Bytes is the founder and publisher of the Yes! Bookshop, in Washington, D.C.

Boy Scouts Learn Computing
If we recall our old Boy Scout Handbook correctly, boy scouts should be trustworthy, loyal, helpful, friendly, courteous, kind, obedient, cheerful, thrifty, brave, clean and reverent. Now, they are also becoming computer literate. The Computer Merit Badge, first instituted in 1967, is being earned by dramatically increasing numbers of scouts, according to Boy Scout representative J.D. Owens. Over 13,000 scouts earned the badge in 1983, up from about 7000 in 1982. The requirements for the badge have recently been revised and are now “much more current and relevant to the state of computers today,” says Owens.

Take the Word Challenge
Hayden software company has announced a national contest for consumers who purchase the company’s new Word Challenge software package. The Challenge is an adaption of the popular Boulder board game. The object is to find as many words as possible embedded in a matrix of letters that the computer has randomly generated on the screen. Hayden’s Word Challenge will involve a puzzle similar to the actual game. Contest forms can be found inside the Word Challenge package itself. The Challenge runs from July 1 through October 31. Hayden is offering a $10,000 grand prize to whoever achieves the best results on the puzzle. The runner-up will win a prize of $3000.

A Choco-Byte of Delight
Now there is a personal computer so appealing you may want to take a bite out of it. It comes from Long Grove Confectionery Co., (Long Grove, Ill.) and it’s made of solid chocolate. The 3" by 5" by 4" novelty is priced at $9.95 and comes in a box with a computer print-out motif. The direct order number is (312) 634-9007.

Educational Software That Works:

Spell It!
Spell expertly 1000 of the most misspelled words. Learn the spelling rules. Improve with 4 exciting activities, including a captivating arcade game! Add your own spelling words.
ages 10 - adult / 2 disks: $49.95

Math Blaster!
Master addition, subtraction, multiplication, division, fractions, decimals and percentages — by solving over 600 problems. Learn your math facts with 4 motivating activities, including a fast-action arcade game! Add your own problems.
ages 6 - 12 / 2 disks: $49.95

Word Attack!
Add 675 new words to your vocabulary — with precise definitions and sentences demonstrating usage. Build your skills with a fun-filled activity, including an arcade game! Add your own words.
ages 8 - adult / 2 disks: $49.95

Speed Reader II
Increase your reading speed and improve comprehension! Six exercises designed by reading specialists vastly improve your reading skills. Chart your own progress with its reading selections and comprehension quizzes. Add your own reading materials.
high school, college & adult / 2 disks: $69.95

The Davidson Best Seller Tradition.
For your Apple, IBM or Commodore 64. Ask your dealer today.
For more information call: (800) 556-6141
In California call (213) 375-8473
Davidson & Associates 6069 GroveVale Place #12 Rancho Palos Verdes, CA 90274

Apple, IBM and Commodore 64 are trademarks respectively of Apple Computers, Inc., International Business Machines Corp., and Commodore Business Machines, Inc.