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March 1990

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COMPUTE!

THE CHOICE OF HOME PC ENTHUSIASTS SINCE 1979

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EDITORIAL LICENSE

P E T E R S C I S C O

Readership surveys can make for some interesting reading if you're an editor. Day after day you come into the office and try to pull together a magazine that you believe meets the needs of a vast audience, many of whom remain faceless. It's not like working in a vacuum, exactly. It's more like working in slow motion; you don't have the luxury of immediate feedback.

But now, after six months of producing the newest incarnation of *COMPUTE!*, the faces are becoming clearer. That's a good feeling because, after all, this magazine is for you. It's your place to learn about personal computing, whether you're into working, learning, or playing. (To judge from the survey responses, you're doing all three—just as we suspected.)

When asked how they used their home computers, our surveyed readers split almost evenly: 36 percent for work, 38 percent for games, 26 percent for education. We have, since last October, addressed each of those areas in every issue, and will continue to do so. We had hoped that our new design would highlight those areas, giving each the special emphasis it deserves. And 96 percent of you say you find the new design helpful, which tells us that such attention is welcomed.

Here's an interesting fact. Many of you have owned your computer for a year or less, most of you for three years or less. By far most of you own MS-DOS-based systems, but many of you own more than one type of computer. You may have started with a Commodore 64 or an Atari 800, but now you've moved to the IBM world because of price, software availability, and the domination of MS-DOS in the business community.

No magazine is worth more than the information it conveys, so it was especially gratifying to see that a majority of those surveyed categorized *COMPUTE!*'s editorial package as "good" or "excellent." We go into ev-

ery month determined to do the best job we can to bring our readers the most accurate and helpful information they can find anywhere. It's heartening to see that, except for some isolated instances, we've succeeded. But don't expect us to bask in the glow of good words. Each new issue presents unique challenges that we're eager to meet.

Speaking of new issues, when we asked you what you wanted to see in *COMPUTE!*, we got some interesting answers. By far, those surveyed were looking for more reviews. To that end, we're taking a hard look at our Reviews section, with an eye on how we can improve it even more. Some ideas



include expanded coverage of groups of products (say, a line of personal computers from one manufacturer) and a rating system that quickly gives you our opinion.

Second to reviews, our survey responses leaned heavily toward general MS-DOS stories, and you can count on us to bring those to you every month, in every category. We'll be looking at graphical user interfaces, computer security, user groups, PC graphics, PC sound, telecommunications, connectivity and emulation, and a host of other issues that are im-

portant to PC owners at home.

Programming ranked as the third most popular topic. I suspect that strong showing is linked to *COMPUTE!*'s history as a magazine for computer enthusiasts, who for many years have made programming their hobby and avocation. Those readers, and our new readers who have a budding interest in programming, can look forward to our May issue, when we explore the best programming languages for beginners and discuss programming on levels beyond languages—batch files, hypertext scripts, and application macros, for example. We'll also have a hands-on tutorial for those of you interested in writing a program for your PC.

A lot of you are looking to *COMPUTE!* for home computer strategies—for work, school, or play. By now, you have probably noticed the hints and tips pages in our Productivity, Learning, and Entertainment departments. Called "PC Primer," "HomeWork," and "GameScope," respectively, they are your pages for sharing the insights and strategies that make computing at home more efficient, more educational, and more fun for you and your family. If you've been reading these pages carefully, you probably have noticed all the familiar bylines. Well, that's been our attempt to prime the pump, so to speak, and we're happy to report that the response has picked up a pretty good head of steam.

Don't be intimidated by the suggestions you read in those columns. Tips can come in all shapes and sizes; the little tidbit you use every day may not be common knowledge. So boot up that word processor and tell us the tricks you've learned while using your computer at home. Did you solve a particularly vexing adventure? Did you boost your productivity? Have you found the right mix between work and play that keeps your kids learning at the computer, even when the schoolwork is done?

We've heard so much about you. And we'd like to learn more. □

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NEWS & NOTES

TOOLWORKS/MINDSCAPE MERGER

The Software Toolworks announced a merger agreement with Mindscape in early December.

Under the terms of the agreement, each outstanding share of Mindscape stock would be exchanged for .4375 shares of Toolworks common stock. The merger is planned to be complete by March, contingent on approval by Mindscape's stockholders; both companies' boards of directors have already approved the merger.

Assuming successful completion, the merger creates a new powerhouse in entertainment software. Les Crane, Toolworks' chairman and CEO, cited Mindscape's licensing and publishing agreement with Nintendo of America as well as its strong international presence as some of the merger's benefits.

XEROX

BITES

APPLE

Xerox has filed a suit against Apple Computer alleging that Apple

copied the Macintosh user interface from Xerox and then improperly collected royalties on the GUI technology. Xerox developed the window/icon/mouse/pointer user interface for the Star computer at its Palo Alto Research Center in the 1970s.

The suit alleges that Apple has collected more than \$100 million in royalties and license fees on its user interface that should have gone to Xerox. It is suing for that amount plus \$50 million in damages for unfair competition. The company also asked the court to cancel Apple's copyrights on the Macintosh and Lisa user interfaces, since those machines copied the Xerox Star's interface.

—DENNY ATKIN



THE SOFTWARE TOOLWORKS

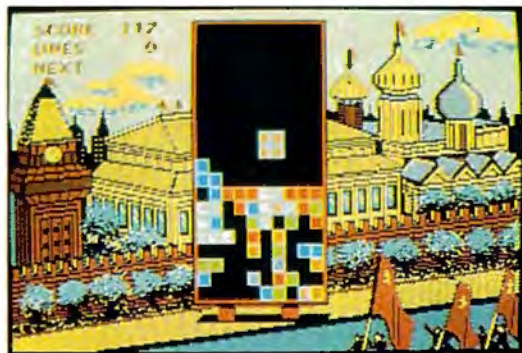
Roger Buoy, Mindscape's CEO, will serve as president of the merged firms' entertainment and international divisions and will also serve as creative director of the combined companies. Buoy anticipates continued product development for Nintendo game machines and personal computers.

—KEITH FERRELL

DON'T PLAY WITH MY BLOCKS

Look-and-feel suits aren't just for user interfaces anymore. Sphere, Spectrum HoloByte's parent company, filed a copyright-infringement lawsuit against Accolade to halt the sale of one of the games in *Mental Blocks*. Sphere alleged that *Fits and Pieces* (2D) too closely resembled Spectrum HoloByte's popular *Tetris*. The companies settled out-of-court after Accolade agreed to remove *Fits and Pieces* (2D) from the *Mental Blocks* package.

—DENNY ATKIN



One man's *Tetris* is another man's *Mental Blocks*.

THE CURTAIN RISES

During the winter warming trend in East-West relations, Boston Computer Exchange opened a Russian Trade Desk to meet the demand for 8088 and 80286 PCs in the Soviet Union.

To coordinate the project, the Exchange hired Joseph Abramson, a recent émigré from Leningrad to the United States. Besides looking for large lots of eligible hardware and software in the States, the organization will seek Russian equipment that might be useful to people in the West.

Boston Computer Exchange is a clearinghouse for used computers and accessories.

—HEIDI E. H. AYCOCK

A MATTER OF TRUST

After a year of legal battles between Nintendo and Atari, third parties have ventured into the fray. Representative Dennis E. Eckart, a Democrat from Ohio, has urged the Justice Department to investigate possible federal antitrust violations by Nintendo of America.

A subcommittee staff investigation uncovered serious concerns about the company's marketing activities. These concerns were raised by wholesalers, retailers, and consumers.

In a letter to the Assistant Attorney General of the Antitrust Division of the Justice Department, Eckart explained that Nintendo holds about 80 percent of the home videogame-console market and, combining its own production with third-party licensees, the company controls almost 100 percent of the home videogame-software market. Through several measures, most notably a lockout chip, Nintendo has made it impossible for non-licensed companies to produce Nintendo-compatible software.

Representative Eckart heads the Subcommittee on Antitrust, Deregulation and Privatization. The subcommittee's primary aim is to protect economic opportunity for smaller enterprises.

Nintendo has maintained that its marketing strategies are designed to keep low-quality cartridges out of the videogame market.

—HEIDI E. H. AYCOCK



TURBO QUICKEN

Don't you hate it when April 15 is approaching and you still haven't entered those pages and pages of information into your tax software? The new TurboTax/Quicken bundle may give your data-entry digits a rest.

Chipsoft's TurboTax 7.0 has a new Hot Link feature that directly imports all relevant tax-related information from Intuit's Quicken 3.0. Just use Quicken for check writing, financial reporting, and budgeting throughout the year and then import your records into TurboTax. The hot link saves time and reduces the chance of a data-entry error, since you'll only have to type the numbers once.

The bundle also includes a WealthBuilder demo disk and STOCK!, a portfolio-management program that integrates with Quicken. The entire package retails for \$99.95, which is \$35.00 less than the combined prices of TurboTax and Quicken.

For more information on the TurboTax/Quicken bundle, contact ChipSoft Customer Sales, 5045 Shoreham Place, San Diego, California 92122-3954; (619) 453-8722.

—DENNY ATKIN

BIG BLUE CUTS BACK

In an effort to streamline its corporate waistline and gird itself for the competition in the 1990s, IBM announced plans in December to trim 10,000 jobs and write off \$2.3 billion from its 1989 earnings.

Analysts said that IBM's troubles can be traced to the rise of the personal computer and its effect on mainframe and minicomputer business. As PCs have become more powerful, businesses spending hundreds of thousands, if not millions, of dollars on large computer systems have chosen to put that power on

the desktop. The personal computer business has spawned thousands of PC clone makers who compete on price. Discounts have damaged earnings not just for IBM, but for all PC makers.

Although it's taking some lumps in its earnings, IBM still musters an impressive array of technology that may bring the giant out of its doldrums. Industry watchers say equipment such as work stations and flat-panel displays could hold the key to success in the coming decade.

—PETER SCISCO

MUSEUM OF FINE ARCADES

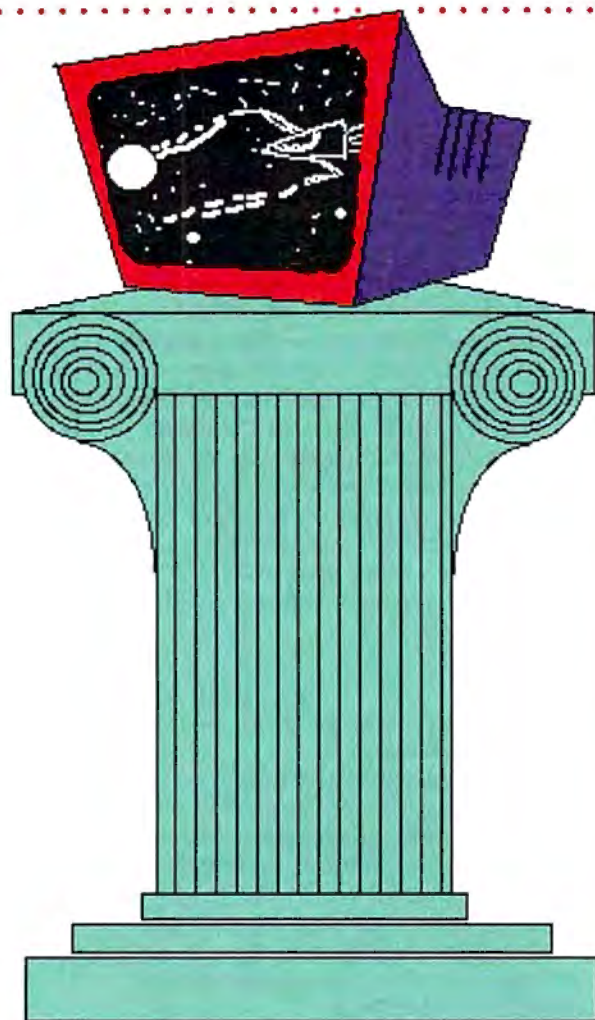
Hot Circuits: A Video Arcade is the first museum retrospective of the coin-operated videogame era. Dramatically, it shows how far arcade entertainment has come in a relatively short time.

Running at the Museum of the Moving Image, Hot Circuits features dozens of innovative and rare games from 1971's *Computer Space* to 1988's *NARC*. Some of these modern artifacts combine videogames with more traditional pinball games. Visitors can play most of the games on display.

Admission to the museum is \$5.00 for adults, \$4.00 for senior citizens, and \$2.50 for students. General admission includes five tokens for the special videogame exhibit, as well as entry to all of the museum's other exhibits and galleries.

The exhibit runs through May 27, 1990. The Museum of the Moving Image is located at 35th Avenue at 36th Street, Astoria, New York 11106.

—KEITH FERRELL



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**RICK BRUSH,
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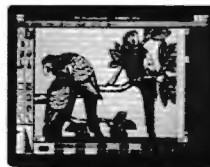
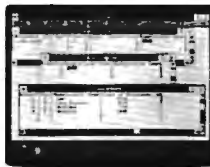
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 30-34
 35-39
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 45-49
 50-54
 55-59
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 65+
4. What was your total household income (from all sources) in 1989?
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 \$40,000-\$49,999
 \$50,000-\$64,999
 \$65,000-\$74,999
 \$75,000-\$99,999
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LETTERS

Not Quite Right

As a businessman, software developer, and publisher, I know that product reviews reflect the opinions and tastes of the writer. I respect that, just as I respect the right of a magazine to publish what it believes to be true. And I have never sent a letter in response to a review.

Until today.

COMPUTE!'s review of Parsons' *QuiteWrite* program (February 1990) was so off-base that I'm forced to respond.

First, the reviewer says, "Instead of moving or copying text in one step, *QuiteWrite* makes you select and cut a text block, then use the paste command to insert it into another location."

All word processors require this—you've got to tell any program what you want to copy or move and where you want to copy or move it.

Next, the review notes that "a split-window feature that lets you open two files at once is a nice feature, but it takes several keystrokes to move between the files." In fact, the number of keystrokes required is three.

But the most inaccurate and disturbing comment in the review is that *QuiteWrite*'s "manual is woefully inadequate." Not only do I take sharp exception to this, but so does every other reviewer who's written about it:

"The manual accompanying *QuiteWrite* is consistent with the high quality found in other Parsons Technology products." (PCM)

"The documentation is very brief; however, it does contain detailed, comprehensive information concerning basic editing and formatting procedures. I actually found the 50-page manual to be a refreshing change from the more full-featured word processing manuals, which usually consist of two or more books and can be rather overwhelming and frustrating when searching for information." (Elite)

"The manual is compact, concise, and as clear as any I have seen." (Computer Shopper)

"The program's documentation

is short and to the point. Simple examples are provided for almost every command and function." (COMPUTE!'s PC)

Your reviewer concludes that a new user needs to be "willing to jump in and do a lot of experimenting" to use *QuiteWrite*.

Not true. Listen to a few unsolicited testimonials from real users:

"After trying *QuiteWrite* for a little more than an hour, so impressed was I by its features, ease of use, and incredibly modest demands on disk space that I decided to delete *WordPerfect* from my hard drive." (B. P. M.)

"I thought that I would drop you a line to let you know that *QuiteWrite* is really great. . . . The manual took into consideration that many people aren't familiar with all those computer terms. I really like that. It is a program that's easy to use and understand. . . . We looked at one of our friend's copy of *WordStar*. In my opinion, *QuiteWrite* has it beat hands down." (S. D.)

"I find it very easy to use. . . . *QuiteWrite* was made for people like me who do not want to spend time studying manuals." (J. A. H.)

"After a few sessions with your *QuiteWrite* program, I never went back to using *WordPerfect*." (A. S. G.)

Thanks for letting us set the record straight.

BOB PARSONS
PRESIDENT
PARSONS TECHNOLOGY

PC Primer Pleases

Hooray! I finally found some information helpful to a neophyte. Yes, not all readers are computer whizzes. There are a great many of us who need to be spoon-fed, and the "PC Primer" column on page 64 of the January 1990 issue was most informative.

How about more of the same? More on AUTOEXEC.BAT would also be helpful.

RICHARD L. COWITT
FLORAL PARK, NY

We're happy to help! Look for more AUTOEXEC.BAT tips next month. ▶

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Batch Error

I received the December issue of *COMPUTE!* a couple of days ago and found an error in the "PC Primer" column in the Productivity section.

In "Drives A to Z," Richard C. Leinecker suggests using DOS's SUBST utility to rename paths to drives. He also states that a line should be added to the CONFIG.SYS file saying LASTFILE=M. The command is LASTDRIVE, not LASTFILE.

JOSE GARCIA
 NEW CUMBERLAND, PA

Mr. Garcia is correct. You'll need to type LASTDRIVE instead of LASTFILE for Richard's tip to work. We're sorry for any inconvenience our editing error may have caused.

Zippy Question

I'm looking for a postal application program which hopefully would let me type in an address and come up with the corresponding ZIP code. I've been unable to locate such a program. Can you suggest a place to start looking?

I always look forward to your magazine. The variety contained within it makes it a must for families with varied computer tastes.

L. E. BREEDING
 MEMPHIS, TN

You might want to check out PC-ZIP, a ZIP code database from Melissa Data Systems. The package includes a set of programs that will find the ZIP code of any city or town in the U.S. It will also provide the time zone, area code, latitude, longitude, city, county, and state names for any of the 90,000 ZIP codes in its database.

PC-ZIP requires an IBM PC or compatible with 384K and a hard drive (the ZIP database contains almost five megabytes of data) and retails for \$99.

For more information, contact Melissa Data Systems, 32118-8A

Paseo Adelanto, San Juan Capistrano, California 92675; or call (800) 443-8834.

Killer Konfusion

In the October 1989 issue of *COMPUTE!*, I read the article Peter Scisco wrote called "Sound Board Duet," which featured the Game Blaster and the Killer Kard. I am interested in purchasing a music card for games, music-theory practice, and composing music.

Do you recommend I get the Killer Kard? If so, could you give me some more detailed information about the card and give me the address of the manufacturer? If not, could you recommend another one? Your help would be greatly appreciated.

DAVID WONG
 ST. JOHNS, NEWF., CANADA

The Killer Kard was renamed Sound Blaster shortly before its release. For a complete overview of the Sound Blaster, read Richard Leinecker's COMPUTE! Choice review in our December 1989 issue.

Creative Labs' Sound Blaster retails for \$239.95 and is distributed by Brown-Wagh Publishing, 16795 Lark Avenue, Suite 210, Los Gatos, California 95030; (408) 395-3838.

Be sure to check out next month's COMPUTE! for an in-depth look at the latest in sound boards and music software.

Correction

The publisher of F-15 Strike Eagle II was listed incorrectly in January's "Hotware." The program is a Micro-Prose product. For a closer look at the program, see our flight simulator feature on page 88.

Do you have comments or questions? Send your letter, along with your name, address, and daytime telephone number, to COMPUTE! Feedback, P.O. Box 5406, Greensboro, North Carolina 27403. □

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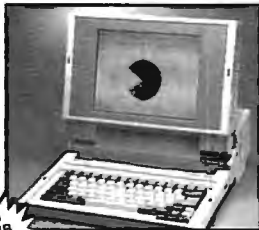
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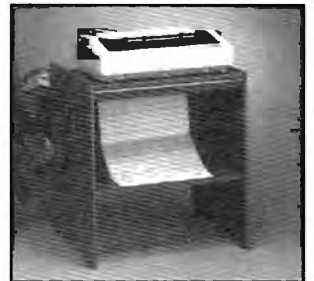
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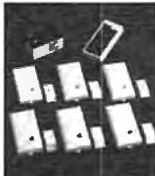
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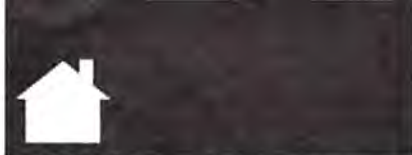
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POWER UP

Your PC's CPU and operating system are its brain and soul, but your hard disk is its heart. Day in and day out, it pumps the one thing your computer needs to survive: information.

If your disk isn't up to snuff, the information flow slows and your work grinds to a halt. It's obviously in your best interest to keep your hard disk fine-tuned, but what do you do to make it healthy? There are really four answers. Total hard-disk health involves organization, speed optimization (caching), maintenance, and disaster recovery.

Let's look at the first dimension of your hard disk—its organization—to see what you can do to make those platters sing.

Your hard disk has two levels of organization. At the upper level is your tree structure—the way you organize your subdirectories. You have complete control over this level. At the lower level is the way DOS stores your files—in what order and where on your disk. If your files are fragmented or your data is stored randomly, your disk access slows down. You'll need a special tool to correct disorganization at this lower level.

Let's back up to the first level of organization—your subdirectories. Here the idea is to make it easy for you and

your operating system to find files. The simple way to do this is to make a tree with a lot of branches, and to keep subdirectories small. Here are a few guidelines:

- Keep the number of files in your root directory small.
- Create a subdirectory for every application that has three or more files.
- If you have several directories that are related (word processors, for example), group them together under a common-category directory.
- Organize the subdirectories in your path in priority order.
- Keep subdirectory names short—two or three letters.

Remember, the more your directory tree looks like a real tree, the faster and easier it will be to use.

To control the second aspect of organization—to keep your files unfragmented and your disk packed—you'll need some special software.

Power Disk

When your hard disk is new, it's fast and surefooted. Your files are stored in contiguous clusters and all your data is at the front of the disk. As time goes by, however, you erase

some files and add others, and before long, your disk's letter-perfect organization disintegrates. The clusters that make up individual files are located hither and yon, and your data is scattered across the entire disk. Fixing this problem requires a program that will defragment your files and pack your data—move the data to the front of the disk.

PC-Kwik Power Disk (Multisoft, 15100 SW Koll Parkway, Suite L, Beaverton, Oregon 97006; 503-644-5644; \$79.95) may be just what the disk doctor ordered. It's a new optimizer with some excellent features, including either interactive or batch operation, a choice of four optimization strategies, read testing, and DiskView, a full-screen disk viewer with a zoom mode.

The first step is to analyze the disk. With this option, *Power Disk* determines the amount of fragmentation. Based on the results of the analysis, the program makes a recommendation to reorganize or not.

If you do need to reorganize, there are four strategies from which to choose. You can select Speedy Reorganization, which packs the disk by defragmenting as many files as possible; Fragmented Files Last, which places files that tend to be more active at the

front of the disk; Directories in Order, which stores files on the disk in the same order as your path; and Partial Defragment Only, which defragments as many files as possible using the disk's empty spaces, without closing up all the spaces.

A good all-around strategy is to use *Power Disk*'s Speedy Reorganization every day and either Fragmented Files Last or Directories in Order once a week, or even once a month.

The easiest way to run *Power Disk* every day is to put it in your AUTOEXEC file. "But I'll wind up running the program every time I reboot, and I do that several times a day," you say. Multisoft thought of that, and it has provided a huge array of batch options, one of which runs the program only if this is the first time your computer has been booted today.

One nice extra with *Power Disk* is its media test, which reads every sector on your disk to verify its data integrity. If it finds a problem, it can move the data to a safe location. Unfortunately, this option can't be run from batch mode.

There are many disk optimizers available, but *PC-Kwik Power Disk*'s flexibility and its powerful batch mode make it well worth considering.

The important thing is to be sure to address both aspects of your disk's organization. Keep your subdirectory tree pruned and tuned, and use a defragmenter like *Power Disk* to make sure all your files use contiguous clusters and your disk is packed for action.

Finders Keepers

Ever lose a file? That's a silly question for most PC users. Almost everyone has. Usually, a file-finding utility is all you need. Other times, however, it's more complicated.

If you have 200 text files with names like PXMA90.DOC and QXRJUNE90.DOC and you

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MAC TAX TIME

need to find the one you wrote to Susan Lucci of "All My Children" in which you discussed her soap opera character's affair with Jackson Montgomery, you're in trouble. Unless you have Vq2, that is.

Vq2 (Golden Bow Systems, P.O. Box 3039, 2870 Fifth Avenue #201, San Diego, California 92103; 619-298-9349; \$150) can find anything. It's a retrieval tool that uses a sophisticated query system to search files for text strings. You can search for strings with wildcards, and you can specify a second string to be found WITH or NOT WITH the first string within so many lines. You can even specify date ranges to further narrow your search. The last step is to designate a directory and an optional file mask. You can also search your specified directory's subdirectories.

One of Vq2's most powerful features is its dictionary-entry option. Dictionary entries are variable names that stand for multiple directories. If you keep your data files in ten subdirectories, you can set up Vq2 to automatically search for those ten different directories when you specify the variable name in the path field.

When Vq2 starts looking for your text, each file the program searches is displayed in a window at the bottom of the screen. When the search is finished, you're introduced to the its editor/ file viewer.

All files with search hits are loaded into Vq2's viewer list, and the first file found is loaded into the program's editor. If the files with search hits are in ASCII, you can edit them; if they're not, they're opened as read only. Although Vq2 can filter binary information and provide a good view of most non-ASCII files, spreadsheets look a little strange.

When files are displayed in the editor, search hits are shown in a different color from the text.

Vq2 doesn't stop there. After you've identified the files you're interested in, the program has hot links to applications. Say that you've searched your *Microsoft Word* directory and have found that Susan Lucci DOC file you wanted to work with. Call Vq2's hot-link menu with that file on the screen, and Vq2 loads your word processor and the file. To give your application as much memory as possible, Vq2 pares itself down to just 8K.

The program comes with several built-in hot links, and

it's easy to add your own. For ASCII files, you'll probably want to stay in Vq2's editor, which is a first-rate tool, complete with mouse support and multiple windows that make comparing files easy.

Vq2 is the latest and most ambitious program in Golden Bow's lineup of well-crafted DOS tools. If you work with a lot of text files, Vq2 can give you the edge you need.

— Clifton Karnes

DOS PROMPT

MS-DOS users have profited immensely from the modular design of the IBM PC and compatibles. Expanding an MS-DOS system is primarily a matter of plugging in the parts. In most cases, the type of part you use will exert only minimal influence on overall system performance. There's little difference, for example, between how an internal modem works and how an external model works. The open architecture of the PC makes such modularity possible.

Choosing components is more critical when you move over to the mechanical side of things, where moving parts play a critical role. Here, differences in design and/or quality can greatly influence your productivity. I find this to be especially true when it comes to the type of keyboard I use. If the OmniKey/102 (Northgate Computer Systems, P.O. Box 41000, Plymouth, Minnesota 55441; 800-526-2446; \$99) isn't the perfect keyboard, it has to be darn close.

Consummate Keyboard

The OmniKey/102 feels like the well-built piece of equipment it is. Key response isn't mushy, as is the case with many keyboards. When you place your fingers on the OmniKey/102 keys, there's a noticeable resistance that seems to say: "I'm built tough. I can take whatever you dish out." The OmniKey/102 also delivers an audible click whenever a key is pressed, not the electronically simulated beep used by some keyboard manufacturers. The OmniKey/102's tactile response and audio feedback leave no uncertainty. Another nice feature of the OmniKey/102 are raised markers on the F and J keys—a little detail touch-typists will appreciate.

The function keys are located in a vertical column run-

ning down the left-hand side of the OmniKey/102, just as they were on the original IBM keyboard. In a stroke of design genius, Northgate has isolated the seldom-used F11 and F12 keys above the more popular function keys. The Ctrl key, that mainstay of multikey commands, is located immediately to the left of the A key. This back-to-basics approach means you can enter control sequences, including any that employ function keys, without having to remove your fingers from your current position. In a move I personally appreciate, the OmniKey/102 returns the Esc key to the top left corner of the alphanumeric key cluster, just above the Tab key and immediately to the left of the 1. As a result, I've been able to reclaim 7K of system RAM by eliminating a keyboard-remapping utility, the sole purpose of which was to swap the Esc and tilde keys on the so-called enhanced keyboard I used previously.

Other little touches abound on the OmniKey/102. The backspace key, for example, is oversized, so it's easy to find and even easier to use. There's a dedicated asterisk key just to the right of the space bar. This comes in handy for entering DOS wildcards.

The numeric keypad, which sits to the far right of the OmniKey/102, includes its own Enter and mathematical-function keys, thus making it easier to enter numeric values into a spreadsheet. In addition to being embedded in the numeric keypad, a dedicated set of arrow keys is located just to the right of the main keyboard, organized in an inverted-T arrangement. Above the alternate arrow keys, Northgate placed another block of six dedicated keys, duplicating other functions embedded in the numeric keypad—Home, End, Insert, Delete, Page Down, and Page Up. Above these six keys you'll find the Print Screen, Scroll Lock, and Pause keys.

A DIP switch on the back of the OmniKey/102 allows you to configure it to work properly with either a PC/XT or an AT system, each of which uses a different BIOS and, therefore, dissimilar codes for certain keyboard operations. Another DIP switch lets you swap positions for the Caps Lock and left Ctrl keys, should you actually like that AT-based layout. (Northgate even includes replacement keys for use with

this configuration, since the Caps Lock and Ctrl keys are different sizes.) A third DIP switch is used to specify whether your PC is connected to a Novell network or operating as a stand-alone unit. Also on the back of the OmniKey/102 is a five-pin connector plug, used for the keyboard cable. As a result, you can order the OmniKey/102 with either a standard PC/XT/AT cable or one having the smaller connector used for PS/2 systems.

You may not think that the right keyboard can influence your productivity, but it can. The OmniKey/102 is an impressive addition to any PC system.

— Jack Nimersheim



The 1989 World of Commodore Show, held at the International Centre in Toronto, was just short of depressing. Gone was the multitude of booths hawking software for the 64/128; gone, even, was the multitude of booths boasting new Amiga software. And gone, most significantly, was some of the crowd. Official attendance wasn't bad, but it certainly wasn't the 35,000 this show has come to expect. The whole thing had a very tired feel.

If you're thinking of using the new decade as an excuse to upgrade to an Amiga, which Commodore would like all 64/128 owners to do, you might want to wait a bit. Commodore is pumping a fair bit of money into Amiga marketing, but the results aren't in yet.

Thankfully, the 64/128 is still high on the development lists of the game manufacturers. Whether these companies want to or not, they can't ignore the machine's large installed base. The fact that game development for the 64/128 hasn't slowed much, despite the dominance of Nin-

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Amiga game screens.



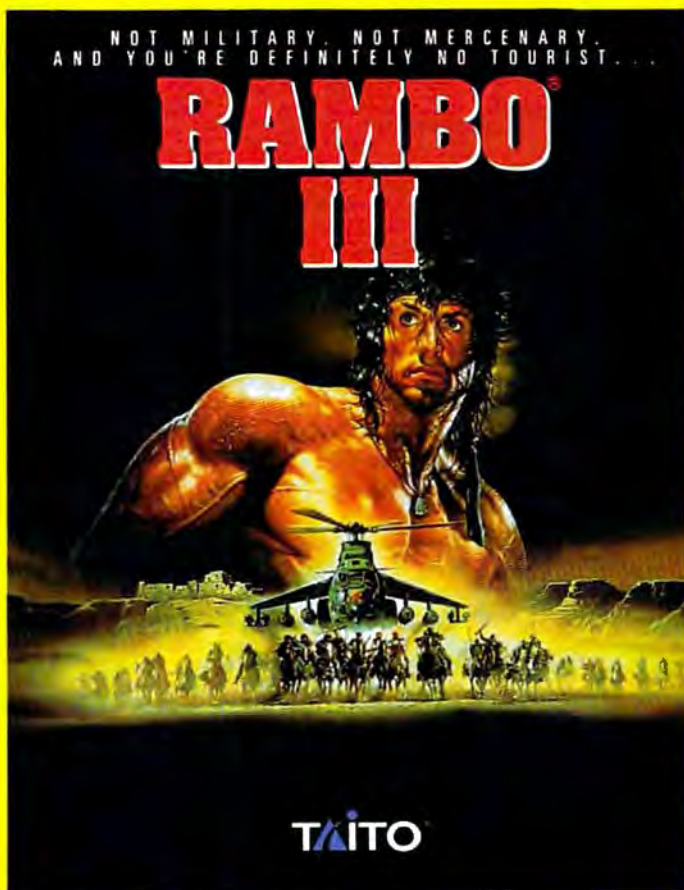
It takes more than muscle to de-activate electronic gates, cross treacherous mine fields, and find the keys to Trautman's cell.



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tendo in this market, is certainly a good sign of our computer's overall health.

But I'm looking for other signs. I don't think we can expect a great deal of new application software for the 64/128—especially given Commodore's lack of commitment for the 128—but there's surely a market for increasing the productivity of those who own and use the machine.

With that in mind, two products are especially interesting. The problem with the 64, of course, has always been the processor and disk drive speeds. Commodore tried to solve the problem a few years back with its 1700, 1764, and 1750 RAM Expansion Units (REUs). Then, as Commodore has proven itself incredibly wont to do, it didn't produce enough product to support the idea as fully as possible. Developers didn't want to commit themselves to writing drivers for the REUs until production was up to snuff, which in turn meant that sales stayed low because not much software was supporting them. This in turn meant that Commodore produced fewer REUs, which meant that developers withdrew support even more. And so on.

CMD Solution

For those who own Commodore REUs, however, or for those considering buying them, Creative Micro Designs (50 Industrial Drive, P.O. Box 646, East Longmeadow, Massachusetts 01028; 413-525-0023) has developed a way of overcoming their limitations and improving their performance. CMD is the producer of the well-regarded *JiffyDOS*, a 1541/1571/1581 noncartridge speed-up system that works with a healthy portion of commercial software. CMD has built *JiffyDOS* into a product called RAMLink, which should be available this spring.

RAMLink plugs into your cartridge port and gives you an REU port along with a replacement cartridge port (which means you don't have to sacrifice your utility cartridge). It gives the REU a separate power source, which keeps it alive when you turn off the machine. It also provides a parallel port, should you wish to buy a hard drive.

One point to note is RAMLink's increased compatibility with existing software. (CMD advertises that 90 percent of

commercial software will have access to it). Another point is speed: By getting rid of many of the memory swaps required by Commodore's *RAMDOS*, and by adding *JiffyDOS*, file-access speed is improved tenfold or better. With its other features, and its price of just under \$100, RAMLink seems to be a very good deal.

GEORAM

GEOS was the software Commodore's REUs seemed to be made for, so it's not surprising that GEOS's publisher, Berkeley Softworks (2150 Shattuck Avenue, Berkeley, California 94704; 415-644-0883), doesn't like the REUs' lack of availability. Rather than lament, however, the company has decided to make its own.

GEORAM offers 512K of memory and runs GEOS applications as impressively as Commodore's REUs. It costs \$124.95, and as of December 1989 Berkeley was taking orders for it. Beware of one thing, however: This REU is NOT compatible with Commodore REUs; it is designed exclusively for use with GEOS products. Still, for those whose 64/128 productivity comes exclusively through GEOS, it is a welcome addition.

—Neil Randall



If you have a copy of *AppleWorks GS*, grab your credit card and a phone and call (800) 628-2100, extension 21. You'll find Claris on the other end.

An upgrade to *AppleWorks GS* version 1.1 costs \$29, plus \$3 shipping and handling, for registered users. (If you bought version 1.0 after September 15, 1989, and have a sales receipt to prove it, you get 1.1 free.)

AppleWorks 1.1 loads

faster, runs faster, and recalculates faster. Much of the speed improvements come from the program's compatibility with System 5.0 (also included in the upgrade). Among the other enhancements to the program is its newly found ability to directly import *AppleWorks* 3.0 files.

For more details about the 1.1 upgrade, contact Claris, P.O. Box 526, Santa Clara, California 95052.

Wagons Ho!

Taste a bit of western trail dust with a classic Apple program—*The Oregon Trail*. It simulates the adventure of braving starvation, bad weather, bad luck, and nearly everything else an emigrating wagon train experienced in the rush to go west.

Once you're on the move, you can stop to hunt, but don't do it more than necessary because it uses up precious time you may need later. You can change your marching pace from a steady 8-hour day to a grueling 16-hour trek. And you can cut your rations to match your larder. Don't overdo it, though, or your health will suffer and some of your party may rest under prairie sod instead of a roof in Oregon.

The Oregon Trail is an educational simulation that teaches much about the period (and the process of pioneering). But it's an engrossing lesson, one that's as much fun as any text-adventure game filled with dragons. Making life-and-death decisions in an imaginary world like this holds a certain fascination for everyone, kids included. Do you ford the river, saving time and money? Or do you pay the ferryman to float your wagon across? Should you avoid shooting buffalo when you're in Indian country?

The Oregon Trail sells for \$39.95. For more information, contact MECC, 3490 Lexington Avenue North, St. Paul, Minnesota 55126; (612) 481-3500.

Dino Writers

Give a child a crayon and a blank piece of paper, and new worlds and words sprout like tulips in spring.

Give a child a computer and the two—paint and print—are separated. Writing and drawing software usually don't come in the same package.

That's why something like *Dinosaur Days*, simple though it may be, is a welcome addi-

tion to the software libraries of families with early learners.

Dinosaur Days combines a relatively sophisticated graphics program with an elementary word processor to give kids a chance to put words with pictures and illustrations with tall tales. By assembling dinosaur body parts (and other clip art) over various backgrounds, kids can create real or imaginary creatures that can be saved to disk or printed in one of four sizes. Children can be as outrageous as they want to be, going for the absurd (tennis shoes on a tyrannosaurus rex?) or the fanciful (a stegosaurus in the heart of the city?).

Once images have been created, kids can head for the *Dinosaur Diary*, a simple word processor that lets children write as much as a screenful of text. Nothing fancy here—arrow keys move the cursor, the delete key erases, and text is inserted simply by typing at the cursor position.

Print support for *Dinosaur Days* is adequate, though not dazzling. Color printing isn't available, for instance, even when you have an ImageWriter II. Navigating through the menu-laden interface may not be as easy for kids as one might hope; help screens can't easily be called up while working, for example.

Dinosaur Days sells for \$39.95. Contact Learning Lab Software Publishing, 21000 Nordhoff Place, Chatsworth, California 91311; (800) 247-4641.

—Gregg Keizer

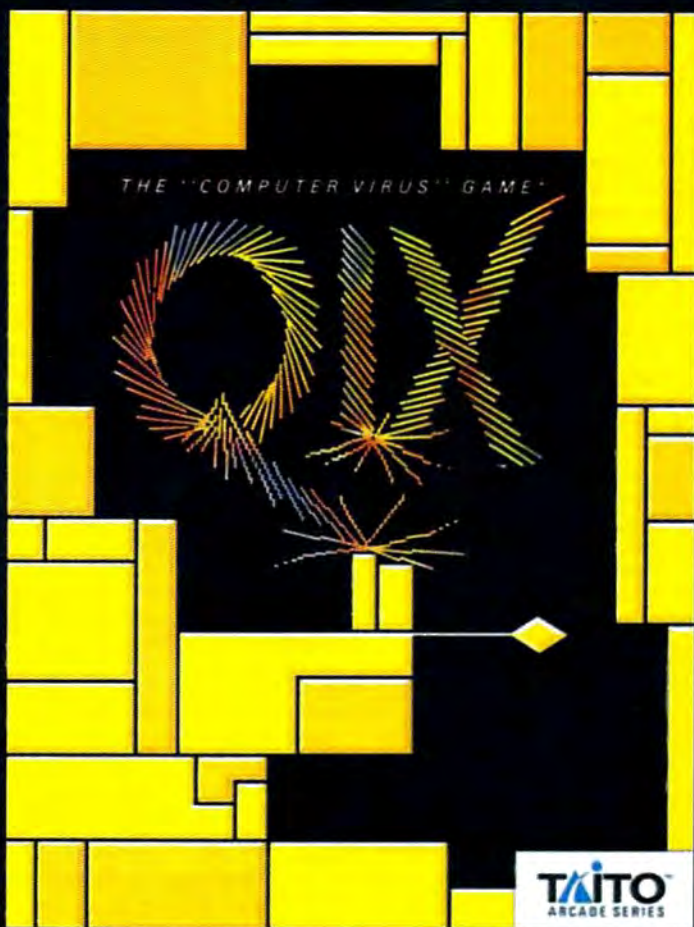


Have you ever wished you could just *tell* your Amiga what you wanted it to do? With Impulse's new VoRecOne, you can do just that.

VoRecOne is a small blue box that gives your Amiga voice-recognition capabilities. ▶

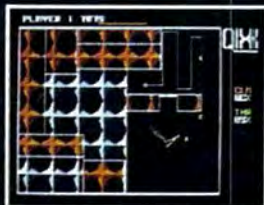
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Plug it into the joystick port and you can give your Amiga commands simply by picking up the included microphone and speaking into it.

You have to train the VoRecOne software to recognize your voice. It only knows the commands you teach it, but training is easy. You just give the command a name, select Train from the menu, and repeat the word until the software has recognized it.

VoRecOne can perform a number of actions in response to your voice commands. For example, you can have it execute a CLI command. You could say "directory drive 1" to get a listing of the files on DF1. It can also respond verbally using the Amiga's built-in speech synthesizer, play a digitized sound, or execute an ARexx macro.

The VoRecOne software can manipulate menus and gadgets in other programs. For example, you can create a VoRecOne macro that will print a document from within your word processor. Even mouse movements can be voice-controlled.

My initial experiments only achieved about a 50-percent recognition rate, but I found that if I spoke in a robotic monotone, doing my best impression of the built-in Amiga speech device, the VoRecOne would recognize my words over 90 percent of the time. The only problem with the recognition is that when it gets a word wrong, it will perform the action for the word it *thought* you said. If you say "print" and it thinks you said "quit," you're dumped out of the program.

Do you need VoRecOne? Probably not. But it's a must for the gadget collector. For me, it's worth it just to see the looks on my friends' faces when I tell the Amiga, "Open the pod bay doors, HAL" and it responds with a digitized voice from *2001: A Space Odyssey* saying, "I'm sorry, Dave, I'm afraid I can't do that."

You can give your Amiga a hearing aid for \$159.95. Contact Impulse, 6870 Shingle Creek Parkway, Minneapolis, Minnesota 55430; (612) 566-0221.

Flawed Falcon

Electronic Arts' new *F-16 Combat Pilot* has the potential to be a hot program. At first glance, it looks like it could give Spectrum HoloByte's *Falcon* a run for the money—it has air- and

ground-attack missions, advanced instrumentation, and even a commander mode where you command an entire F-16 squadron.

Unfortunately, *F-16 Combat Pilot* is a splendid example of all the things you *shouldn't* do when creating an Amiga game. The graphics look like a port from the Atari ST version. The through-the-window view is the worst of all the Amiga combat-flight simulators. And you have to swap disks to store your pilot log because the program won't recognize a second disk drive.

Besides drive-grinding disk-based copy protection, you're required to look up a word in the manual, too. The manual protection is terribly complicated, requiring you to find a certain word in a certain paragraph on a page. However, there's no indication if partial paragraphs and headlines are to be counted. I still haven't figured out EA's system; I get it right one out of three tries.

Worst of all, the program will only run on Amigas with a 68000 processor. If you have a 68010 or an accelerator card, you're out of luck. This wasn't just an overlooked programming error, either: The outside of the box states that the program "doesn't support advanced processor options." Come on, EA! You wouldn't release an IBM program that ran only on an 8088 machine.

If you're still interested, it's available for \$49.95 from Electronic Arts, 1820 Gateway Drive, San Mateo, California 94404; (415) 571-7171.

Precision Landings

If you fly real planes, not just flight simulators, you should definitely check out *Jet Instrument Trainer*. This isn't a game, it's a realistic simulation of instrument flight in a 727 airliner.

There's no through-the-window view, but with dual VORs and DMEs, an automatic direction finder, a localizer, and a glide-slope indicator, who needs it? The program includes runway approach charts for airports all over the world—from Dallas, Texas, to Belgrade, Yugoslavia. Using the Area/Route Programming Module, you can add airports that you commonly land at to the database. All you'll need are the real navigation charts.

Great fun for the rated pilot and good practice for the student flier, *Jet Instrument*

Trainer is available for \$89.95 from Precision Approach, 207 East 3rd Street, Prophetstown, Illinois 61277; (815) 537-2211. — Denny Atkin



Come April, many of us will be thinking of things to buy with our tax refunds. Some of us, though, will have received the money already.

Softview, makers of *MacInTax*, has joined with an electronic filing service to simplify filing by wire and to facilitate refund-anticipation loans which get your refunds to you in as few as three days. If a loan makes you cringe, this telefiling process can get your real refund to you in 12 to 18 days.

Besides the online filing procedure, *MacInTax* also includes more than 75 federal tax forms. You can link forms so that when you make a change on one, that change is reflected on all associated forms. You can also print out an exact replica of the completed tax forms, data and all, with an ImageWriter and regular paper.

The 1989 edition of *MacInTax* retails for \$99 (with an annual renewal price of \$55). State supplements cost \$79 (renewal, \$40). Contact Softview at 1721 Pacific Avenue, Suite 100, Oxnard, California 93033; (805) 385-5000.

New Links

For a long time, Macintosh owners had two printing options: the affordable ImageWriter and the gee-that's-half-the-price-of-a-new-car LaserWriter. Times change, though, and several companies have introduced interfaces that link the Macintosh to a wide spectrum of lower-cost printers.

The Grappler, from Orange Micro (1400 North Lakeview

Avenue, Anaheim, California 92807; 800-223-8029), for example, opened up a world of non-Apple printers to Macophiles. Now, Insight Development, in conjunction with Extended Systems, has entered this highly competitive race.

The two companies have co-developed JetWriter, a software and hardware system which connects the Hewlett-Packard IIP to a Macintosh. The printer is HP's low-priced breakthrough, so most Mac users will appreciate this new option.

Besides linking the Apple machine with non-Apple printers, JetWriter is supposed to speed up throughput so that you won't notice any printing delays.

As reported by Insight Development in 1989, JetWriter works like any other printer driver, showing up in the Chooser dialog box. The software quickly translates QuickDraw commands to the Hewlett-Packard Printer Command Language.

The interface retails for \$345, and you should contact Insight Development for more information at 2200 Powell Street, Suite 500, Emeryville, California 94608; (800) 825-4115.

Serious Fun

Are you still dreaming about that great football matchup last fall? Stop drawing chalk lines on your pool table and start up Broderbund's *Playmaker Football* (\$49.95). You control the game by drawing game plans. You can also make last-minute changes during plays. Football fans recommend the game as a detailed simulation of gridiron action. For more information, contact Broderbund at 17 Paul Drive, San Rafael, California 94903-2101; (415) 492-3200.

While the Marines are looking for a few good men, you should look for SSI's *Halls of Montezuma* (\$44.95). The war game recreates the battles of Mexico City, Belleau Wood, Iwo Jima, Okinawa, Pusan, Inchon, and Huế. SSI's Ian Trout says *Halls of Montezuma* is the easiest war game to play, and the Warplan and Warpaint design kits make the program flexible, too. SSI products are distributed by Electronic Arts. For more information contact EA at 1820 Gateway Drive, San Mateo, California 94404; (415) 571-7171.

— Heidi E. H. Aycocock

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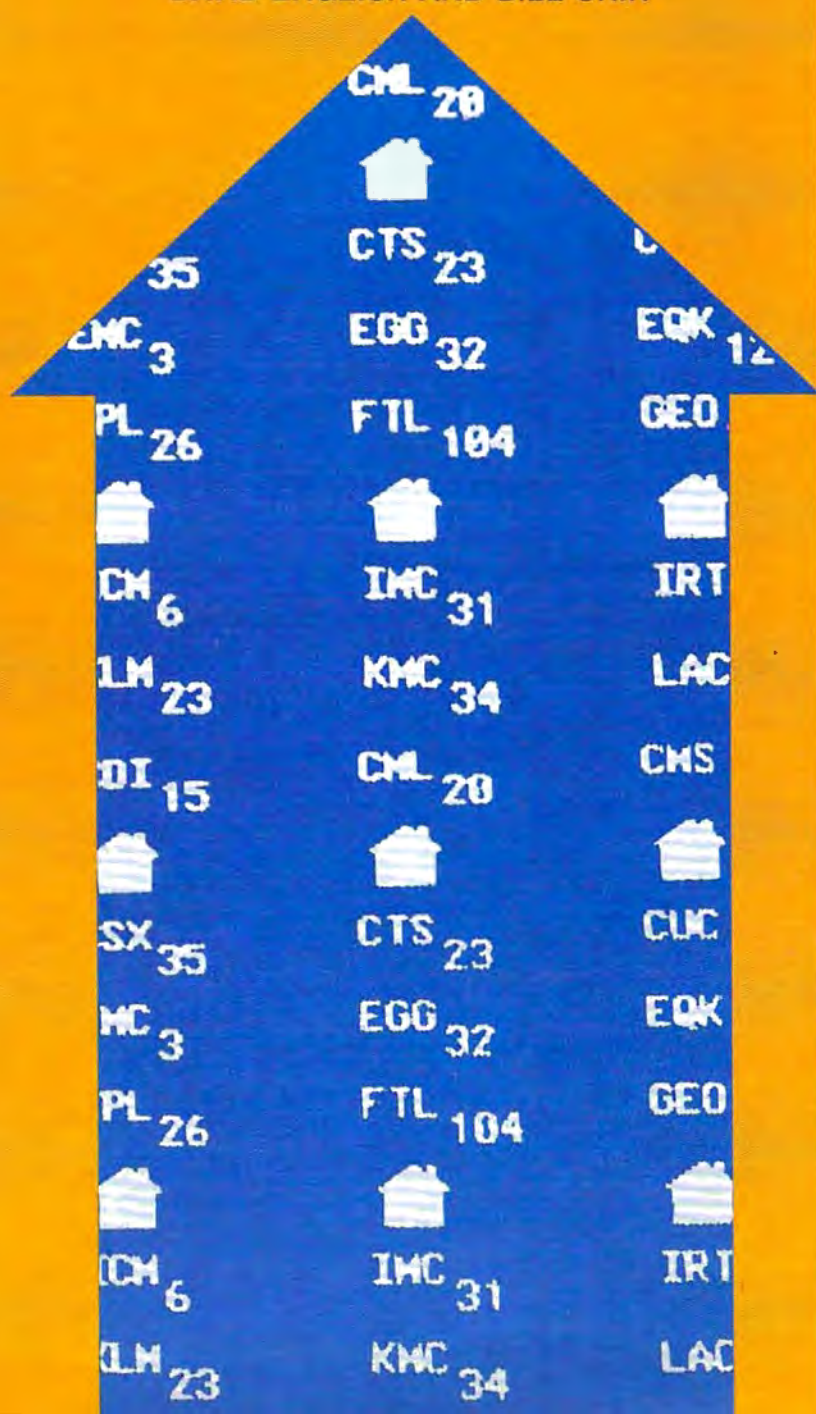


WALL
STREET
AT HOME

SELL HIGH

INVESTING WITH YOUR PC

DAVID ENGLISH AND BILL CHIN



dividuals seeking to learn about investing. There's plenty of software to sample in the areas of stocks, bonds, options, commodities, mutual funds, real estate, financial planning and taxes, and technical analysis. Most of the software is public domain or shareware, including portfolio-management programs, technical-analysis programs, and stock-market simulation games. It's a great place to get your feet wet.

Trading Places

While most investors still trade stocks, bonds, options, and mutual funds by talking to humans on the phone, an increasing number of investors are buying and selling directly via their computers.

With Fidelity Brokerage Services' *Investors EXPRESS*, you can place orders for stocks, options, and mutual funds and receive confirmation of your transactions within minutes. You can also use the system for portfolio management, current quotes, historical data, and company reports. Fidelity charges a flat monthly fee of \$12.00, plus another \$1.50 each month for Dow Jones News/Retrieval, which acts as a host for *Investors EXPRESS*.

Like Fidelity Brokerage, Charles Schwab is a discount broker that offers the convenience of online trading. Schwab charges \$39.95 for its software, *PC Broker*, but you pay no other fees. You can place orders for stocks, bonds, options, and mutual funds online and receive confirmation within minutes. Like *Investors EXPRESS*, *PC Broker* includes portfolio management. But with Schwab's system, you can also transfer your portfolio data to a spreadsheet program, such as *Lotus 1-2-3*.

Keeping Score

If you trade more than a few times a year or have more than one or two stocks in the financial markets, you should consider using your computer to track your holdings. Taxes and recordkeeping are pretty boring stuff, so anything you can do to automate the process will make things easier on April 15.

Many general money-management programs, such as *Andrew Tobias' Managing Your Money*, include portfolio tracking and a Schedule D print-out. In addition, these programs can help with your household budgeting and tax planning, calculate your net worth, and evaluate your family's life insurance.

You can also create your own

BUY LOW, SELL HIGH

portfolio program by designing a spreadsheet template. For example, you might include the name of the investment; number of shares; price, date, and value when purchased; current price, date, and value; dollar and percentage change; and estimated annual return based on the current rate of change. By doing it yourself, you can add features that you especially like, such as a comparison of your portfolio's profit or loss with a specific market index. Once a week or so, you can check a newspaper and update the numbers in your spreadsheet.

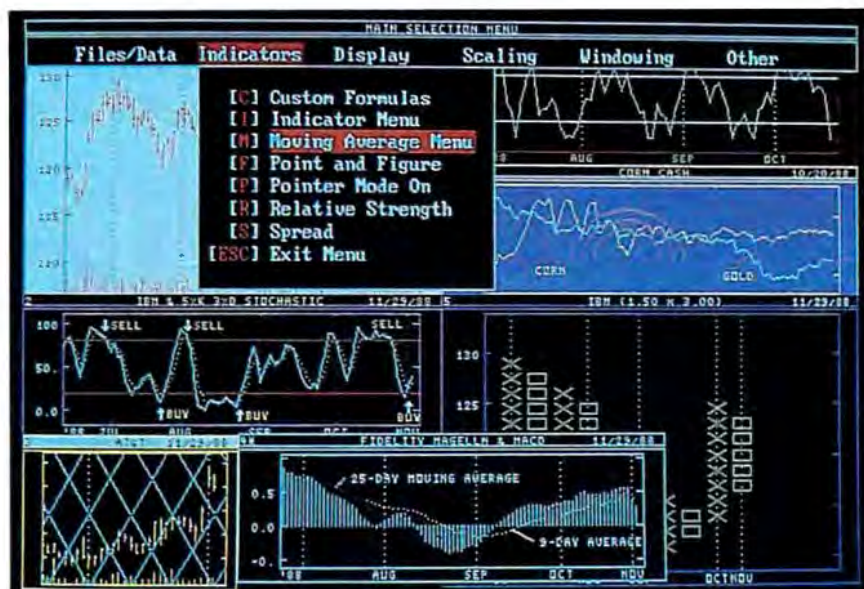
For most people, though, the easiest and best solution for keeping track of your holdings is a dedicated portfolio-management program, such as *Market Manager PLUS 2.0* from Dow Jones Software. *MMP* works both as a portfolio manager and a communications program. As a portfolio program, it uses a tax-lot accounting system, which matches sell transactions with existing holdings to minimize your tax liability. As a communications program, it captures current market quotes from the online financial service, Dow Jones News/Retrieval (membership and one free hour is included). *MMP* automatically calculates the current value of your holdings and generates several reports.

Getting to Know You

One of the best ways to choose a stock is to learn as much as you can about the company itself. This is the basis of fundamental analysis. While an individual investor may not be able to visit the company headquarters or talk to the CEO, with the aid of a computer, he or she can do the next best thing.

The most comprehensive online financial service is Dow Jones News/Retrieval. It has a variety of database and information services. These include historical stock and mutual fund quotes (for technical-analysis programs, such as Equis International's *MetaStock Professional* and Dow Jones Software's *Market Analyzer PLUS*), Text-Search Services (for searches through all the news articles in the *Wall Street Journal* since January 1984 and selected news articles in *Barron's* since June 1979), Disclosure Database (for company profiles and 10-K extracts), and Corporate Ownership Watch (for summaries of legal insider trading in specific companies).

You can also screen stocks on Dow Jones for a variety of fundamental values, including price-to-sales ratio, 12-month earnings, and



Display as many as 36 investment charts at one time with *MetaStock Professional*.

annual dividends. You select the screening criteria, and the system provides a list of stocks that qualify. Dow Jones costs \$2.14 per minute during the day and 44 cents per minute during the evening and weekends. Some of the more specialized databases carry an additional fee.

Bargain Basement

You don't have to go online in order to screen stocks. Rather than pay an hourly online fee, you can pay a flat fee and receive the data on disks. If you can live with the initial delay in receiving your disks, you can spend as much time as you like searching for the best stocks.

One of the best known of these services, *Value/Screen II*, advertises that you can buy "million-dollar investment know-how for \$49." For your \$49, you get the *Value/Screen II* screening software and two monthly data disks. You can also buy an annual subscription of the monthly data disks for \$396.

Bill Chin, a program designer at COMPUTE! Publications, uses this package to screen for individual stocks with low price-to-sales, high cash-flow, low price-to-earnings, and low price-to-book ratios. The screening software features technical rankings, earnings projections, excellent reports, and simple portfolio management. The database includes the same 1700 stocks that are covered in the *Value Line Investment Survey*, a weekly publication that ranks stocks.

Last year, Chin found what he thought was a perfect stock: Sea Containers. It had a price-to-earnings ratio of 6, a cash flow of \$7 a share, and a 0.4 price-to-sales ratio. He checked out the company with the local library's Standard & Poors' handbook. Taking

a chance on getting an even better bargain, he waited for the stock, which was trading around \$30, to dip to \$28. It never did. Instead, Sea Containers edged up to \$32. Then it moved to \$38, there was a takeover bid at \$50, and, finally, a stock buyback deal came through at \$70. The moral of the story is that while you need good information, you also need the discipline and confidence to follow through on that information.

Value/Screen II is an excellent screening tool, especially if you use the *Value Line Investment Survey* (available in many public libraries). It is, however, limited to 1700 stocks, and it doesn't do charts.

Topping the Charts

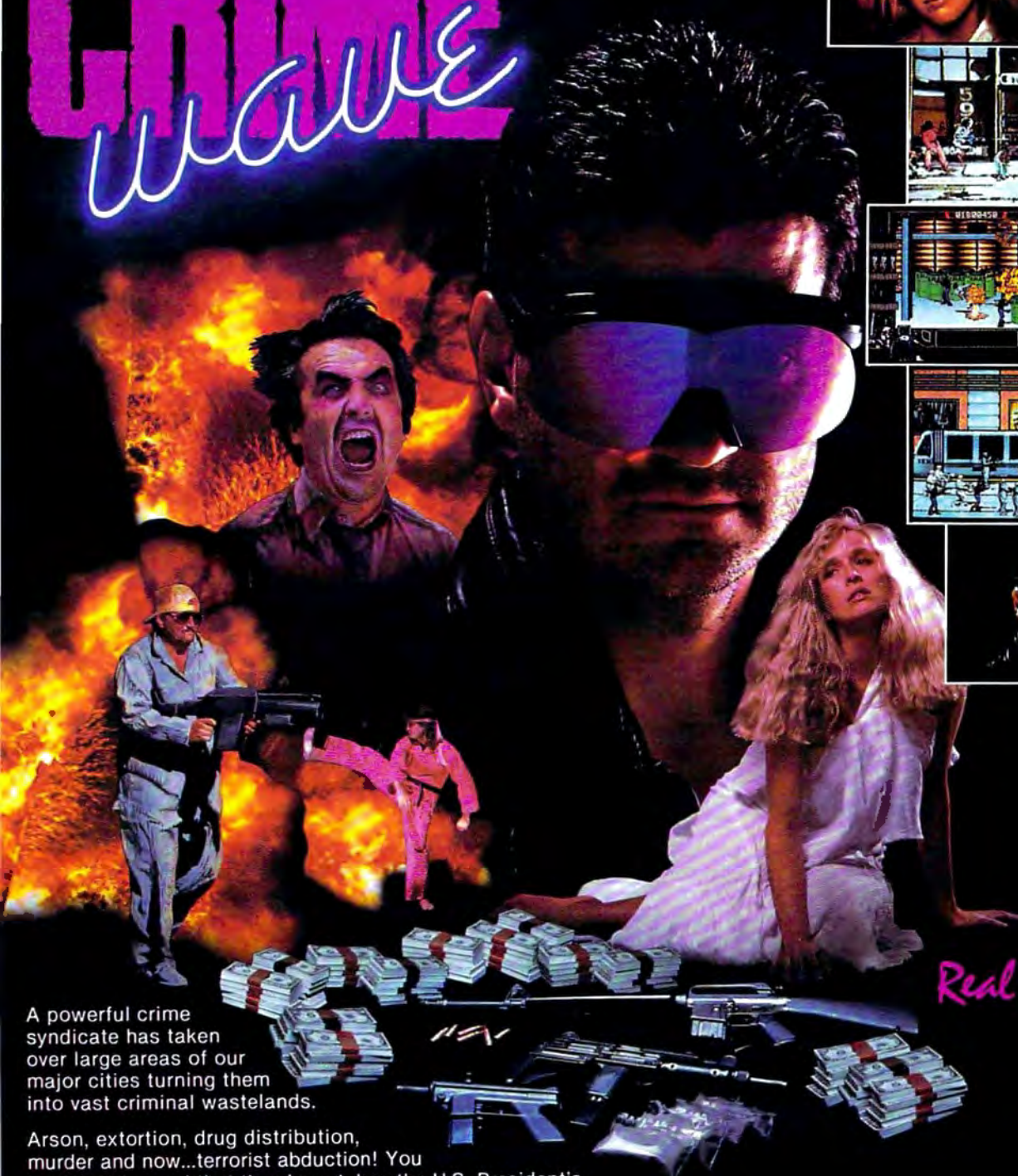
While market fundamentalists study the company behind a stock, market technicians analyze a stock's price movement and price volume with an arsenal of technical indicators and computer-generated charts. *MetaStock Professional* is the premier technical analysis program for individual investors. The program costs \$295, plus \$99 for the downloading software and online charges for the data.

Mike Elphick is a business consultant from Andover, Massachusetts, who has used *MetaStock* for over three years. For most of his 25 years in the stock market, he has been a long-term investor. More recently, the volatility in the stock market and his growing involvement with technical analysis have made him a short-term trader.

Elphick thinks *MetaStock* is an especially versatile program that can't be beat for the price. The documentation is excellent, and the customized macros let you do complicated things with a single keystroke. Elphick has tried

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some of the shareware packages, but he says they have too many bugs and aren't powerful enough.

MetaStock comes with 40 built-in indicators, and it even lets you design your own. Elphick began with moving averages but now relies on more advanced indicators. His current favorite is the Fibonacci fan lines, which he uses to identify price targets. He warns investors not to fall in love with any one indicator or formula, though. Indicators that work in a trending market (one that's moving straight up or straight down) won't work in a trading market (one that's moving sideways). Be careful when using *MetaStock's* historical profit testing—just because an indicator worked in the past doesn't mean it will work in the future.

Elphick recommends that beginners start with imaginary portfolios or enter trading contests before risking real money. CompuServe's Investor's Forum sponsors these contests from time to time.

MetaStock isn't cheap, but you get a lot for your money. It's a valuable learning experience and an educational tool, as well as a program that can help you make money.

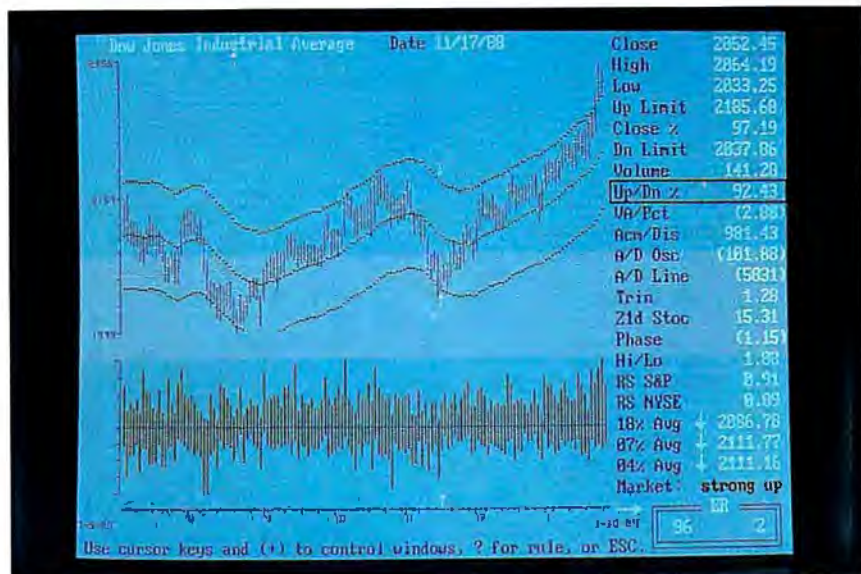
Balancing Act

Telescan is a specialized online service for investors that offers both fundamental and technical analysis for stocks, mutual funds, and industry groups. It also has corporate news, reports on insider trading, and earnings estimates.

You must use *Telescan's* software to access the service. The basic package is *Telescan Analyzer*, which costs \$80. For advanced screening capabilities, you'll need *Telescan Edge*, which costs \$295. The online charges are 60 cents per minute during the day and 30 cents per minute during nights and weekends. There's also a surcharge for earnings estimates and screenings.

David Orshalick, a stockbroker with Choice Investment Products in Austin, Texas, uses *Telescan Analyzer* and *Telescan Edge* to generate investment ideas. As a stockbroker, Orshalick has access to the best software and online services. He believes that *Telescan* is an institutional- or professional-level package available to, and priced for, individual investors. However, he also complains of the program's unclear documentation, occasional bad online data, and tendency to randomly toss the user offline.

Despite these misgivings,



AIQ MarketExpert 3.0 gives a buy signal just before the stock market moves up.

Orshalick says *Telescan* is a rich system with incredible capabilities. It offers information that isn't available anywhere else. You can easily retrieve charts with data from as far back as 1973 for any of the 10,000 stocks in the database. You can also compare a stock to its industry group or compare one group to another. Orshalick uses *Telescan Edge* to screen the database for stocks with strong technical indicators and to track industry groups.

Crystal Ball

AIQ Systems' *AIQ StockExpert* and *AIQ MarketExpert* tell you which stocks to buy and when to buy them. Using price movement and price volume, these programs apply expert-system routines to predict future prices. *StockExpert* tracks individual stocks and includes portfolio management. The latest version costs \$988, plus online charges for data. *MarketExpert* tracks the movement of the entire stock market; it costs \$388, plus online charges for data.

Dr. Robert Cone, a plastic surgeon from Huntington Beach, California, uses *MarketExpert* to time the buying and selling of his stocks. He began using the program in July 1987. When it gave sell signals in August, Cone sold. The market did decline in September, but then it rallied sharply in early October—causing *MarketExpert* to give two more strong sell signals. Unfortunately, Cone didn't believe the program and bought just before the big stock-market crash of October 19. This experience made him a firm believer in the AIQ programs.

Cone tracks over 200 stocks daily, receiving the data through his satellite dish from Telemet America. He uses *Value/Screen II* to look for interesting

stocks and fundamental data. Cone says the secret to successful investing is to think your strategy through, use all your resources, and put in the necessary time. He advises new users to watch how the program works for a few months before making any investments with money. This way you'll have the confidence to stick to your decisions.

For Cone, *StockExpert* has picked about three winners for every loser. In one spectacular example, he placed a buy order for Phillip Morris at 40, before the market opened on Friday, October 13, 1989, and sold just two days later for a 10-percent profit.

Karen Peterson, a broker with A. G. Edwards in Incline Village, Nevada, uses *Winning Investor* in conjunction with *StockExpert*. *Winning Investor* ranks 4500 stocks for 2-, 6-, and 12-month performance; it costs \$865, plus a \$12 monthly fee. Peterson uses *StockExpert* to track over 900 stocks and confirms any buy or sell signals with *Winning Investor's* 2-month performance ratings.

For discovering takeover stocks and short-sale candidates, Peterson relies on *StockExpert's* volume-accumulation/-distribution indicator. *StockExpert* has also uncovered a number of special situations that turned out to be excellent opportunities—even though the program didn't give a definite buy signal. She's currently trying to form an AIQ user's group to share ideas and test new theories.

Peterson advises investors to stick to the rules and use stop-loss orders. For first-time stock buyers, she recommends regional banks and solid utilities. One of her best *StockExpert* picks has been Bank of America,

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which received a buy signal two years ago and has yet to receive a sell signal.

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No single approach to the financial markets or any single piece of software can be right all the time; if it were, everyone would be using it and we'd all be rich. Even with powerful programs, it takes patience and hard work to maximize the potential of your investments. Even with the volumes of information available online, it takes experience and intuition to pick the stock that no one else wants—just before it triples in value.

Historically, the stock market has grown an average of about 10 percent a year. That may not sound like much, but at that rate \$10,000 would grow to \$25,937 in 10 years, \$67,274 in 20 years, \$174,494 in 30 years, \$452,592 in 40 years, and \$1,173,908 in 50 years. Like the people we've talked to, you can

Program Trading: Computer Programs for the Big Guys

Buy in Chicago, sell in New York. Buy in New York, sell in Chicago. That's what program traders do. On the Chicago Mercantile Exchange, you can buy or sell the futures that represent the Standard and Poor's 500 index (SPX) and Major Market Index (MMI). In New York, you can buy or sell the 500 stocks that make up the SPX and the 20 stocks that make up the MMI.

When the prices in New York are different from the prices in Chicago, the computer programs kick in. Trades are made instantly in both markets to lock in a profit. This is called *index arbitrage* and is the most common form of program trading. It's like buying a shopping cart full of goods in Chicago and selling each item in New York.

Individuals can't do this kind of trading—it requires instant access to both markets, low commissions, and big bucks. The firms that do participate in it make pretty good money at it. Index arbitrage makes for faster-moving markets, because it's easier for a single price to change as part of an index than it is for 500 individual prices to move in the same direction.

Program trading has many critics. Legendary investor Warren Buffett thinks that "at best it's a parasite and at worst a cancer on the stream of useful business activity." After October 1989, when the stock market fell nearly 200 points in less than two hours, Kemper, a big insurance and financial company, led the institutional outcry against program trading. When Kemper announced it would blacklist brokerage houses that continued program trading, two firms immediately pledged to stop.

use your computer to improve your own investments. With the right software, a little luck, and a lot of careful study, you might become the next Donald Trump. □

David English is an assistant editor for COMPUTE! Publications, where he cooks up several get-rich schemes every week. Bill Chin is a program designer for COMPUTE!. He aspires to write a stock-market newsletter.

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MY VIEW

J O H N M . B A J K O W S K I

TOOLS OF THE TRADE

FOR HOME INVESTORS

Personal computers have brought Wall Street technology to the family dens and home offices of individual investors. With the right computer hardware and software, you can do your own financial planning, investment analysis, and stock transactions.

Financial planning is the cornerstone of personal investing. Programs in this category can help you keep a budget, handle your checking, manage your taxes, plan for the future, and keep track of your investments and net worth. These programs tend to use fairly simple mathematical calculations, so they don't require the fastest computers. A fast 8088 or slow 80286 MS-DOS computer will probably suit you just fine for these applications. They can, however, store quite a bit of personal data, requiring a lot of disk swapping or, preferably, a hard disk. A printer is also highly recommended for these programs; they produce net-worth statements, portfolio reports, and even printed checks if you order special pin-feed checks through a special vendor. A standard

dot-matrix printer will suffice for the output from these programs. Electronic bill payment is a recent enhancement added to programs that have a checkbook register. To take advantage of this feature, you must own a modem and pay a monthly fee.

Active investors also may find a 2400-baud modem useful. You'll easily save the cost difference between a 1200- and a 2400-baud modem in lower online access charges and telephone bills. On the other hand, don't shell out the extra money for a 9600-baud modem—few financial services support such speeds and long-distance phone noise makes communication at the faster speeds nearly impossible.

Some individuals will want to go beyond financial planning and start analyzing securities and the markets. This type of analysis is generally broken down into two basic categories: fundamental and technical. Fundamental analysis examines basic financial, accounting, and economic information, and it uses that information to assess the value of a particular security. Most fundamental-analysis programs screen stocks that meet specific stock-valuation or financial-performance criteria. Companies send financial information on data disks to subscribers on a monthly or quarterly basis. These screening programs range from \$200 to \$2,000 per year depending on how frequently you need fresh data and how many securities you want to track. Aside from a hard disk to store a database and a basic printer for reports, these screening programs require little in terms of computing power. A more powerful computer, such as a 286, could be necessary, however, if you plan to export the screened data into a spreadsheet and apply some fundamental valuation models.

Technical-analysis examines price and volume data to identify patterns that predict future price movements. These programs rely heavily on charts which show trends and break-out points that identify buy and sell points. The use of charts requires

a graphics adapter and a monitor. Most technical-analysis charting programs offer support for CGA and EGA graphics, and some even provide VGA support. Unfortunately, few investment-charting programs offer Hercules graphics support, perhaps the least expensive high-resolution monochrome system available. Given the direction of support for higher graphics resolution, you should consider buying a VGA graphics system, even if you have it attached to a monochrome monitor.

Technical-analysis programs also benefit from faster microprocessors. A 286 or 386SX computer would be a wise investment. Of course, a 386 is even faster, but unless you perform your analysis in realtime while the markets are open or you plan to do some multitasking, 386s are difficult to justify on a cost-return basis.

If you plan to print your charts, a high-quality 9- or 24-pin dot-matrix printer is a good choice. Ink-jet or laser printers may offer better resolution, but not all charting programs provide software support for these printers, so carefully check which printers the software supports.

When shopping for a system, you should select one that has potential for future expansion and a substantial base of software. You may not have the fastest computer, but if it does what you need, you shouldn't care.

Also, the most basic requirement is a fundamental understanding of the theories behind the programs. With that knowledge, you'll find your computer a powerful investment tool.



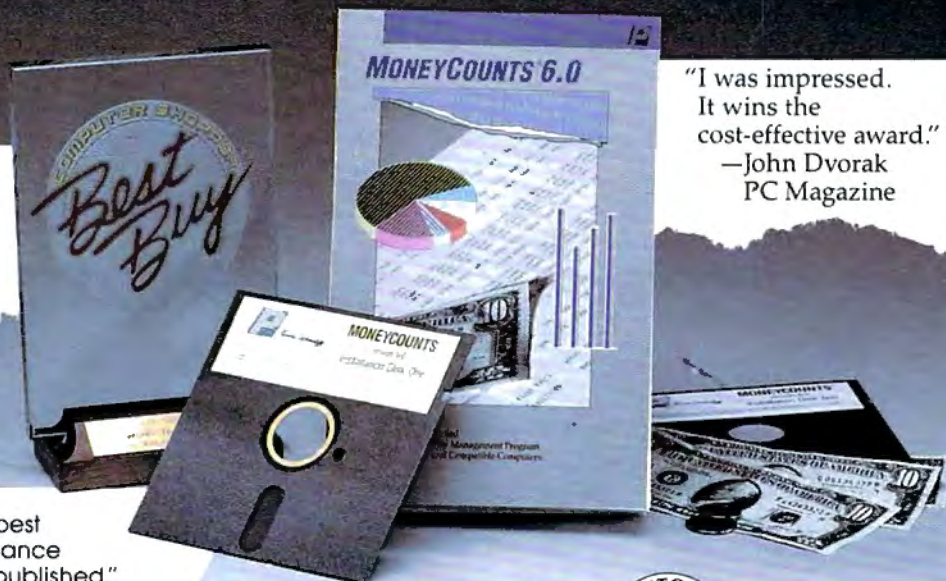
John Bajkowski is associate editor of Computerized Investing for the American Association of Individual Investors. He also answers questions and runs an electronic bulletin board for the association. □

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If you like a program on the disk, you should register yourself directly with the shareware publisher (not with COMPUTE!). Each program includes a license agreement that explains whom to contact and how much the program costs. Shareware prices are very low compared with similar commercial programs.

Registering means you pay the software author for a program he or she developed, plus it entitles you to technical support and information about upgrades. You'll find shareware publishers are easy to work with and eager to help.

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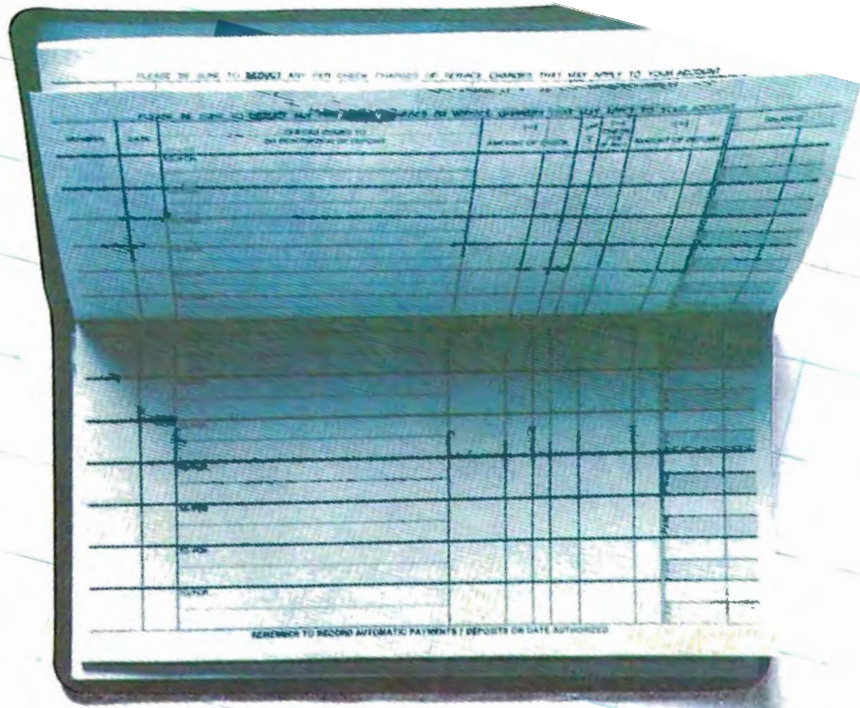
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SMART MONEY

SIX PERSONAL-FINANCE PACKAGES THAT HELP YOU CONTROL YOUR MONEY BY MASTERING YOUR CHECKBOOK

NEIL RANDALL

Monthly Bills - # 894.00
Mortgage 298.53
Car Pmt. 61.00
Gas 48.00
Electric 62.00
Phone 40.00
Health Club 45.00
Amer. Ex. 100.00
VISA 20.00
Nothing 250.00
Savings 150.00
61.00



Not everyone needs help with portfolio management, nor does everyone have intricate tax considerations. But almost all of us need a hand in keeping our financial heads above water on a semicontrolled, day-to-day basis. In the following pages, *COMPUTE!* examines six personal-finance packages that recognize the relatively simple financial needs of most people. And although businesses can use these programs to generate checks, to maintain accounts-payable files, and to create detailed financial reports, home computer users will benefit the most from their controlled focus and modest prices (from \$29.95 to \$69.95).

We concentrate on check writing, printing, and tracking. Only two of the products—*Quicken* and *Checkwrite Plus*—are specifically designed as check-writing programs; but, all six packages advertise themselves as being able to help you control your day-to-day finances—and this means controlling your checking account. In addition to a feature-by-feature comparison, we add an important variable: ease of use. Flashy features are attractive, but if they aren't easy to use, they might as well not exist.

Checking Our List

Just as you would assume that a word processor would have block operations, margin control, tab settings, and easy-to-use cursor movement, so would you assume that personal-finance packages would offer a range of essential features. One package may have more features than another; some of the standard features might be easier to use on one package than on another. Each program might be built on an entirely different philosophy. The key to a good home financial organizer is the degree to which checks are the focal point. If a program makes checks easy to create and to track, then it's a good program, no matter what the cost. But before you can compare features and choose the best program for your tastes and needs, you should understand what the features mean. Turn the page for a crash course. ▸



FIRSTBANK
100 2nd Street
Raleigh, NC 27605

STATEMENT ENCLOSED

07948530953924500217955012 0612 03 DARRYL'S 781 GREEN
07951478934778203217701212 1412 11 DARRYL'S 808 GREEN
07432780934712134701879612 1312 13 PAYMENT RECEIVED

PAYMENTS, ADJUSTMENTS AND OTHER
USE YOUR MASTERCARD OR VISA

Check-Writing Specialties

Automatic check numbering. Like page numbering in word processing packages, this should be a given. But make sure that you can change the check number if you wish, just in case your printer eats one of your checks or in case you have to reissue a check.

Recurring checks. Rarely do you write only one check to a particular payee. Your program should let you bring the last one you wrote to that payee onto the screen and change the amount and date—without the need to retype names and addresses.

Automatic transactions. In a home-finance program that focuses on checks, writing a check should create a transaction. You shouldn't have to do double-entry bookkeeping.

Well-designed check-writing screen. Ideally, the screen from which you create checks should resemble your real-world checks. You already know how to write checks; why should you learn how to write a different kind?

Separate check register. After writing a check, you would normally record it in the check register at the front of your checkbook (at least, you should). Your check-writing program should emulate this activity with a separate check register from which you can sort and track your check-writing activity.

Postdated checks. Postdated checks are a fact of life, and a good check-writing program should let you create them quickly and easily. This feature differs from recurring checks in that postdated checks are printed all at the same time; recurring checks print on the requested date.

Split transactions. Often a check applies to more than one expense. Your mortgage payment, for example, is split between principal and interest and often includes property taxes. A good home-finance package takes this into account.

Sorting by check number and by payee. Because computers are so good at sorting, you should be able to sort your checks in any number of ways (amount, date, memo). The two most frequent sorts are by check number and by payee.

Printing checks. A check-writing package is useless unless it also prints checks. It should handle commercially available form checks, and it should help you order these from a supplier. The printing itself must be flawless.

CheckFree support. This isn't essential, but it separates a serviceable

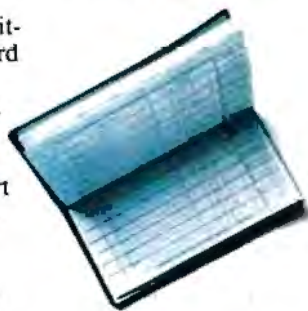
home-finance package from a topflight package. With CheckFree (see sidebar on page 40), you can have your checks printed and sent from another source, or, if the payee allows, you can transfer payments electronically. It costs about twice as much as mailing your checks but makes up the difference in convenience.



Reconciliation Features

To control your checking account, a monthly reconciliation is a must. The bank may levy a monthly service charge, the amount of an automatic withdrawal may change, you may write a check by hand and forget to enter it into your check-writing program, or, most frequently, your balance and your bank statement simply may not match. Clean and easy reconciliation is a must for a useful check-writing package because it's the single most arduous banking activity most of us engage in.

Update opening balance. The first time you use your program for reconciliation purposes, you'll want the luxury of making a change to your opening



Clean and easy balancing is a must for any useful check-writing package because it's the most arduous banking activity most of us engage in.

balance. If the program doesn't let you do this from the reconciliation screens and instead forces you to change, add to, or subtract from your account via transaction means, it's not very useful.

Add missing transactions. You should be able to do this without reverting to the main program. After all, if you were reconciling by hand, you'd simply mark these on or near the bank statement.

Correct erroneous transactions. You could have sworn that the check to the bookstore was for \$31.27, but the canceled check says \$37.21. It's a simple error, and one that the program's reconciliation feature should let you correct.

Adjust for small discrepancies. If the balance showing in your program and the balance on your bank statement are within a couple dollars of each other, you might decide it's not worth

worrying about. The reconciliation program should let you effortlessly adjust the computer's balance to reflect that of the statement so you can start the next month in sync.

Mark cleared transactions. Your program must allow you to mark, easily and quickly, those transactions that appear on your statement. Ideally, you should be able to mark them individually or by check range or payee.



Account Maintenance

Not one of the home-finance programs examined here solves the problem of a difficult and often frustrating learning process. Given that a lot of thought has gone into other aspects of these programs, this failure would seem unwarranted. If developers would address a few needs early in the setup process, a lot of the pain of learning could be eased.

For example, when you boot up your program for the first time, the program should ask for your name and other pertinent information. Then, it

should ask relevant questions about your computer. Some of the six programs examined here ask these important questions, but none of them ask the questions necessary for automatically creating accounts.

Some of this information is straightforward. For example, a package could ask questions about your income such as primary employer's name, spouse's primary employer, additional income sources, and so on.

After it records income, the program should ask you to list your regular expenses and help you by offering a list of common ones (groceries, gasoline, childcare). Then it should take you through insurance payments, loan payments, and other expenses. Finally, it should ask you about—and then create—your budget, your automatic withdrawals, your postdated checks, and other such amenities. ▸

The response to Pipe Dream™ has been admirably restrained.



Fortunately, it's not necessary to physically restrain *everyone* who contracts *Pipe Dream* fever. But frankly, we're surprised that the Surgeon General hasn't ordered us to put a warning on the box.

Pipe Dream is Lucasfilm's fast-flowing new computer game of skill, strategy, and plumbing. And while the devilishly simple concept makes *Pipe Dream* easy to learn, it's mad-damningly tough to master.

Imagine playing chess in the middle of a pie fight.

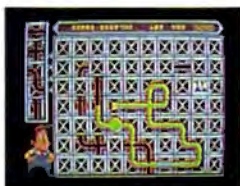
Pipe Dream's objective is simple enough: Just piece together a pipeline from plumbing parts

that appear on the side of the screen. But after eight seconds, the flood gates open. The plot thickens. And quickens.

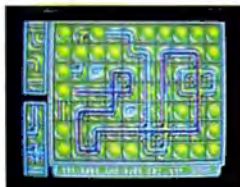
Suddenly, you're scrambling to lay pipe ahead of the flow. You've got to think strategically. But act instinctively. One wrong move, brief hesitation, or misplaced pipe part and you're sunk in a sea of soggy sewage!

Learn why plumbers earn \$75 an hour.

Of course the better you get, the faster the flow. And the 36 levels get progressively trickier, with special bonus tubes worth extra points. Reservoir sec-



The better you get, the trickier it gets. But one false move, and you're swamped!



Two plumbers can play this game.

tions that slow the flow of sludge. Unexpected obstacles appear. So do mandatory finishing points. And other trials to drive the deftest pipe-layer daffy.

Choose a *Pipe Dream* play mode to suit your skill: basic, expert, or two-plumber challenge. And when no one's looking, use the training mode to glimpse advanced level screens that you might otherwise never see.

Test your plumbing skills before you buy.

For a sample version of *Pipe Dream* look for specially marked boxes of Kao diskettes, or send \$2.00 for postage and handling to: Pipe Dream Offer, Kao Infosystems Company, 41444 Christy St., Fremont, CA 94538. State diskette size (3 1/2" or 5 1/4") and system type (PC or Macintosh only).

Once you've contracted *Pipe Dream* fever, move up to the full-blown version and really test your pipe-fitting prowess. If you're lucky, the only thing they'll have to restrain will be your enthusiasm.

LUCASFILM™
GAMES



Available for IBM®/Tandy® Macintosh™ Amiga™ Atari ST™ and Commodore 64™ personal computers. Order direct by calling 1-800-STARWARS (1-800-782-7927). © 1989 Lucasfilm Ltd. All rights reserved. Lucasfilm Games and Pipe Dream are trademarks of Lucasfilm Ltd. IBM is a trademark of International Business Machines, Inc. Tandy is a trademark of Tandy Corp. Commodore 64 is a trademark of Commodore Electronics, Ltd. Amiga is a trademark of Commodore/Amiga, Inc. Atari and ST are trademarks of Atari Corp. Macintosh is a trademark of Apple Computer, Inc.

Circle Reader Service Number 186

Given that no package examined here does any of this, creating accounts is at best only somewhat painful. But there are features to watch for.

Initial account setups. In all of the six packages, the initial setup was far too difficult and time-consuming. Ideally, the initial setup should be practically transparent.

Adding accounts. If, in the middle of writing a check, you realize you haven't set up an account you now need, the program should let you create one on the fly. If you have to leave the check-writing module and enter an account-maintenance module, it will take you considerable time to get all your accounts set up.

Deleting accounts. You might find that instead of two miscellaneous accounts, you need only one. Or you might pay off your car loan (well, it's theoretically possible), and you want to drop it from your accounts list. The package should let you easily do these things.

Editing accounts. Renaming an account, changing its opening balance, or effecting any other changes should be allowed from any point in the program.

Account types. Most home-finance programs keep track of your net worth, which is defined by the amount you owe subtracted from the amount you have (in cash, bank accounts, or market value). This is welcome information, but all you really need is an account for each of your bank accounts against which you write transactions, a cash account, and accounts for all your expenses (groceries, gasoline, telephone, loan payments, karate lessons). The expense category should be evaluated not according to the options the program gives you, but according to how few you can get away with using.

Categories and classes. For the purpose of automatic transactions, it's helpful to be able to lump accounts into various categories and classes. The program should let you, at your option, define such groups.

Utility Features

Some other features are crucial if you decide to use your check-writing software for advanced financial functions. You'll want, for instance, to have graphing abilities, a capability for exporting data to spreadsheets or databases, and full account-analysis features. You

The Check Is on the Phone

CheckFree removes you from paper currency and handwritten checks and escorts you into the science-fiction world of electronic money.

To use this service, all you need is a U.S. bank account and a modem. For a \$9 monthly fee, the package lets you transfer funds from your bank to the banks of the businesses you deal with. CheckFree will laser-print a check for you and mail it from its offices when the payee isn't set up for electronic transfer of funds. These checks are legitimate because they are based on a voided check you send to the service when you become a registered user.

Bonnie Frazier, supervisor of client services for CheckFree, estimated that nearly 20,000 people were using the product at the end of 1989. This means they pumped about \$25 million monthly through the CheckFree mainframe and the Federal Reserve System. Although it comes bundled with some financial packages, CheckFree markets its own inexpensive money-management software.

Any service that works with your hard-earned money should understand that you'll be considerably nervous. To calm your fears, Frazier frequently recommends that you try a few test payments before fully committing your payment procedure to the service. For example, send a check for \$1 to yourself and see how long the process takes. When you're convinced everything is OK, try a larger payment and check with the payee four or five days later to make sure that the money was actually received.

For more information, contact CheckFree at 720 Greencrest Drive, Westerville, Ohio 43081; (614) 898-6000.

might even need a portfolio manager. If all you want is an easier way of writing and keeping track of your checks, such features are not necessary. But they can help to establish an even bigger picture of your financial health.

Financial reports. To get a strong idea of your financial well-being, you'll want reports comparing budgets with actual expenditures (always a depress-

a home business, graphics enliven a professional, high-quality financial report—just the thing you need to land that small-business loan. For personal use, a clear financial report can go a long way toward landing that personal loan; but even here, graphs can be telling.

Financial utilities. Possible aids to your financial-management package in-



To get a strong idea of your financial health, you'll want reports comparing budgets with actual expenditures.

ing report), reports calculating total income and total expenses, and even the traditional balance sheet. A topflight home-finance program should also provide full reports of transactions, and it should allow you to customize reports.

Export to other programs. If you use a personal-finance package to keep track of money in your small business, or if you like manipulating figures, you'll appreciate being able to export your numbers to spreadsheets and databases. Most packages let you export to Lotus 1-2-3; some support exports to dBase formats.

Graphics. There's nothing like a pie chart to show you how disproportionate your mortgage payment is to the rest of your expenses or how much of your income you spend on dining out. And there's nothing like comparative bar charts to demonstrate how far out of whack your budgets are when set against what you've actually spent. For

clude a loan amortizer, calculators, notepads, appointment schedulers, and reminders. Even if you don't use these features, they demonstrate an attention to detail.

Which One for You?

For the record, and to eliminate any question of personal bias, my favorite is *Quicken*. But choosing was difficult; I don't like everything *Quicken* does, and the other packages certainly appealed to me. The toughest choice was between *Quicken* and *Checkwrite Plus*. I chose *Quicken* not for additional features, but for how it handled those I wanted.

If you're budget-conscious (and who isn't?), *Personal Finance* is a good starting package. It does everything it claims to do, with little fuss and little expense. If you want a stronger graphical look and an excellent pull-down menu system, look to *On Balance*. This package was a long-time favorite in the

The Best...The Most...For Less!

Top Quality User-Supported PC-Compatible Software

As Low As



BUSINESS/ACCOUNTING/FINANCE

ACS In-Control	100, 101	A system for sales prospecting, lead tracking, and billing (2 Disks)
BillPower	106, 107	A great client billing package which includes a complete GL (2 Disks)
Business Contacts	112	Helps you keep track of critical information about your contacts
Business Forms	112	'90 form letters for all purposes (employment forms, contracts, etc.)
Easy Project	127	A superb project manager software package (Gantt charts, critical path)
Employee System	127	Personality analysis that helps you reduce turnover
Finance Manager II	132	A very powerful and complete GL package for small business accounting
FOHE	137	Times and records your time on the phone. Helps you save money!
Form Master	142	An easy-to-use business form generator. Create any form, easily!
Job Cost	147	Excellent job costing program. It's the one you've been waiting for!
MarketCOA	152	Tracks and charts the trends for all your stocks CGA
Medlin Accounting	157	A complete accounting package with GL, A/R, A/P, and Payroll
Merchant Accounting	162, 163	Designed for any businesses needing an inventory system (2 Disks)
Palmslee Accounting	168-170	The most complete and easy-to-use accounting system (2 Disks) HD
Payroll USA	175, 176	A complete payroll system that can handle up to 2000 employees (2 Disks)
PC Loans	181	This program computes payments using most common loan methods
Solve-It!	186	Does all necessary financial calculations (IRR, PV, FV, annuities)
Tickler	191	Rated as the most powerful time-management software available! HD 512K
UPS RateMaster	196	Complete UPS shipping system!
Year Planner	199	A super calendar and organizer program that can print wall calendars!

DATABASE

dFLPPER	215	Great utility program for editing any dBASE or compatible file
dLITE	219	A dBASE multi-utility that includes pop-up access to 10 databases
dPROG	223	An amazing dBASE III autoprogrammer that writes the code for you!
File Express	227, 228	Great database package which combines power and ease of use (2 Disks)
Idea Tree	232	An incredible program that stores and organizes your ideas and thoughts
Mass Appeal	236	Excellent mail list program that prints mailing labels
PC-File+	240-242	A powerful relational database with import/export capabilities (3 Disks)
PC-File.dB	244-248	The most powerful dBASE compatible database package! HD 512K (3 Disks)
Wempum	249	A powerful, menu-driven dBASE compatible program HD

SPREADSHEET

Aa-Easy-Aa	265	Fantastic Lotus 1-2-3 compatible spreadsheet program
Lotus Macro	265	Collection of powerful macros for 1-2-3 or compatible programs
Lotus Templates	269	Lots of useful templates for Lotus compatible programs
PC-Calc+	276-277	The most powerful spreadsheet package for under \$200! (3 Disks)
Print	282	Prints Lotus and Aa-Easy-Aa spreadsheets sideways
Power Worksheets	288	A set of powerful worksheets for Lotus 1-2-3 or compatible programs
DubeCalc	292	An amazing 3-dimensional spreadsheet program

WORD PROCESSING

Galaxy	310	The most easy-to-use word processing program available
PC-Outline	320	An idea organizer and free-form database
PC-Write 3.03	325-327	Full-featured word processing with spell checking. Rated #1 (3 Disks)
PC-Write Macro	331	Over 100 macros for PC-Write users
Pro Scriber	337	This program will improve the clarity and impact of your writing
Theater	345	Very useful when you are looking for the perfect word to make your point
Writer's Heaven	348	A PC-Write enhancement. Make the BEST even better!

WORDPERFECT 5.0

PC-Draft III	385, 386	Create your own graphic images. Several examples included (2 Disks)
WP 5.0 Art/Graphics	375, 376	A big collection of clipart images for WordPerfect (2 Disks)
WP 5.0 Learning System	386, 387	Learn to use WordPerfect 5.0 quickly and easily (2 Disks)
WP 5.0 Macro	385, 386	Over 100 excellent macros for WordPerfect (2 Disks)
WP 5.0 Manuals	390, 391	A collection of menu systems and mouse drivers (2 Disks)
WP 5.0 Tools	395, 396	Several WordPerfect utilities (2 Disks)

UTILITIES

AutoMenu	405	Puts all the programs on your hard drive into a selection menu HD
Baker's Dozen	409	13 handy utilities that every computer system needs
Seat DOB Utilities	413	A print spooler, a RAM disk, and much more!
CDias	417	This menu-driven program catalogs and organizes your data
Hard Disk Utilities	424	A whole range of hard disk utilities and enhancements
HD Backup	420	An easy-to-use program that backs up your hard drive on floppy disks HD
HomeBase	427, 428	Desktop organizer that is better than Sidekick! (2 Disks)
LogIt	432	Keeps an active record of who has used the computer and for how long
MasterKeys	436	Diak multi-utility like Norton Utilities. You'll use this a lot!
PAS Master Menu	440	An easy-to-remember menu for the programs on your hard drive HD
PC-Desktop	445	Useful desktop accessories (clock, calendar, calculator, much more)
OutClock	445	This clock catching utility will speed up your computer dramatically!
ScreenSaver	459	Saves your monitor (any kind) from burn-in
ScreenCD	463	Lets a monochrome system run many CGA programs
Space Maker	466	Lets you fit more data on any floppy or hard disk
SQL River Shell	469	Excellent DOS command shell. Makes using DOS easier and quicker!
TrueView	472	A superior DOS command shell with pull-down menus
Virus Killers	474	Several virus detection and elimination programs

GRAPHICS

Charts Unlimited	505	Allows quick and easy creation of virtually any kind of chart or diagram
Draft Choice	506	Excellent menu-driven CAD program with optional mouse support
EGA Fonts	513	Over 50 fonts to give you excellent EGA text displays (rec. EGA)
Electron	517	An excellent electronics design and information package
Finger Print	521	Use your keyboard (in a mouse) to draw great color pictures CGA
Grasp	525	A system for creating and running graphical demos and slideshows CGA
Image 3-D	529	Create, view, move, scale, and edit 3-D objects CGA 512K
Mind Chart	532, 534	A screen graphics creating and design program (2 Disks)
Optika	538	A graphic multi-utility which can convert bitmaps over 28 formats CGA
PC-Key Draw	542-545	Powerful CAD design program. Works with keyboard or mouse (4 Disks) HD
VGA Print	548	A super-duper print program—only for you lucky people with VGA

PRINTING

Address-O-Matic	553	Envelope printing utility
Banner/Sign Makers	556	Print your own banners and signs on your Epson compatible printer
Broadford	559	A super collection of beautiful dot-matrix fonts
Calendar Printer	562	Design and print a calendar for any month of year
City Desk	565	Create and print your own newsletters and flyers
Epson Utilities	568, 570	Utilities and fonts to enhance your print quality (2 Disks)
E-Z Forms	573	A program that makes it easy to create and print office forms
Formgen	576	Quickly create and print any type of form or chart
ImagePrint	579	Turns your 8-pin dot matrix printer into a letter-quality printer
LaserJet Utilities	582, 583	Fonts and utilities for HP LaserJet compatible printers (2 Disks)
Letterheads Plus	587	Print custom letterheads with your Epson or IBM compatible printer
Mr. Label	589	Variable address printing program
On Side	591	Prints spreadsheets (or anything) sideways
PrintMaster Graphics	593, 594	Large collection of clip-art for PrintMaster users (2 Disks)
PrintShop Graphics	596, 597	Collection of graphics that you can edit/print with PrintShop (2 Disks)

EDUCATION

Amy's First Primer	605	A collection of six fun learning games for kids 4-8 CGA
Computer/DOS Tutor	609	Makes learning to use the computer easy—and fun!
DOS Learning System	613	Great DOS tutorial. Takes the frustration out of using a computer!
Facts 50	617	A graphic geography lesson of the United States CGA
Funnels and Buckets	621	Wow! They've found a way to make learning math fun for kids CGA
Geography	625	A quiz on the nations of the world and their capitals
Google! Math	629	Math learning system with graphics and several levels of difficulty CGA
PC-FastType	637	A really fun and useful interactive typing teacher CGA
Physics	641	High school level physics instruction
Play It Learn	645	A collection of six learning games for small children 2-5 years CGA
Presidents	649, 650	Both a learning tool and quiz on the U.S. presidents (2 Disks)
School Mom	654	Lessons on math, art, music, and spelling for children 2-12 years old
Spanish I & II	658, 659	Makes learning Spanish vocabulary easier and more productive (2 Disks)
Speed Read	665	Teaches you the principles and concepts of speed reading
Teachers' Tools	669	Tracks grades and attendance for classes up to 100 students
Typing Teacher	673	Helps you practice and improve! Tracks and displays your progress
Vocabulary Builder	681-685	7500 practice words for the SAT. Improve your word power! (5 Disks)
World	690	A fascinating electronic globe/database of world geography CGA

HOME/FAMILY

Computer Chef	706, 707	A recipe database with several excellent dishes for you to try (2 Disks)
Expense Check	713	Checkbook program that handles several accounts and does reconciliation
Family Tree	719	Use this excellent genealogy program to trace your family roots
Gardener's Assistant	732	Helps you to plan and cultivate your garden
Home Inventory	738	Keeps a record of all your personal possessions
Home Manager	744	Keeps track of your household budget
Nutritionist	750	A program to help you achieve better health and fitness
Personal Finances	754	Tracks your income and expenses. Helps you stick to a budget
Shopper's Assistant	782	A complete grocery shopping aid and coupon filler
Video Librarian	788	Keeps track of your video collection

MISCELLANEOUS APPLICATIONS

PC-Musician	789	Compose, edit, and play back your musical creations
Tune Trivia	792	Your computer will play popular tunes—can you name them?
Amuse	807	Let this program tell you what lies ahead in your stars
Birthdays	809	Computes and displays/print your personal chart for any time period
Handwriting Analyst	824	See if your computer can help you with your handwriting sample
Latent	832	See if your computer can help you win the lottery
Micro World Database	834-838	A database of worldwide information compiled by the CIA (5 Disks)
PC-Bartender	842	Learn to mix cocktails like a professional bartender
Rental Management	845	Complete rental management system for landlords
Resume	850	Helps you write a better, more effective resume
Stress Test	854	Analyzes your level of stress and can give you earnings
Wisdom of the Ages	862-864	Over 6000 of the greatest quotes from history's greatest minds (3 Disks)
Zip Code Finder	866	Searches and finds any zip code—FAST!

RELIGION/BIBLE

BIBLE Men	876	A quiz on the people mentioned in the BIBLE
BIBLE-Q	877	A fun BIBLE quiz. Test your Biblical IQ
Church Membership	885	Helps a church keep track of all its members
New Testament	889, 893	The complete King James New Testament on disk (2 Disks)
Old Testament	891-896	The complete King James Old Testament on disk (6 Disks)

GAMES

Adventures 1	901	Five great adventure games that you are sure to enjoy
Adventures 2	902	Five more adventure games that will keep you intrigued for hours
Arcade Baseball	905	A game of baseball strategy and arcade fun! CGA
Arcade Games 1	907	Two great PAC MAN games and much more! CGA
Arcade Games 2	908	Several fun games featuring G-BERT, the arcade favorite! CGA
Arcade Games 3	909	A version of the classic arcade hit, CENTIPEDE and more CGA
Arcade Games 4	910	Collection of space games including SPACE WAR and ASTEROIDS CGA
Blackjack	913	Two great versions of blackjack to test both skill and luck!
Board Games 1	915	Two fantastic versions of everybody's favorite, MONOPOLY
Board Games 2	916	Includes both BACKGAMMON and CHECKERS CGA
Board Games 3	917	You'll love this collection, which includes RISK and OTHELLO CGA
Card Games	923	Great versions of poker and blackjack. Video Poker/Ultimate 21
Crime Lab	926	A fun graphic murder-mystery game CGA
Ed's Chess	935	A great chess game with different levels. Beats ChessMaster 2000!
Ed's Simulator	937	Choose your Ford and test your driving skill on the tracks CGA
Las Vegas Creds	945	Place your bet, roll the dice, play Las Vegas style
May Jongg	948	Play the ancient "tile" game on your computer CGA
Mimemr Flight Simulator	950	See if you are "TOP GUN" material as you fly a fully armed F-18 CGA
NINJA	952	You must battle evil Ninja warriors to the death! CGA
PAS Trivia	958	Test your trivia IQ or play against your friends
PC-Jigsaw	959	You see a nice picture, then it's scrambled. Can you put it together?
PC-Pro Golf	961	You choose the club, angle, and strength of each shot. Real fun! CGA
Pinball	965	Five SUPER pinball games. Realistic sound and action CGA
Sans Graphics 1	971	Games that work great on any system (no graphics required)
Scrabble	973	Test your word power with this long-time popular game CGA
Sharp Shooter	975	Battle it out—tank vs. tank CGA
Star Trek	977	A Star Trek strategy game and a Star Trek trivia game
Striker	978	You must maneuver your attack helicopter behind enemy lines CGA

EGA GAMES (These games require EGA graphics cards)

Base Tour	981	An incredible fishing simulator with great graphics EGA
Captain Comic	984	Thrill to the commercial quality graphics of this FANTASTIC game EGA
EGA Arcade 1	986	Excellent EGA version of ASTEROIDS. BREAKOUT is also included EGA
EGA Cunting Football	990	You call the plays and control the key players. Great fun! EGA
EGA Games 1	992	A collection of favorites including SCRABBLE and SOLITAIRE EGA
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Chart Your Financial Course

The 25 features discussed within this article work together within the framework of a software package to form a solid platform from which you can manage your money. To help you chart your course through the personal-finance software waters, we've rated six programs as to how well they handle these key elements. The ratings are based on ease-of-use, implementation, and effectiveness, and they culminate in an overall rating for each of the programs.

	Quicken	Checkwrite Plus	On Balance	Armstrong's Home Finance Organizer	Personal Finance	MoneyCounts
Automatic Check Numbering	4		4	4		
Recurring Checks	4		4	4		
Automatic Transactions	4	NA	NA	4	NA	
Well-Designed Check-Writing Screen	4		NA	4	NA	
Separate Check Register	4		NA	4	NA	
Postdated Checks	4		4	4		
Split Transactions	4		4	4		
Sorting by Check Number	4		NA	NA	NA	NA
Printing Checks	4		4	4		
CheckFree Support	4		NA	NA	NA	NA
Update Opening Balance	4		4	4		
Add Missing Transactions	4		4	4		
Correcting Erroneous Transactions	4		4	4		
Adjusting for Small Discrepancies	4		4	4		
Mark Cleared Transactions	4		4	4		
Initial Account Setups	4		4	4		
Adding Accounts	4		4	4		
Deleting Accounts	4		4	4		
Editing Accounts	4		4	4		
Account Types	4		4	4		
Categories and Classes	4		4	4		
Financial Reports	4		4	4		
Export to Other Programs	4		4	4		
Graphics	NA		4	4	NA	
Financial Utilities	4		4	4	4	
Overall Rating	4.25	4.00	2.75	3.25	2.00	3.50

Apple II community, and the port to MS-DOS has been notably successful.

Armstrong's Home Finance Organizer offers a full slate of financial features, and many personal information organizers as well (lists of friends, business acquaintances, insurance policies, stocks and securities, and more). It also boasts a relatively easy interface. One rather unfortunate downside is a bug in the print feature that kicks you out of the program if your printer isn't turned on when you try to print.



Don't spend a lot of time comparing packages. Choose one, learn it, and stick with it until you outgrow it.

MoneyCounts (version 6.0) has everything you need for full financial management. If your goal is to move quickly beyond check writing into more sophisticated financial management, give this fine program a close look. For just a few extra dollars, you can invest in *MoneyCounts Plus* and take advantage of the portfolio manager.

A different kind of upgrade path is included with *Checkwrite Plus*. This program is actually a module from a

larger package, *Managing Your Money*. *Checkwrite Plus* users can upgrade to the larger package—which includes full financial forecasting—for a reasonable cost.

Like *Checkwrite Plus*, *Quicken* focuses on keeping track of your checks. Both packages offer a great deal for the beginner, and both are quite easy and enjoyable to work with. *Checkwrite Plus* has the best help system of all, complete with Andrew Tobias's very personal writing style, but *Quicken*

wins, for me at least, on the strength of its strong check-writing capabilities.

There isn't a bad program in the bunch. Nor is there a perfect one. Only one final suggestion remains: Don't spend a lot of time comparing these packages. Choose one, learn it, and stick with it until you outgrow it. Switching from one to another will only get you lost. And when it comes to tracking your money, that's not where you want to be.

Next Teller, Please

Armstrong's Home Financial Organizer

Armstrong's Financial Organizers
5950 Berkshire Ln. LB #59
Dallas, TX 75225

Checkwrite Plus

MECA Ventures
355 Riverside Ave.
Westport, CT 06880

MoneyCounts 6.0

Parsons Technology
375 Collins Rd. NE
Cedar Rapids, IA 52402

On Balance

Brøderbund
17 Paul Dr.
San Rafael, CA 94903-2101

Personal Finance

Publishing International
333 W. El Camino Real
Suite 222
Sunnyvale, CA 94087

Quicken, version 3.0

Intuit
University Ave.
Suite 50, Dept. C 540
Palo Alto, CA 94301-9970

Neil Randall teaches at the University of Waterloo in Ontario, Canada. Now that he's fluent with financial packages, he'll stop hiding his money under his mattress.

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DragonWars

You are thrust into a world of fantasy and magic. Pop up windows, auto-mapping, flexible spell casting, and much more.

Ghostbusters II

Who you gonna call? The Ghostbusters are back, and you're right in the middle of the action.

Electronic Arts

Abrams Battle Tank

The Soviets are crossing the border into West Germany. Choose your weapons!

Buokan: The Martial Spirit

Your senses will train you to compete at the famous Budokan in Japan.

Chuck Yeager's Advanced Flight Trainer 2.0

Every pilot's dream—flying 8G's with the Thunderbirds.

Deluxe Paint II Enhanced

This is for anyone interested in creative expression on the PC.

Earl Weaver Baseball

The winningest manager in baseball is back in the dugout. Play ball!

Hewson

Eliminator

Space highway arcade action which will challenge your joystick skills.

Exolon

Alien, laser action adventure which transports you not just to another world but another galaxy.

Netherworld

You're on a stunning mystical space journey combining the best of fantasy and science fiction!

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Parachute deep into hostile territory with limited supplies! Missions never play the same way twice.

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Dogfighting is the name of the game. The sky swarms with bogies.

F-19 Stealth Fighter

The Air Force won't even talk about it. Now it's yours to fly! It's the top secret jet that radar can't detect.

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With a full platoon of four tanks and sixteen men, you control the whole shooting match.

MicroPlay

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You're in a futuristic battle at sea with devastating weapons.

Pro Soccer

Whether you're a field or an arena player, you'll have the chance to slide and juke.

Origin

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Embark on a thrilling journey through fantastic land. Design your own weapons and skills.

Omega

Your mission is to create artificial intelligence as you build the world's supreme cybertank.

Space Rogue

Dare to solve the mysteries of the universe as you zip through space and seek your fortune.

Windwalker

Discover a world of magic, conflict and emotion in the ancient Orient.

Paragon Software

Dr. Doom's Revenge

The evil genius Dr. Doom has stolen a US nuclear missile and threatens to blow up New York. Now it's up to you.

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The X-Men are back!

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Code Name: Ice Man

Crack the deadly security of a terrorist base and rescue a hostage ambassador.

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Colonel Dijon has called his rivalrous relations to his isolated mansion. Who will inherit his millions?!

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You construct the character from the ground up. Can you free the land of Spielburg and earn the title "hero"?

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If you're looking for cut throat card games, or just plain fun, you've come to the right place. Fun for the whole family.

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Are you goodtime guy, Larry Laffer? Or nightclub singer extraordinaire, Passionate Patti? Wait—now you're both.

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*Many programs previewed available in MS-DOS format; others available for multiple machines. VCR with VHS format required; computer needed to run actual compatible software after purchase.

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TAX PREPARATION SOFTWARE

Andrew Tobias' Tax Cut

MECA Ventures
Two floppy disk drives or one floppy drive and a hard disk required
\$79.95

Tax Cut teamed up with Legal Knowledge Systems' *Ask Dan About Your Taxes* this year so you can interact, through your computer, with tax lawyer Dan Caine and his team of tax experts. This program analyzes your tax situation, determines your best strategy and the appropriate forms to file, and produces a complete tax return based on the answers you enter. Features include what-if projections, year-round tax planning, and an instant tax summary allowing you to calculate your taxes and display the total at any point in the program. The program can also depreciate up to 70 assets; handle business, rental property, and farm income; and check for income averaging and the alternative minimum tax. *Tax Cut* prints the following IRS tax forms: 1040, 1040ES, 1040A, 2106, 2119, 2210, 2441, 3468, 3800, 3903, 4137, 4255, 4562, 4684, 4797, 4868, 4952, 4972, 5329, 6251, 6252, 8453, 8582, 8606, 8615, 8808, 8814, and W-2, and Schedules A-F, K-K1, R, and SE. The program is compatible with *Andrew Tobias' Managing Your Money* and *Checkwrite Plus* and is not copy-protected. Telephone help is available free of charge, and yearly updates are available from MECA for \$49.95.

DivorceTax

Research Press
512K and Lotus 1-2-3 or compatible software required
\$65.00

This template is designed to help structure a divorce settlement so both parties can save on taxes. It takes into account issues such as alimony, child support, property settlements, dependents, and child care credit. *DivorceTax* provides tax computations for joint, single, and head-of-household filing status. This program also provides computations for maximum IRA contribution, maximum charity-contribution deduction, alternative minimum tax, and FICA and self-employment taxes. Some state income tax computations are available for \$30. There is a 60-day money-back guarantee, and yearly updates are available for \$25. Research Press also offers free telephone support.

EasyForm W-4

Valley Management Consultants
Lotus 1-2-3 required
\$49.00

EasyForm W-4, both a stand-alone program and a template for Lotus 1-2-3, contains four interactive programs. W4 and W4A help you complete the new IRS forms for determining withholding allowances. Update calculates the minimum amount of withholding and adjusts the allowances to equal the amount to be withheld. Estimate helps you estimate your income taxes for the next year. *EasyForm W-4* prints a replica of the W-4 form that can be used in-house. The program is available on 3½- and 5¼-inch disks and includes free telephone support.

EasyTax

Valley Management Consultants
384K and Lotus 1-2-3 required
\$89.00

EasyTax is a template that can be used to prepare federal income tax forms 1040 and 1040ES, 2106, 2110, 2119, 2210, 2441, 3903, 4562, 6251, 8582, and 8615, as well as Schedules A-E, R, and SE. Online instructions and help notes provide assistance in filling in the forms displayed on the screen and in printing them out. Once the program performs the calculations, the results are automatically transferred to the appropriate forms. Tax tables and rate schedules are built in, and the analyst feature compares an individual's deductions and credits to the government guidelines. The program also includes a built-in notepad for preparing documents and a three-year planner for tax planning. A recordkeeper tracks itemized deductions and supplemental income so they can be merged into the next year's program. *EasyTax* also includes many *EasyTax W-4* features this year. State programs for California and New York (\$49) and Pennsylvania and New Jersey (\$35) can be purchased separately. The program is available on 3½- and 5¼-inch disks. Valley Management Consultants offers free telephone support, and updates are available annually.

Estate Tax Planner

Accounting Professionals Software
Lotus 1-2-3 or compatible program
required
\$100.00

Estate Tax Planner helps you determine the estate tax on various estate planning alternatives. It also helps determine whether establishing trusts can reduce the estate tax. The program features what-if projections and recalculates the results automatically when changes are made. The program is structured to correspond to the IRS 706 Federal Estate Tax Forms and Instruction Booklet. An understanding of current tax laws is required and the program is to be used in conjunction with the advice of your accountant or tax lawyer. There is a 30-day money-back guarantee.

J. K. Lasser's Your Income Tax 1990

Simon & Schuster
\$79.95

A software tax program is combined with the J. K. Lasser Tax Institute's tax guide book to help you complete your tax returns based on the new tax laws, letting you save on taxes and avoid penalties. The program includes an interview feature that helps you select the correct tax forms, an onscreen calculator for use with either the work sheets or actual forms, and help screens that contain excerpts from the book. You can tailor interview questions to your particular situation and transfer data among the forms. You can also try out various tax strategies to compare tax liabilities. Both individuals and professional tax preparers can use the program and print the results in an IRS-approved format or on original IRS forms. State packages for New Jersey, New York, and California can be purchased separately for \$39.95. Owners of the 1989 program can receive a 40-percent discount on the updated package with proof of purchase. The program is available on 3½- and 5¼-inch disks.

MacInTax 1040

SoftView
640K and a hard disk drive required
\$99.00

MacInTax 1040 helps you complete your tax forms, or create what-if scenarios to determine your best tax plan. The program replicates 79 IRS forms and schedules, and work sheets can be printed onscreen or on a dot-matrix or laser printer. You can link the forms and schedules together and import data from text files. The program checks for errors and any violation of IRS rules. Instructions for each line in a form can be called at any time. State versions are available for California, Connecticut, Illinois, Massachusetts, New Jersey, New York, Ohio, and Virginia for \$79. *MacInTax 1040* operates under *Microsoft Windows*; a runtime version of that program is available free upon request from SoftView (but you have to pay shipping and handling charges). The program is available on 3½- and 5¼-inch disks; annual updates cost \$55 for the federal package and \$40 for the state program.

1990 Personal Tax Preparer

Parsons Technology
Two disk drives or one hard disk
required
\$49.00

The *1990 Personal Tax Preparer* can calculate and print your federal income tax returns including IRS Forms 1040, 1116, 2106, 2119, 2210, 2441, 3903, 4136, 4137, 4562, 4684, 4797, 4835, 4868, 4970, 4972, 5329, 6251, 8396, 8582, 8606, 8615, 8801, 8808, 8814, and Schedules A-F, R, and SE. The programs feature a what-if

processor, online help windows, IRS-approved pin-feed 1040 forms, and a tax planner. The package also includes a financial calculator that figures interest rates, loan payments, balloon payments, loan balances, interest earned, and savings and investment future values. You can print both amortization and accumulation schedules. The program comes with a manual and is not copy-protected. Free telephone support is offered by Parsons Technology.



Swiftax

Timeworks
512K required
\$69.95

Individuals can use *Swiftax* to help prepare their yearly tax returns. The program handles IRS tax forms 1040, 1040A, 1040EZ, 2106, 2119, 2210, 2441, 2688, 3903, 4255, 4562, 4868, 4992, 6251, 6252, 8283, 8606, 8615, 8814, and Schedules A-F, R, and SE. *Swiftax* includes an interview feature, which helps you choose the proper tax forms and then automatically calculates tax alternatives, such as income averaging, to show the lowest tax. The program also offers

an audit alert which advises you when your deductions exceed the national average. You can change the tax return at a later date using the taxpayer file. The program can print directly on tax forms or onto blank paper. You can also print separate itemized lists too long for standard forms. *Swiftax* includes a built-in memo pad and calculator. Timeworks offers update disks with new tax-law information and tables each year at half-price. Free telephone support is available from Timeworks, and a copy of the 1989-90 edition of *The Price Waterhouse Personal Tax Adviser* is included.>

Tax Advantage

Arrays
\$69.95

Tax Advantage is a tax-preparation program for Forms 1040, 2106, 2441, 4562, and 6251, and Schedules A-E, G, SE, and W. It automatically computes the totals, displays the forms, and prints out the data. It also handles income averaging, calculates brackets and liabilities, and provides year-round tax planning. Annual updates are available from Arrays for \$35. This program works with *Home Accountant*, which is also from Arrays.

Tax Command

Practical Programs
384K required
\$99.95

Designed as a computerized tax form, *Tax Command* displays IRS forms on the screen as a series of menus into which you enter dollar amounts. A calculator and current tax tables are incorporated into the program to automatically calculate and distribute the totals. The program can complete Forms 1040, 1040A, 1040EZ, 2106, 2119, 2441, 3903, 4562, 6251, and 8615 and Schedules A-F, R, and SE. It compares itemized and standard deductions and provides line-by-line tax-information entry, although the program doesn't offer tax advice. You can print a summary of the information for personal records, or the data can be printed directly onto IRS forms. The program works with most printers with pica spacing and with laser printers, and it's compatible with the federal government's electronic filing program. Annual updates are available to registered users, and there's a money-back guarantee if *Tax Command* does not meet your needs. A manual is included, and the program is available on a 3 1/2-inch disk if requested.

Tax Command Planner

Practical Programs
\$129.95

Tax Command Planner is a ten-year tax-planning program that allows you to compare six tax options at a time when estimating your future taxes. The program uses current tax tables to calculate marginal tax rates, long- and short-term gains and losses, and taxes from income averaging. In addition, taxable, tax-free, and tax-deferred investments can

be compared. Depreciation can also be calculated by using MACRS, ACRS, sum-of-years digits, declining, or straight-line. Tax rates can be adjusted according to tax-law changes. You can choose any inflation rate for tax rates and calculate the present value of future taxes at any interest rate. A manual provides line-by-line instructions. Yearly updates are available from Practical Programs.

Tax Ease Individual

Park Technologies
Lotus 1-2-3 or compatible program required
\$79.00

Tax Ease combines both federal and state returns on a single program for 35 states. The program can complete Forms 1040, 1040X, 2106, 2119, 2441, 3800, 3903, 4136, 4255, 4562, 4797, 4952, 4972, 6251, 6262, 8582, 8606, 8615, 8814, and Schedules A-F, R, and SE. *Tax Ease* offers work sheets for depreciation, taxable Social Security deduction, state tax refund, and pension income. It also features line-by-line assistance for complex forms. A federal-only program and additional state programs are each available for \$69. Annual updates are available for \$45. Park Technologies offers free telephone support, and the program is available on a 3 1/2-inch disk for \$5 extra.

Tax-Magic Personal

Datax/EZ-Tax
Division of Taxbyte
512K required
\$49.00

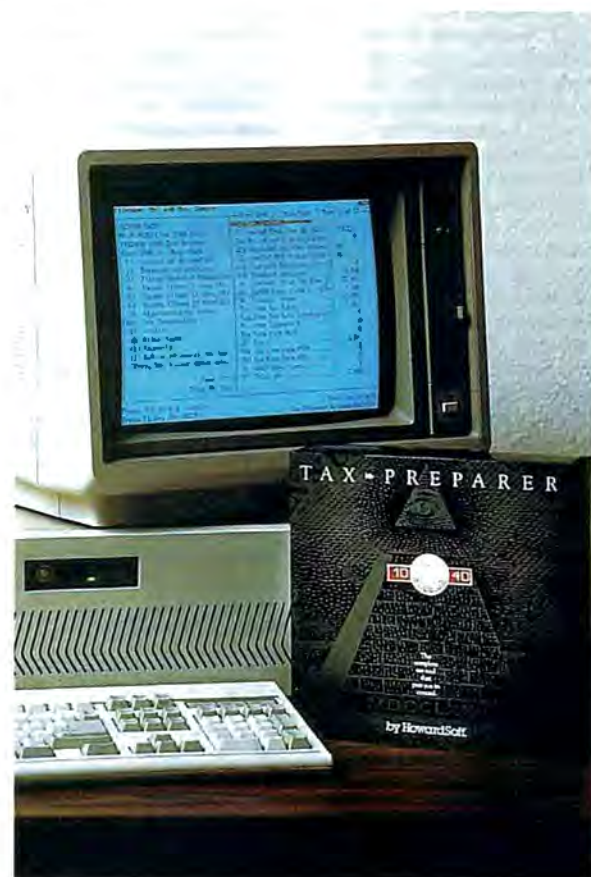
Tax-Magic Personal is a stand-alone program that supports 30 IRS forms, schedules, and work sheets. *Tax-Magic Personal* lets you view up to ten tax-form windows at once plus an instant tax-return summary window. The program features topical program and IRS help. A pop-up notepad and a hands-on tutorial are also included. Telephone support is offered from Datax/EZ-Tax free of charge, and annual updates are available for \$49.

Tax-Magic Plus

Datax/EZ-Tax
Division of Taxbyte
512K required
\$129.00

Tax-Magic Plus includes all the features of *Tax-Magic Personal* plus it supports 40 IRS forms, schedules, and work sheets

and includes a built-in calculator and spreadsheet. The program also includes a graph-plotting utility and passive-activity work sheets. Annual updates are available for \$75 or \$99 for previous EZ-Ware owners.



Tax Preparer

HowardSoft
BASICA or GW-BASIC required
\$295.00

The updated 1990 version of *Tax Preparer* allows you to forecast your tax liabilities. You enter the data, and the program automatically performs all calculations for the appropriate tax year. The data is then transferred to over 20 IRS forms and schedules. Results are checked against the tax

code to make sure you haven't exceeded any limits. The program can print the forms, schedules, and work sheets in IRS-approved formats. You can also create what-if scenarios to plan future tax strategies. Onscreen instructions are provided along with a handbook and telephone support. The program is written in machine language and uses split screens and windows. ▸

How to tell if an integrated software package is right for you.

Look How Things Have Changed.

When integrated software first appeared, it had limited functionality, was difficult to learn, cumbersome to use, and cost between \$300 and \$500. Today most integrated products have a more complete set of features, are easier to learn, and are priced between \$149 and \$259.

Amazingly, critics say Eight-in-One™, a product costing only \$60, is the easiest to learn, easiest to use, yet has the highest performance. Who needs an integrated package the most? And what can you do with them?

Home Office and Small Business People Have Discovered a Secret.

Working in a home office or small business usually means that you do a little bit of everything - write reports, do financial analysis, schedule appointments, track customer information, and anything else it takes to run a business without lots of people. If you have all of the tools you need in one integrated software package you get several immediate advantages.

Imagine having a collection of robust applications, poised in a single program, ready to tackle all of those tasks you always thought that a computer should be good for... to put a graph into a letter and have it finished three minutes later... to instantly check your next appointment, or automatically dial a customer on the telephone while you're in the middle of working on a spreadsheet.

With integrated packages you can save a lot of time. Since you probably teach yourself how to use software (unlike working in a large corporation where you'd get training and support from the department down the hall) you'll appreciate how much more quickly you'd become productive using one integrated package rather than many separate programs. Because when you learn one tool, you've learned them all.

And you can save a lot of money too - over \$1000. Because you won't have to buy many separate packages like a word processor, spreadsheet, database, graphics, and communications program, just to get all of the tools you could find in one complete, affordably priced, integrated package.

What Do You Get In The Best Integrated Packages?

The best integrated packages put a complete solution at your fingertips. They provide you with all of the useful tools that you need to do your job - a word processor, spreadsheet, database, outliner, desktop organizer, communications module, graphics program and powerful spell checker and thesaurus.

Well designed integrated packages are obvious-to-use. All of the options are right there on the screen. And each tool should work in the same way, so that after spending a few minutes working with one of the applications, you've virtually mastered the entire program.

What's more, the best integrated packages are lightning fast. Doing things like recalculating a large spreadsheet or spell checking a letter should never slow you down. So with a high quality integrated package you take full advantage of the power of your computer. Many users say they get their work done in half the time.

Surprises in Eight-in-One.

Here's why over 150,000 people in home offices and small businesses have switched to Eight-in-One in the last two years.

With Eight-in-One you get more useful tools than you find in other integrated packages. You not only get a powerful spreadsheet, word processor, database, graphics, and communications program, but also a desktop organizer, outliner, spell checker, thesaurus and pop-up calculator.

You might expect the most expensive packages to have the highest performance. But Eight-in-One actually outperformed Microsoft Works® and PFS: First Choice™, costing more than twice as much, in a recent test conducted by a nationally recognized independent software testing laboratory.

Eight-in-One is the only program that's truly obvious-to-use. Knowing what to do next is always apparent from the on-screen prompts and drop down menus. According to Eight-in-One users, this experience goes beyond "easy learning". They say it's more like not having to learn at all, because everything is so obvious on the screen.

The Experts Agree . . .

"... the best integrated package I've ever seen ..."

-Home Office Computing

"You don't need to open the manual at all to use BetterWorking Eight-in-One"

-PC Magazine

"Eight-in-One may be the only computer program you'll ever need ..."

-New York Times

"... PFS: First Choice and Microsoft Works, move over!"

-PC Magazine



Compute! Editor's Choice

And, amazingly, Eight-in-One costs only \$59.95 - a fraction of the price of other integrated programs!

Visit your local software dealer today, or call Spinnaker at 1-800-826-0706, to learn more about why Eight-in-One is the right integrated software package for you.

Tax Shop 1040 Personal

TenKey Publishing
\$12K required
\$69.00

Tax Shop 1040 Personal helps individuals prepare their income tax through an interview feature and tax planner and features electronic filing. The program handles tax forms 1040, 1040A, 1040EZ, 1040ES, 2106, 2119, 2210, 2441, 3903, 4137, 4562, 4684, 4797, 4835, 4868, 4952, 4972, 5329, 6251, 6252, 8283, 8582, 8606, 8615, W-2, and Schedules A-F, K1, R, and SE. After completing your tax return, *Tax Shop 1040* converts the return into a special IRS format. The return is sent to TenKey, an IRS transmitter, via modem or disk; TenKey forwards your return by modem directly into the IRS computers. Individuals who

electronically file their returns can expect their tax refund in two to three weeks. *Tax Shop 1040* also offers online help with a topic index. *Tax Shop 1040 Personal State* is available for 37 states at \$29 per state. The program is available on 3½- and 5¼-inch disks, and telephone help is available free of charge from TenKey.

TaxSmith: Family

Island Computer Services
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Datax/EZ Ware
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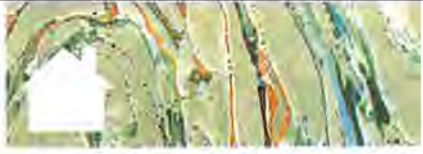
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BOOKS

It's hard to imagine having *too* many reference books, so here's a list that might add an essential subject to your collection.

■ *Investing with a Computer: A Time Series Analysis Approach*, by Herb Brooks; *Investment Analysis with your Microcomputer*, by Leslie E. Sparks; and *Playing the Stock & Bond Market with Your Personal Computer*, by L. R. Schmeltz; TAB BOOKS, Blue Ridge Summit, PA 17294-0850; (800) 822-8158

■ *Investor Beware: Investigating Investments and Scams*, by Henry Rothenberg; WORDWARE Publishing, 1506 Capital Ave., Plano, TX 75074; (214) 423-0090

■ *One Up on Wall Street*, by Peter Lynch with John Rothchild; Simon & Schuster, Rockefeller Center, 1230 Avenue of the Americas, New York, NY 10020; (212) 698-7000

■ *Stan Weinstein's Secrets for Profiting in Bull and Bear Markets*, by Stan Weinstein; *Always a Bull Market: Conservative Investing in Stocks, Bonds, and Gold*, by Robert Kinsman; *The Dow Jones-Irwin Guide to Using the Wall Street Journal*, by Michael B. Lehmann; *The Investments Reader*, edited by Jay Wilbanks; *The Money Market*, by Marcia Stigum; and *The Prudent Speculator*, by Al Frank; Dow Jones-Irwin, 1824 Ridge Rd., Homewood, IL 60430; (312) 206-2700

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CONVERSATIONS

K E I T H F E R R E L L

Heralded as the engine for an education revolution, the personal computer has largely failed to follow through on its promise. There are more computers in our schools than ever before, but the machines tend to be used for vocational training or routine drill and practice.

Innovative applications of PCs in classrooms are hard to find.

It's even harder to find successful home education applications. While a few companies have made a go of developing and publishing home education software, more have retreated from education or left the industry altogether. Education is the smallest of the "big three" home computer applications, dwarfed by productivity and entertainment software.

Has the computer education revolution failed? Bill Dinsmore, president and CEO of The Learning Company, which has found success with educational software, doesn't think so. In fact, it's not even well begun yet. He has strong opinions about the place of computers in education, both in the classroom and at home.

Why hasn't the computer revolutionized education? Dinsmore offers several reasons, with unrealistic expectations chief among them.

"It takes time for a new industry to create real excellence," he says. "I think we got overpublicized too soon. In the early years of the Apple, people thought, 'Technology and classrooms—what an incredible combination!' But all the attention came before we really had a chance to do great stuff."

Is the software industry producing great products today? Not quite. "We've learned a lot," Dinsmore says, "but I don't think we've had a chance to learn what we can really do with a computer. The newest generation of educational software teaches a lot more; it's a lot more fun, but we're still just getting started."

Dinsmore also feels that computers are not the only educational tools coming up short today.

"Take textbooks," he says. "I work with my children on their school work. And there are so many deficiencies in the textbooks they use. I can't tell you how many nonsensical problems I come across in textbooks."

"So, sure, people can kick computers around all they want, but you need to kick the textbooks and other materials, too."

What sorts of goals does Dinsmore have for educational software? Large ones.

"I'd like to see educational software that's so good that you feel your children are missing out on something important if they don't spend time with the software. Are we there yet? Not really."

But we're getting closer, he says, and it would be a mistake to write off the computer's classroom and home education potential.

"Home educational software is

getting a lot closer to the ideal. In the schools, you've got the problem of the installed base of the Apples, and a very circumstantial distribution network."

That network concerns Dinsmore. "We're a bunch of experts selling to experts," he says of both the hardware and software industries. It's a situation that ultimately works against education.

"We could have the ultimate product—every child who uses it is happier, becomes a great thinker, and enjoys school. And the odds that you would get that in front of 1 percent of the kids over the next ten years are pretty low."

He sees a simple, across-the-board solution. "What we need is excellence and incentives, a pedestal for the good products and efforts, instead of our current mix of good and not-so-good software, textbooks, filmstrips, and so on."

Dinsmore feels that a large step could be taken in this direction by getting over our concern for process, focusing instead on content.

"We talk too much about the delivery mechanisms," he says. "What are the companies behind those delivery mechanisms? What quality standards drive them?"

Quality should be the first item on parents' minds as they shop for educational software. Dinsmore argues. Beyond that, he offers some guidelines.

"Find a company with a reputation for good, educationally valid products. Look for products that take your child beyond the curriculum, products that build thinking skills. You don't want a library of programs that do nothing but drill," he says.

"Next, ask if the product is motivating. Does it entertain? Since the arrival of Nintendo, you might put this first."

In short, Dinsmore believes that choosing the right home educational software is a matter of three E's: Education, Entertainment, and Ease-of-use. □



Bill Dinsmore

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Many shareware distributors offer large numbers of low quality programs in their catalogs - programs not worthy of your valuable time and money. This is called "padding" the library, and it's done at your expense. We at TSL take strong exception to this practice, and so we take the time to rigorously test and compare programs in order to offer you only the best. If we don't do it, you'll have to. We figure you already have a job, and you don't need another one.

More programs per disk

Many shareware distributors appear to have larger libraries than we do. Looks impressive, until you discover that many of their disks contain only one small program. This is another example of padding at your expense. On the other hand, our TSL Library disks are loaded with programs you'll find valuable and exciting. You receive true value, unparalleled in the industry. \$3.00 per disk isn't a bargain when you

have to buy a bushel to get what you should have gotten on just one disk.

Latest program updates

Many shareware programs are updated so frequently (some as often as once a month) that by the time you receive your catalog, many version numbers are out of date. There are often significant improvements from one version to the next, so we at TSL follow a strict policy of maintaining close contact with program authors and acquiring the latest updates. This way you're assured of receiving the latest and best programs available. If we obtain a program update after you receive this catalog, the version number will be higher than the one currently listed.

Every program fully tested No viruses, No trojan horses

That's one of the jobs The Software Labs technicians are paid to do. If your computer catches something and gets sick, you can rest assured it won't be from TSL.

What you see is what you get!

You can see the extra effort we put into our catalog. We do it because you deserve to get the right information to make the right choice. Naturally we put that extra effort into every TSL Library disk. Our catalog demonstrates the TSL difference; our disks prove it.

NEWS FLASH !

Major Shareware Distributor Changes Name

NATIONAL SOFTWARE LABS (NSL), one of the nation's largest shareware and public domain software distributors, has undergone a name change. The firm's new name is THE SOFTWARE LABS (TSL). Company representatives assure that only the name has changed. Customers can continue to expect the usual dedication to quality and service.

***** SPECIAL LIMITED OFFER *****

5 FREE DISKS

Select any 5 disks

absolutely FREE

(See Order Form for details)

QUALITY SOFTWARE from TSL

Much of the commercial software on the market today is overpriced and often down right disappointing. Is there a better way to buy software than to shell out a few hundred dollars and hope for the best? You bet there is!

Many programmers are not interested in selling their works and place them in the **Public Domain**. These programs are free, and you may use, copy, and give them away.

User-Supported software, also known as **Shareware**, is not free. You can try it, keep it, and give it away. But if you like it enough to continue using it, you are on your honor to pay the author a registration fee (usually from \$5.00 to \$89.00). This will provide the author with the compensation he deserves for his hard work and expertise. In return you'll receive benefits like bound manuals, free updates, technical support, versions with more features, etc. Shareware is a terrific bargain. You get to try it before you buy it, and you end up paying far less than you would for comparable commercial programming.

The TSL Library offers you the absolute best in Shareware and Public Domain software. Our modest fee covers the cost of the media, duplication service, and the work our technical staff does in selecting only the finest programs available.

Each TSL disk consists of high quality media and includes a special TSLHELP file to assist you in making backup copies, getting programs started, and reading the documentation. Special TSL files are also provided when necessary to totally automate the process of decompressing files and installing them on a hard disk. In addition, our technical support staff is available to assist you by phone. We've seen to all the little details in order to make your computing experience enjoyable and hassle-free.

SYSTEM REQUIREMENTS and COMPATIBILITY

All software listed in our catalog has been tested on the IBM PC/XT, IBM PC/AT, and some IBM compatible computers. It is assumed that your machine is an IBM or true compatible, that it runs on DOS 2.1 or above, and that it is equipped with a minimum of 256k memory and one floppy disk drive. If a program has additional requirements, it is specified in the program description.

WARRANTY and TECHNICAL SUPPORT

We will promptly replace any disk which proves to be defective (unreadable) or is improperly labeled. In no case will we send a replacement disk until the customer has returned the original disk to us. We take no responsibility for disk problems created by the user. We recommend that you make a backup copy of each disk before using it. Reading the documentation before attempting to run a program will eliminate 99% of the problems users encounter. If you still have a problem, we will be happy to provide you with assistance by phone: (213) 559-5456. Technical support hours are Monday through Friday, 2 pm to 4 pm Pacific Standard Time.

SALES POLICY

Disks are \$3.49 each, \$2.99 each for 10 or more. Add \$1.00 each for 3.5" disks. (FREE disks do not count toward the 10 disk minimum to qualify for the \$2.99 per disk discount). We accept Visa, Mastercard, checks (U.S. funds drawn on a U.S. bank), money orders, and C.O.D. orders. Returned checks are subject to a \$10.00 service fee.

DISCLAIMER

Our disks are warranted to be readable. The Software Labs hereby disclaims all other express or implied warranties for the software in our library, including the warranties of merchantability and fitness for a particular purpose. In no event will The Software Labs be liable for any damages, including any lost profits, lost savings or other incidental or consequential damages arising out of the use or inability to use the software we distribute. Trademarks of many products listed in this catalog are recognized en masse. Many of the programs listed herein are copyrighted by the authors. This catalog and the collection of disks in the TSL Library are copyrighted by The Software Labs and may not be copied for commercial purposes. We do encourage you to share without charge our catalog and copies of our disks with your family, friends and associates.

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USING YOUR TSL DISKS

Each TSL disk label displays the statement **Type NSLHELP to Start** or **Type TSLHELP to Start**. Following these directions will present a special help file we have prepared for each disk. The information is designed to help you run your programs and to print the on-disk documentation. These help files are named NSLHELP.BAT or TSLHELP.BAT, and they are designed for screen presentation only. Do not print these files because the printed output can present erroneous and confusing information. Before attempting to run the programs on your TSL disks, run the help files and carefully follow the special instructions.

LOOKING AT THE FILES ON YOUR DISKS

Use the DOS command DIR to view the directory of files on your disks. There are two variations to the DIR command. DIR/P will PAUSE the display and thus prevent more than one screenful of files to be presented at a time. DIR/W will present a WIDE display of files and is useful in preventing a long list of files from scrolling off the screen. A much better way to view a file directory is to use the program HotDIR located on Disk #462. HotDIR will allow you to sort your file display in numerous ways and to present file directories in a much more meaningful and convenient manner.

You will notice that a directory of files shows the filenames in the first column and the file extensions in the next column. It is important to note that the spaces between the filename column and the file extension column serve only to provide you with a neat and orderly display. When carrying out DOS commands, a single period must be substituted for the spaces. Consider for example the following file display:

File Display

When entering DOS commands, these files are typed as:

COMMAND	COM	COMMAND.COM	As mentioned above, the spaces between columns in the file display are just for looks. With DOS commands, you must use a period between the filename and extension.
AUTOEXEC	BAT	AUTOEXEC.BAT	
CONFIG	SYS	CONFIG.SYS	
ABC	DOC	ABC.DOC	

FILE TYPES

The two basic file types that beginners need to know about are EXECUTABLE files and DOCUMENTATION files. An executable file is like a car's gas pedal - it makes the program run. A file is executable if it has any one of these three extensions: .EXE, .COM, or .BAT. To run this type of file, enter its name (not the extension) followed by the Enter key. For example, the file GO.BAT will run the program 'GO' - you simply type GO (without the .BAT extension) and then press the Enter key.

A documentation file is like a car's owners manual - it provides instructions for using a program. This type of file can be a little more difficult to identify. If a file has the extension .DOC, .TXT, .MAN, or .LST, it is a documentation file. Also, if the filename is README, READ.ME, README.1ST, MANUAL, MANUAL.1, MANUAL.PT1, etc., then it is begging to be read and is a documentation file.

By nature, a documentation file simply contains text and is not executable; that is, it cannot run by itself. There are only two things you want to do with a documentation file: TYPE it to your screen or PRINT it on paper. To type a text file to screen, you use the DOS command TYPE. For example, to type the file MANUAL.DOC, at the DOS prompt you enter:

```
TYPE MANUAL.DOC [ENTER]
```

To print the same file, turn on your printer, load it with paper and enter:

```
COPY MANUAL.DOC PRN [ENTER], or enter: TYPE MANUAL.DOC>PRN [ENTER]
```

Many TSL disks contain a special program that will automatically print the documentation. Type NSLHELP or TSLHELP for instructions.

The TYPE command is practical only for very short text files because long files will scroll off the screen. You can pause the display by pressing the PAUSE or CTRL-S keys, but this will drive you crazy. The best way to view text files on-screen is to use the program LIST on Disk #417. LIST is the all-time best program for reading text files. It is both easy to use for the new user and packed with advanced options for the more experienced. Besides providing complete control over what you see, LIST allows you to search for text and to print any portion of the text you desire.

COMPUTERS AIN'T SMART!

That's right - they ain't! That's because computers understand only one way of doing things. And they're mean, too. If you don't do things their way, they punish you - sometimes severely. When you're a new user, about the smartest thing your computer does is make you feel stupid. Your computer has two favorite methods for accomplishing this mission.

Method #1: You type in a command and your computer tells you "Bad command or filename"

Now you say, "Baloney. I typed it just like I was supposed to." Well, your computer may be stupid and mean, but one of its positive traits is it's honest - ruthlessly honest. When your computer says 'Bad command or filename,' you can bet your bottom dollar that it's no baloney. What it's telling you is: (1) The command you entered is not a proper DOS or executable command, or (2) The filename you specified is incorrectly spelled or does not exist on the disk drive you are logged on to.

When you get this message, you must determine the cause. If you try to run a program located on a disk in drive A: called HELP_ME.EXE, make sure you are on drive A: and that you type the filename exactly as specified. If you type HELPME or HELP ME or anything other than HELP_ME, your computer will stubbornly respond with "Bad command or filename."

Let's say you're trying to type a file named FLUBBER.DOC. If you enter TYPE FLUBBER or TYPE FLUBBR.DOC or TYPE FLUBER.DOC or TYPE FLUBBER. DOC or anything other than TYPE FLUBBER.DOC, your computer will insist that it can't find the file by telling you "File not found."

You should realize from the outset that computers ain't smart, do things only one way (their way), are mean, and are ruthlessly honest. With this knowledge, you'll realize that "Bad command or filename" or "File not found" in all likelihood means that you're doing something wrong. The best way to avoid this kind of frustration is with a little education. Check our books EASY DOS ITI and HARD DOS ITI on the last page of this catalog. They will painlessly introduce you to your computer's whims and how to get around them.

HELP with HERCULES, CGA, EGA and VGA

New users seem to be most confused about video types. The four most common video types are Hercules Monochrome, CGA, EGA, and VGA. If you have a black and white monitor (amber or green), it is most likely a Hercules or compatible monochrome. Although this monitor is graphic, it will not run programs that require CGA, EGA, or VGA. CGA, EGA, and VGA videos are usually (but not always) color. CGA (Color Graphics Adapter) displays are pretty "grainy." The majority of programs that require CGA will also run on EGA and VGA. CGA monitors will not run programs that require EGA or VGA. EGA (Enhanced Graphics Adapter) displays a much brighter and sharper picture than CGA. EGA will not run programs that require VGA. VGA (Video Graphics Array) displays an even sharper and brighter picture than EGA and will run all programs that require EGA and most programs that require CGA. So there you have it. It is sort of confusing, so if you are not sure what kind of video you have, check with your computer manual or computer retailer, or call our technical support line and we can probably get you straightened out.

New Additions To This Catalog Issue

GAMES

WORDS*WORDS
XORJU
BOARD GAMES #4
BOARD GAMES #5
FORD SIMULATOR II
DOMINATE
TELE-CHESS
JUST FOR LAUGHS
AMAZON & AMY-500
BATTLE GROUND
CHARACTER
CRIBBAGE
EAT EM II
FACING THE EMPIRE
RETURN TO KROZ
THE MILL & SOLICARD
PATIENCE
PASS-AROUND TRIVIA
PINBALL ART
PRAXIS I
SUPER PRO WORD SEARCH PUZZLE MAKER
WORDSTALK
FALLTHRU
GUNN GAMES #1
GUNN GAMES #2
PC-SINGO & UNO
TOMMY'S TOYS #1
TOMMY'S TOYS #2
TOMMY'S TOYS #3
TOMMY'S TRIVIA
TOMMY'S TOYS #4

EGA and VGA GAMES

EGA ASSORTED GAMES #3
EGA ASSORTED GAMES #4
VGA ARCADE GAMES #1
MOBAIX
HURKLE
EGA/VGA PINBALL
GUNN GAMES #3
GUNN GAMES #4
GUNN GAMES #5
PUGILISTIC WARS

EDUCATION

TOUCH TYPE TUTOR
DBASE IV TUTOR
GTE TIPS & TRICKS DISK
COLLEGE PROBE
THE AMERICAN STATES
FLASHCARD
BALLOON SPELLER
TOTAL RECALL
ELEMENT STUDY AID
JORY
SCHOOL MOM
GO GO GO! MATH GAMES
KEY TEACHER & QUIZ MASTER CONSTRUCTION SET
STRIDLE
TUFF-SPELL
PC-REVIEWS
XYSEE
MATH CASTLE

UTILITIES

VIRUSCAN
PC-BROWSE
MICROSOFT WINDOWS UTILITIES
VGA FONTS
NEWSPACE
LIST
BATCH FILE MENUING
SCANLON BATCH FILE UTILITIES
4DOS
SPEAKER DEVICE DRIVER
THE SWAP UTILITIES
EISSINGER UTILITIES
FONTLOADER
DBS-KAT
TSL MASTER TOOLKIT #5
TAG ALONG & GLUE STICK
MAKEDMO
LOGIT
SCREEN CAPTURE
LASER LABEL
SWIFTE LASERJET FONTS
SWIFTHelp
DIGITAL CRYPTO

APPOINTMENTS & PERSONAL RECORDS

ACTIVE LIFE FOR DOS
ACTIVE LIFE FOR MS WINDOWS
NAMES AND DATES
PC-NAG AND DAY-MASTER

DESKTOP ORGANIZERS

POWER DESK

MENUS & DOS SHELLS

MENU MANAGER
PASS-AROUND MASTER MENU

WORD PROCESSING

HELPERPERFECT for WordPerfect
POPLUP SCREEN TEMPLATE & LOGITECH MOUSE -MENU SYSTEM for WordPerfect 5.0
ELRAY LEGAL DICTIONARY & PC DICTIONARY-10
SHARESPELL
XYPOWER PROGRAMS
THESAUR PLUS
MEGASTAR
PC-INDEX
PC-WRITE UTILITIES
RA CONTEX SEARCH SYSTEM
VARITALE AUTHORIZING SYSTEM
THE EDITING KEYPADS

SPREADSHEET

SCIENTIFIC & ENGINEERING TOOLS FOR LOTUS
PIVOT
MIPSCALC PLUS
BIGPICXX
CHERKHEK

DATABASE

1 ON 1 = 311
EUROCAR
OLYMPIAD
FILEBASE
NEWBASE II
PROFESSIONAL LIBRARIAN
SIMPLICITY
PIROUETTE
BOOK MINDER
THE TAGGER

RELIGION

THE GREAT EXCHANGE
DAILY BREAD
THE SERVANT
SCRIPTURE MEMORY

PROGRAMMING and LANGUAGES

DIGITIZED VOICE PROGRAMMER'S TOOLKIT
PC PROGRAMMER'S REFERENCE
PERSONAL C COMPILER
COBOL XREF
FF FORTH
MEGADRAW
POPTXT
SCRNFOM
TURBO BTREE
WINDE
MOUSE TOOLS and SOUND TOOLS

GRAPHICS and DRAWING

ICONVERT
WHIPLASH CLIPART
CURVE DIGITIZER FOR COLOR
CURVE DIGITIZER FOR HERCULES
EASYCASE
COMPUTER COMPLETERS CLIPART
COMPUTER COMPLETERS BORDERS
COMPUTER COMPLETERS HEADLINES
ROLY-POLY PUDDING
OFFICE PICTURES
DROP CAP
PFS FIRST PUBLISHER ART #1
DRAFT CHOICE
EGRAPH
EZGRAPH
VGA CAD
MIND CHART
PRINTMASTER GRAPHICS LIB #2
PRINT SHOP GRAPHICS LIB #2
PRINTMASTER LABELS
COOPER CLIPART LIBRARY #1
COOPER CLIPART LIBRARY #2
COOPER GRAPHICS LIBRARY #1
DESIGNER'S CHOICE CLIPART
UNIVERSE
VGA GRAPHIC SHOW

COMMUNICATIONS

PRIVATE ACCESS
SAPPHIRE BBS
PYROTO MOUNTAIN
THE MESSAGE MANAGER
QMODEM SST

HOUSEHOLD

LANDSCAPE PLANT MANAGER
FOR FILM AND VIDEO TAPES
DISK JOCKEY
HOME ENTERTAINMENT MANAGER
AWARD WINNING FILMS OF THE SILVER SCREEN
HOME INSURANCE
UTILITY BILL ANALYZER

HEALTH and COOKING

A-&-RECIPES
QUICK-NEEZ RECIPES and HERBS & SPICE
THE NUTRITIONIST
MEAL MASTER
DIET AID

BUSINESS and ACCOUNTING

LETTERS 'N LABELS
MASS APPEAL
ZIPP APPEAL
CEDARMAN COST CONTROL SYSTEM
MICRO MANAGER
TRUEBUDGET
TELEMESSAGE
EMPLOYEE MANAGEMENT SYSTEM
FREIGHT+
INVENTORY MASTER
THE INVOICER WITH ACCOUNTS RECEIVABLE
PERSONNEL MASTER
OVERLORD
JOB ORIENTATION INVENTORY
AMORT
FIXED ASSET TRACKER
BILLER
PC-BILLING
FINANCE MANAGER II COMPLETE BUSINESS ACCOUNTING
CRISP
PERSONAL ASSISTANT: FRIDAY
MIS MANAGER
COMPUTER TRACKER
MANAGEMENT SEMINAR
MICRO REGISTER
MI-LOG
PC-SHIFT
TASK MASTER
POSTAL CONSULTANT
VEHICLE RECORD SYSTEM 20
SMARTCALC AND ZCALC
HOME MANAGEMENT II
PAINLESS ACCOUNTING HOME VERSION
PC-SHIFT
MAIL CALL
PC QUOTE
PHONEBOOK BOSS

HOBBY/SPORTS/GAMBLING

PRO FOOTBALL LINEBACKER
FISHBASE
FISH-N-LOG
BALLISTIC
COMIC BOOK LIBRARIAN
HAM RADIO
COMPUTER DARKROOM
STAMP COLLECTOR
FOR RECORD COLLECTORS

MUSIC

PIANOMAN DOES BEETHOVEN I
1-2-3 BACHI
PIANOMAN GOES BAROQUE
CHRISTMAS CONCERTS

MATH/SCIENCE/STATISTICS

PROTAB
XACT SERIES CALCULATORS

TECHNICAL

ANYANGLE
COORDINATE GEOMETRY
HELPFUL ENGINEERING PACK
MEGACALC

ASTROLOGY and ASTRONOMY

THE ELECTRONIC ALMANAC
STORM
SPACE SHUTTLE MISSION TRACKER

GENEALOGY

FAMILY TREE

TRAVEL

PC-FLIGHT GUIDE
TRIP PLANNER

PROFESSIONS

GRADSCAN
GRADING ASSISTANT
CLASSROOM SCHEDULER
TEXAS PHARMACY MANAGEMENT SYSTEM
POLICE RECORD SYSTEM
REAL ESTATE APPRAISER
BTU ANALYSIS
AUTOMOTIVE ACCOUNTS RECEIVABLE
ELECTRICS
MEDICAL OFFICE MANAGER
PC-FOOD
SURVEY IT YOURSELF
FIRE DEPARTMENT CALCULATIONS

PRINTING

PICTURE LABEL
GRAPHIC LABELS
BARGE-O-MATIC
PF FORM DESIGNER
MICROTEXT
LABEL MAKER

TSL NEW USER PACK

TSL NEW USER PAKs are ideal for the computer user who is just starting out. They include all the essentials for the new user to get up and running. There are two versions - one for floppy disk systems and one for hard disk systems. Both are being offered at special prices.

TSL NEW USER PAK #1 - for FLOPPY DISK SYSTEMS

SPECIAL PRICE: \$17.95

This package starts out with the new book "EASY DOS IT!" It's exactly where the new user should begin. Each chapter progressively explains what you need to know in simple language, including helpful examples and illustrations. In a single day - at your own pace - you will learn the essential DOS operations necessary to run a floppy disk personal computer. We ordered this book especially for our customers because it's almost like having a personal tutor at your side.

COMPUTER TUTOR is an excellent interactive on-line tutorial. It covers computer and DOS basics and other important material. (See EDUCATION, Disk #302).

EASY DOS includes two great programs to help you deal with DOS as you are operating your computer. (See EDUCATION, Disk #305).

TREEVIEW is the best DOS "shell" we have seen. It simplifies, automates, and adds real power to DOS commands as you select desired operations from menus. (See MENUING and DOS SHELLS, Disk #706).

PC-DESKTEAM is an easy to use desktop manager. Provides instant access to eight of the most useful desktop utilities. (See DESKTOP ORGANIZERS, Disk #603).

GALAXY is a terrific word processor that is very fast and packs a lot of power. Yet, it is especially designed for ease of use. (See WORD PROCESSING, Disk #816).

TSL NEW USER PAK #2 - for HARD DISK SYSTEMS

SPECIAL PRICE: \$25.95

This NEW USER PAK includes all of the above - PLUS the following:

The new book "HARD DOS IT!" takes up where "EASY DOS IT!" leaves off. Once you have learned the essentials of operating a floppy disk system, you will quickly and easily learn how to get the most out of your hard disk.

PRO-MENU allows you to run all of your programs from custom, full-screen menus. Great for beginners because it includes an automatic menu maker. (See MENUING and DOS SHELLS, Disk #704).

HARD DISK UTILITIES is a collection of utilities that hard disk users will find essential in their day to day computing. (See UTILITIES, Disk #437).

UTILITIES

THE TSL MASTER TOOLKIT SERIES

The **TSL Master Toolkit Series** is made up of small to medium size utility programs which must meet very strict selection standards. TSL technicians have rigorously tested and compared the very best utilities. It's like the Miss America Pageant. The final selection leaves only the "best of the best" in their class.

Each **Master Toolkit** disk offers a collection of blue ribbon winners. Each utility program is notable for its outstanding power and unmatched performance. Some of the programs are one of a kind.

Shareware and public domain utility programs make up a cast of thousands. Only the super stars gain entrance into the **TSL Master Toolkit Series**.

TSL MASTER TOOLKIT #1 (426)

RESCU - Amazing! Unerases files from memory that haven't been saved. Now you can recover lost files that you meant to save or were lost due to computer lock up.

VRAM - Uses hard disk or RAM to provide 8 megabytes of expanded memory. Now you don't need an expanded memory card to break the 640K barrier.
BUFFIT - Backscroll your screens. Options include: Capture screens to a buffer; Write the buffer to file or print it; Clear the buffer. This is the best!

PRINT-PART - Prints only the part of a document that you specify. If your paper jams at page 12 on a 30 page document, you can specify printing pages 13 through 30.

FSRCH - Searches files for one or more text strings. You specify the relationship between two strings with AND, OR, NOT, etc. For example, which files contain the text "hello" OR "baby", or "I can't stand" AND "your face", etc.

DATAPATH - Access any files or programs from any disk or directory. If you are on drive A: or C: and you need to access files on B:, Datapath will do it automatically.

BPRINT - Prints files with two banner pages. No matter which way you fold your printout, a banner page will be on top to identify the contents.

INVIS-A-DISK - Reliably alters a diskette's boot record to allow booting the computer with the disk in drive A:. No more "non-system disk error" messages.

VCMAP - Graphic display map of memory usage. Tells what programs are using the memory blocks displayed on the map, how much and percentage of memory each program uses, usage breakdown, and free memory.

BURNOUT - Most powerful screen blanker. Written as a virtual device driver so that you can control it directly from your own programs. Many options.

TSL MASTER TOOLKIT #2 (427)

MULTIPLE CHOICE - Run up to 8 programs at the same time and switch between them with one keystroke. Uses only 4K memory and includes a data transfer utility.

PREVIEW - Graphically displays on-screen page layout of text files before printing.

COPYCON - Replaces "copy con" to create batch and text files. Full-screen editing, formatting (auto-centering lines, etc.), built-in macros, protection against overwriting existing files.

ROBOKEY - Set up your computer to perform almost any task completely unattended. Define up to 200 keystrokes to be entered automatically within the following 24 hour period. Automate DOS operations or any application program.

CED (Command Editor) - a revolutionary multi-utility. Does away with the need for most small batch files. DOS command recall and editing, activates the cursor keys for DOS, and much more.

KBFIX - Best keyboard utility: cursor speed up, increase type-ahead buffer to 127 characters, display status of the 3 Lock keys, activate Scroll-Lock key to freeze the display, and more.

KEYIN - Use within batch files to easily customize application programs.

AUTOSAVE - Automatically saves your work at regular user-specified time intervals. Avoid losing important data due to power failure or other mishaps.

BAT COMMANDER - Consolidate all your small batch files into one Bat Commander file to conserve disk space.

INSTANT INFO - Enter up to 20 notes on up to 9 topics. Pop them up at any time. Select topics from the pop-up master reference window.

STACK - The best! Recall/Edit/Run previous DOS commands in a pop-up window. One keystroke assigns any command to any function key and much more.

ASCII - Displays all ASCII (text) characters in a .COM or .EXE file.

TSL MASTER TOOLKIT #3 (428)

TELEPORT - Cut and paste data between programs. Capture/Display/Edit up to 4 different screens of data simultaneously. Also save captured screens as text files.

EDICOM-12 - DOS command processor/manager. Run DOS commands from a menu, text read utility, Recall/Edit/Run previous DOS commands, event timer, and much more. Very fast!

EDPATH - Edit the current path on the fly without rebooting your computer.

CBOOT - Controlled Chaos Rebooter. Allows you to exit or reboot from within any program if a computer lock up disables Ctrl-Break or Ctrl-Alt-Del.

LABELIER - Extremely versatile disk labelling/cataloging utility.

DGM - Menu-driven graphics display (pie and bar charts) of all disk statistics.

DSPACE - Graphic display of space allocation of directories and files.

SNR - Powerful multi-string search and replace for text and non-text files.

DISKBUF - Automatically determines optimum number of buffers to use in Config.sys file.

DUPDISK - Fast, continuous floppy disk duplicator.

WHIZ - Fastest file searcher. Can search all files in all drives with one command. Many options.

QDISK - Pop-up file and directory utility. Perform 23 file/directory operations without exiting the program you're currently running.

FIXBEEP - Changes computer's beep to any frequency/duration - even total silence.

TREE COUNT - Counts files and their sizes to show space allocation.

TSL MASTER TOOLKIT #4 (429)

QFORMAT - Pop-up floppy disk formatter. Call it up to format diskettes without exiting the program you're running.

GOODLOOK - Compare text files by viewing them in windows. Scroll files individually or together to compare contents line by line. Very fast! Packed with options.

FASTCOPY - Fastest floppy format/diskcopy utility. 40 seconds on a PC, 33 seconds on an AT.

DOUBLE DIR - Displays two directories side by side. Scroll either side for long DIR listings. Many options: print, copy, delete, change attributes, and much more.

COUNTING CURSOR - Pop-up movable cursor to count characters on the screen. Gives row/column coordinate readout. Great for setting up files for import/export.

TXT2COM - Easily converts a text file into a .COM file for full screen display. File can be scrolled up/down, printed, given color attributes and a heading.

DATETIME - A great full screen clock/calendar display from which you use cursor keys to easily change system time and date.

XEQ - Store .COM files in XEQ's code and then erase them to save disk space. XEQ alone can execute all the previously separate commands.

MULTI-PRINT - Prints documents and tells you: How much paper you'll need; How long printing will take; How much has been/is yet to be printed. Also speeds up printing.

TSL MASTER TOOLKIT #5 (430) ~NEW

OPTICOPY ver 1.00a determines the minimum number of diskettes needed to copy a group of files to floppy disk and then outputs the copying scheme to screen, printer or file.

DAB is a "Delete All But" utility that will delete all files in a directory or on a disk except those specified.

FILE MASTER is a file cataloging program that can be RAM-resident and allows for informative file descriptions beyond DOS's 8 character limit.

NOTE allows you to display your own set of simple "post-it notes" or reminders that are called up from disk.

SWAP ver 1.2 allows you to run two programs, that would not normally fit in memory at the same time, by copying conventional memory to a disk file, or to extended or expanded memory if available.

BCOPY allows you to perform disk copying in the background while running another program.

VOLTAG ver 2.00 is a very versatile 3.5" diskette labeler that allows for 63 file names per label, graphically displays free disk space, and much more.

EXPERT PANEL allows you to easily add shift-sensitive function key HELP menus to almost any application. Run your program, press the Shift key, and your custom function key menu is displayed.

EMB7 ver 1.2 fully emulates the 8087 math coprocessor on 80286 and 80386 based computers. Does not speed up floating point calculations, but is useful to run software that requires the 8087/80287/80387.

PC-BROWSE ver 1.0 (492) ~NEW

The creators of PC-WRITE bring you an incredible new pop-up file scan and hypertext tool that's a real frustration ender. As a search utility, PC-BROWSE (PCB) quickly finds files or text you've lost anywhere in your system. Search one file, multiple files or directories, even multiple hard disks for lost text. Find a word or phrase, or even multiple spelling of a word or phrase. Need to find a file that mentions a certain person or thing? PCB gives you a list of files containing it, then lets you view the files. Then print the information you need or paste it into a program. You can also find lost files by name and view them when found; get a directory of files with similar names using wildcards; put your customer list or parts inventory on your screen to find items fast; and much more. Use the PCB Hypertext linking feature to cross reference information, a feature useful for teaching or research. You can link words or phrases within a file or between many files to set up customized on-line cross

references, help systems, menu systems, and more. For help, simply select a phrase describing the problem. The phrase then links you to help pages you created. Applications include reference manuals, on-line help, decision trees, etc. You're limited only by your imagination! For example, easily create on-line help for anything from grammar to motor assembly. PCB may be used memory resident or non-resident, and includes a host of support features, including: Multiple windows; Location list; Selectable Hotkey, cursor movement, screen colors, and buffer size; On-line status line, help and tutorials; and much more. In memory resident mode, PCB requires 60K of RAM (only 3K with expanded (EMS, LIM 3.2+) memory.

POINT & SHOOT HARD DISK MGR. ver 2.0 (400)

A full-featured DOS menu program and file/directory manager for hard disk users. Keystrokes are minimized compared to many similar programs. Create menus with program management system and run programs (supports 30 menu entries, each containing a submenu of 10 programs for a total of 300 entries on a single screen). Includes pop-up calculator, calendar, disk statistics, help screens, disk formatting, hourly chime, mouse support, all the usual DOS file operations, Hex/ASCII text editor (up to 64K), printing, filters, global search, change file attributes, hide/unhide, undelete files and directories, password protection, screen blanker, and too much more to mention here. Requires 320K, hard disk, and CGA, EGA, or VGA. Not compatible with AT&T 6300 with CGA or HP Vectra with monochrome display.

POINT & SHOOT BACKUP/RESTORE ver 1.0 (401)

A full-featured easy-to-use hard disk backup and restoration program. May also be used as a companion program to POINT & SHOOT HARD DISK MANAGER (Disk #400). Provides fast, easy backup of your hard disk data to floppy disks. User involvement is minimized. If you own a hard disk, this program (or one like it) is a must. Supports up to 10 user-defined backup configurations with each containing a list of up to 10 subdirectory backup sources. Each backup source directory may include trailing directories for complete flexibility in backup definitions. Graphic directory tree helps select backup source directories. Required number of backup disks automatically calculated. Includes many restoration and configuration options. Supports 360K and 1.2M 5-1/4", 720K and 1.4M 3-1/2" floppies. Requires CGA, EGA, or VGA, 256K as stand-alone program (640K if used with POINT & SHOOT HARD DISK MANAGER).

DISK ORGANIZER and HARDBACK (402)

DISK ORGANIZER ver. 2.06 - A disk that has been in use a while will have fragmented files and directories; that is, some of its files and directories are no longer written in contiguous disk clusters, but are located wherever DOS was able to find available disk space. This increases the time required to access any of that data, puts more wear on your disk drive's head actuator and increases the noise generated by the disk. DISK ORGANIZER speeds up disk access times by defragmenting files and removing deleted entries from directories. It will also determine the order of files and subdirectories, free some disk space by truncating subdirectories. Also, non-fragmented files are much easier to recover with with unerase programs. Works with DOS 2.1 and up and logical drives up to 32 megabytes.

HARDBACK is a hard disk back-up program designed specifically for backing up one hard disk onto another fixed or removable media hard disk. In typical situation, HardBack will give you a fully up to date back up of your entire hard disk in less than 30 seconds! Produces backups of entire logical drives and maintains the backup disk in exactly the same condition as the source disk. This eliminates the need for Restore and provides a backup disk that will be ready-to-use if the source disk ever fails. Easy-to-use, menu-driven with on-line help.

BAKER'S DOZEN (406)

New, powerful utility package from Jim Button of PC-File fame. 14 utilities can be run as stand-alone or from a menu. Print sideways, super file & text search, & a dozen more. PC Magazine says: "You won't find a kitchen sink in this set of 14 miscellaneous programs, but you'll find almost everything else... Most of these programs are packed with options unavailable in more-expensive packages."

VIRUS PROTECTION (411)

Many of our customers want to know if the programs we distribute are tested for viruses. Every program that bears the TSL label is tested before it goes out the door. But we cannot account for software you receive from other sources. This disk includes four programs (FLU-SHOT+ ver 1.7, FILETEST, VACCINE, CRCDOS) to help protect your system from "viruses", "worms" and "Trojan horse" programs. There are some bad people in computer land who have nothing better to do than louse up your data and perhaps your entire hard disk. All the recent press about virus programs may have blown the fear factor out of proportion. Nevertheless, it pays to be safe. The four programs included on this disk provide you with a variety of ways to safeguard your data and your system. They'll help you sleep tight and not let the bed bugs bite.

VIRUSCAN (403) ~NEW

VIRUSCAN identifies virus infections and enables you to prevent viruses from spreading throughout your system. It scans all files or specified files and specific areas of the system - the boot sector, partition table, hidden files, and COMMAND.COM. VIRUSCAN even includes a self-test to insure that it has not

been contaminated. VIRUSCAN will identify the specific virus strain which has caused the infection in all cases of the known viruses. It will report the exact location of the virus so that you can take steps to eliminate it. VIRUSCAN can identify 54 major virus strains and numerous sub-variants for each strain. The 54 viruses include the twelve most common viruses which account for over 95% of all reported PC infections. This program is regularly updated as new viruses are discovered. TSL will always make the latest release available to its customers. We highly recommend VIRUSCAN to all computer users because of its proven effectiveness and effortless ease of use.

VSDP (Virus Symptoms Detection and Prevention) ver 1.0 is a menu-driven virus symptom checker that maintains a catalog of executable files and eliminates detected viruses before they can do any damage. These programs operate very quickly, are very easy to use, and require no special setup.

CHECKUP ver 3.6 is one of the world's leading PC virus detection systems used by government agencies of the USA, Canada, Europe and Australia; universities, Fortune 500 companies, BBS SysOps, and others. CHECKUP detects viral infections by comparing target file sizes, incremental cyclic redundancy checks (CRCs) and total file CRCs to previously stored baseline values.

ALT ver 1.25e (412)

ALT is a memory-resident performance powerhouse that provides a framework for computing. Combines Sidekick, Superkey, Software Carousel, menuing, and more. Features a DOS shell to give you command of DOS, calculator, macros, cut-&-paste, address book, editor, runs two programs at once with user-definable menus, and more. Requires hard disk.

MICROSOFT WINDOWS UTILITIES (404)

COMMAND POST ver 6.2 is a Microsoft Windows application designed to allow users to easily personalize the MS-DOS Executive control window. COMMAND POST allows users to easily add Menu and Submenu items to the main MS-DOS Executive menu bar, and to execute desired applications when a menu item is selected.

BROWSER ver 3.1 is a Microsoft Windows application designed to allow users to browse files in an MS Windows environment. In addition to the browse capability, it supports printing, clipboarding, and a hex dump display. BROWSER has the ability to display files in either Windows standard ANSI format or in ASCII format. BROWSER also features the new and unusual Hide-and-Seek Information extraction technique.

APPLETS ver 1.0 are a collection of tiny applications for the Microsoft Windows environment. They are primarily designed to operate with Windows menuing environments, such as Command Post 5.1 and newer, which allow you to initiate a series of applications from a single menu selection. These tiny applications include file manipulation tools (COPY, MOVE, RENAME, DELETE), Window manipulation tools (ZOOM, ICONIZE, HIDE, SHOW, CLOSE, PLACE), and miscellaneous tools (SAY, BEEP, SAYBEEP).

ON-CALL: THE MEMORY MANAGER ver 1.02 (418)

This is the total memory-resident program manager which has received top rated reviews in PC publications. Configure ON-CALL to meet your specific needs and then load it into memory. ON-CALL can then be popped up over any program you are running. You then select from the menu which memory-resident programs you wish to install, and ON-CALL activates them. ON-CALL manages up to 40 programs in memory and enables you to switch among them. It includes extensive built-in protections to avoid conflicts in memory and provides you with maximum flexibility. On a scale of 1 to 10 (10 being best), ON-CALL is a 10+.

FANSI-CONSOLE ver 2.00T (408,409) 2 disks

Ram-resident program gives extended screen control for all monitors. Supercharges display speed (DIR's pop up instantly), plus a wealth of other features for the more technically minded, including keyboard macro capabilities, back-scrolling, Ansi x3.64 control sequence processing, and much more.

CGA SIMULATOR (433)

Do you have a Hercules or compatible graphics card? Are you're tired of missing out on programs which require "CGA ONLY"? Then this disk is for you. CGA Simulator allows most programs written for the CGA to be run on a Hercules graphics card or compatible. Play graphics games, etc. Not 100% perfect, but works with the majority of programs.

TIMESSET ver 4.0 (416)

TIMESSET dials the U.S. Naval Observatory in Washington, D.C., through your modem and automatically sets your computer's clock and calendar to the correct local time and date. Time accuracy is incredible - actually traceable to the National Bureau of Standards. Time zone difference is automatically compensated for. Features many options, including a clock driver for automatically passing time and date between the DOS clock/calendar and nearly all real-time clocks, and much more. A modem is required, and the call is long distance for those outside the local D.C. calling area.

HERCBIOS (434)

Attention all monochrome graphics card owners! Now you can put 43 rows of text on your screen at the same time - Even at the DOS prompt! Plus, get 90 characters per row instead of the usual 80. HERCBIOS extends the 25 line by 80 column limits of Hercules and compatible monochrome video cards. This package includes utilities to switch among 43, 29, and 25 line modes. End users will enjoy their new, expanded display. Programmers will like the way HERCBIOS brings full INT 10H video bios support to the graphics mode.

HARD DISK UTILITIES (437)

A set of very useful utilities specially compiled for hard disk owners, including: Graphic displays of disk drive statistic and directory usage; Programs that make moving around subdirectories and drives much easier; Search files on a disk and find them even within .ARC files; Password protection; Easy backup/restore procedures; List files modified on or after a specific date; Automatic transfer of entire directories to floppies with drive space optimization; and more.

EGA UTILITIES (438)

This is a collection of useful utilities for the EGA. **KC-PAL** allows you to select among 64 colors to change the EGA color palette. **KCSETPAL** allows you to change the EGA color palette from a batch file. **NEWFONT** allows you to install very crisp, superior fonts along with facilities to specify their colors. **STYFE** enables extremely smooth scrolling on the EGA. **LINE MODES** allows you to set 12, 25, 35, 43, 50, and 60 line modes. Other utilities include: EGA to Epson printer graphics screen dump using Shift-PrtScr; Clear screen (CLS) for the EGA; PrtScr for the EGA; and a Turbo Pascal EGA graphics library.

EGA FONTS (441)

If you would like to change the appearance of text on your EGA screen, this collection of more than 50 EGA fonts is for you. Select from standard looking fonts (like Courier and Roman) to more interesting ones (like Broadway and Future). Choices also include various fonts which are bold or thin, tall or short, script, computer, sideways, Greek, and much more. Make your EGA shine.

VGA FONTS (405)

-NEW

This collection of 39 fonts will really dress up your VGA display. Includes pretty fonts like Future, Hollow, Italics, Script, Nowary, Antique, ITT, Medieval, Finnish, Broadway, and many others. Among the novelty fonts are Reverse, Backward, and Inverted. Foreign fonts include Greek, Hebrew, and Cyrillic. Sized fonts are 8X8, 8X10, 8X11, and 8X14. Requires VGA.

EGA FONT EDITOR (442)

This is a full-screen EGA font editor that allows you to design custom fonts in various sizes. Includes a utility to set any number of lines you desire for your new fonts. Also includes 25 line, 43 line, 50 line fonts, and source code. This is a very versatile, top notch system. Requires Microsoft Mouse or compatible (Most mice are. If your mouse has MSmouse driver software, it will work).

QUICKCACHE II and QBACK (443,444) 2 disks

QUICKCACH II 4.03 - An ultra-sophisticated disk caching program that greatly improves the performance of your system by speeding up program operation. Programs run up to 4 times faster on a hard disk and 14 times faster on a floppy drive. If expanded memory is installed, it is automatically used for caching. Represents an exceptional value for new and seasoned users alike. Includes on-line help and a menu-driven interface for the more advanced cache functions.

QBACK 4.0 - Provides a fast, easy method of backing up your hard disk. A complete backup of a typical 10mb. hard disk can be done in 8-10 minutes. An incremental mode reduces this time to 1-2 minutes. Prints a detailed reports and disk sleeve inserts. Restore option reloads programs and files, and can also be used to transfer files larger than a single disk from one system to another. Automatically formats disks as necessary during the backup process, eliminating the need for additional formatting steps. Supports 1 to 4 disk drives, 3-1/2 and 5-1/4 inch, double density and high density.

PROFESSIONAL MASTER KEY ver 3.0a (450)

A set of seven menu-driven programs designed to open the doors into your MS-DOS disks. Edit disk and file sectors. Manipulate, rename, erase, unerase files and subdirectories. Change file and subdirectory attributes, date and time. Full access to all files - even hidden, read only and system files. UNFORMAT a hard disk which has been accidentally formatted. And much more. This is powerful stuff, but the integrated user interface is excellent and combines flexibility with ease of use.

GRABBER ver 2.20 (451)

A very unique ram-resident program that will capture any graphic or text image that appears on your screen. Once captured, the image is automatically saved to disk as an executable .COM file. You can capture a series of screens and link them together in a batch file to produce a customized demo which executes very rapidly. Requires CGA or EGA.

CATDISK ver 4.13 (452)

A disk cataloging system that will organize a "Super Directory" of all your diskette files in alphabetical order and tell you at a glance what diskette(s) they are on. Menu-driven, very easy to use, and rich with features. Supports subdirectories 32 levels deep. A single catalogue can include up to 2,000 diskettes containing over 32,000 files. CATDISK is a super way to keep track of your files on hard and floppy disks.

DISK COMMANDO ver 2.10 (453)

This is almost a carbon copy of the Advanced Norton Utilities. 17 menu-driven utilities, including: Unerase, Disk Optimizer, Disk Testing, Disk Editor, and much more. Optimize your hard disk, recover accidentally erased files and sub-directories, sort files in any order, and even recover disk information after an accidental format. A powerful package that we highly recommend.

MAGIC UTILITIES ver. 1.1 (454)

This memory resident utility package can be popped up whenever you need it. Features include: Disk and file manager with directory tree; View text files and search for words and phrases; Calendar and appointment scheduler with alarms; Security lock and screen blanker; User-configurable settings, including the amount of memory you want to reserve for MAGIC UTILITIES; Menu-driven and easy to use with complete on-line help. We especially like the security lock which asks for your password and then locks up your computer and blanks the screen. This is a very effective feature when you want to keep prying eyes and intruding fingers off your system.

LAPTOP BATTERY GASGAUGE (460)

GASGAUGE ver. 4.2 is an absolute must for all laptop computer users. This remarkable program keeps constant tabs on your computer's battery usage and lets you know how many minutes of operating time remains before your battery needs recharging.

REMOTE CONTROL ver. 2.2 makes it possible for others to have access to your FAX, answering machine or voice line and for you to have private access to your computer on the same phone line.

FONECALL ver. 2.3 quickly alerts you to messages left on your answering machine by calling your pager.

STACKY ver. 2.0 (461)

This is an ingenious batch utility from some of the genius boys at Cal Tech. Load it into RAM (less than 900 bytes) and **STACKY** will automatically place keystrokes in your keyboard buffer. If you are a batch file novice, this means that you can write batch files which will perform just about any function. For example, **STACKY** will empower your batch files to: Turn the Num Lock and Caps Lock keys on and off; Set colors on the CGA and remap colors on the EGA; Enable the PrtSc and dump the screen to the printer or a file; Reboot the computer; Change mode and 25 vs 43 line display; Redefine the function and ALT-function keys. And that's just the beginning. For the novice, **STACKY** can be easily utilized to supercharge batch files. For the experienced batcher, the sky's the limit.

THE XANADU UTILITIES ver 2.0 (462)

These utilities make using your PC easier and more enjoyable, and they have advanced features for "power users". The real gem in this package is **HoldIR**, a colorful sorted directory lister. It works with any monitor and is the best DIR lister ever. You can immediately identify .COM, .BAT, .DOC, etc. files because they are organized by colors you assign to their extensions. It's beautiful! Displays all files (even hidden), 4-way sort, lists in 1, 2, 4 or 6 columns, and has many features not found elsewhere. Other utilities include **PC STATUS**, **SUPER FILE FIND**, **QUICKCRT**, and more. Highly recommended.

EDIT DIRECTORY ver 2.31 (463)

Edit Directory (EDDY) is a first class file and directory editor. Functions include: EDIT directory entries, including name, date, time and attributes of files; SORT directory display by file name, extension, size or date/time; COPY, MOVE, DELETE and/or DESTROY files; LOOK at or PATCH data in files; FIND strings of data in files. Other programs perform similar functions, but EDDY is designed to do them better. A major computer magazine review rated EDDY's quality on the level of a Peter Norton product. Menus and extensive on-line help make EDDY user friendly.

EXPANDIR (465)

Have you ever looked at your directory listings and wondered what the heck some of those files are? You have to type them to the screen to find out, right? Now you can overcome the DOS limitation of allowing only eight characters to describe your files. **EXPANDIR's** convenient windowing environment enables you to scan your files, view them, and add meaningful, descriptive comments. One keystroke will quickly show you that a file named JM88EXP.WKS is "JANUARY to MARCH 1988 EXPENSES". This is your chance to get a real grip on DOS file management. Menu-driven for ease of use.

NEWKEY ver 5.0 (466)

NEWKEY is a full featured keyboard enhancement program. Totally customize your keyboard. Completely automate the performance of tasks - freeing you to focus on getting them done instead of how to do them. Re-define any key to type tens of thousands of characters for boiler-plate text. Customize your software so that it behaves exactly the way you want it to. Create hundreds of personalized function keys. Saving keystrokes significantly increases your productivity by saving you time and effort. **NEWKEY** is packed with powerful, versatile features. It won PC Magazine's 1987 "EDITOR'S CHOICE" over the top commercial keyboard macro programs.

THE SPACE-MAKER (467)

This disk includes powerful data compression tools designed to save disk space and money. Expand your disk space up to 140%. Don't buy another box of diskettes or shell out megabucks for a hard disk with more megabytes. Just put more space on what you already have. Compressed files take up a fraction of the space. Included are the PKWARE programs (**PKZIP**, **PKUNZIP**) for fast, easy file archiving, compression and decompression. Also included: **NARC** - an excellent menu-driven archive file manager; **ADJRAM** - a flexible ram disk which can be re-sized without rebooting; and other programs to help manage disk space.

ARCHIVE FILE UTILITIES (468)

ARCMaster is a full-featured ARChive file management system that is designed to maximize the efficient use of file archiving programs like **PKZIP/PKUNZIP** (see Disk #467). Also supports the file list program **LIST** (see Disk #417). **ARCMaster's** pull-down menus and pop-up windows make the use of archiving programs fast and painless. Features include: Fast logical operation and mouse support; Tagging of displayed archive files for multiple dearchiving and batch archiving; Search for any file on any or all drives; Display any archive directory listing; LIST any archived file; Specify the target directory for placing archive files and extracted archived files; Use of macros; 10 function keys assigned to major functions for single keystroke operation; and much more.

NEWSPACE ver 5.07 (410)

~NEW

This commercial program goes shareware automatically compresses data as it is written to your hard disk. When these data files are later accessed, they are automatically decompressed. This results in an average 40% savings in disk space, and the process is totally transparent to your application programs except for a general 10% slow down in processing. Executable files are not affected by **NEWSPACE**. Not for use with Windows, Topview, Desqview, LAN. Can work on any drive, but requires bootable hard disk drive C:.

LIST ver 7.0a (417)

~NEW

LIST is the all time best program to list documents to your screen for reading. Scroll forward and backward through a document line by line or screen by screen. Packed with features including: Print file; Mark blocks and write to a new file; Super fast text search; Junk filter to remove non-text characters for easier viewing; Word wrap for long lines; 43 line EGA support; On-line help; and much more.

SYSTEM and FILE SECURITY (469)

THE PRIVATELINE ver. 1.1 provides a secure means of transmitting and storing MS-DOS files without the danger of having an uninvited person read them. It is a full implementation of the Data Encryption Standard, published by the National Bureau of Standards, U.S. Department of Commerce. This menu-driven program will encrypt any MS-DOS file. Single and double encryption is provided, along with program options to convert a file from binary format to printable ASCII for use over CompuServe or EasyLink and other bulletin boards. Files may be unencrypted, deleted or purged. An option is included to demonstrate compliance with the 171 tests required by the NBS.

PC-LOCK is an effective password protection system for the hard disk. The program provides significant hard disk security and offers the option of blanking the screen until you enter your password.

HIDDEN includes three programs to create, change to, and remove hidden subdirectories.

DIGITAL CRYPTO (490)

~NEW

Three high-powered, high-tech cryptographic security programs add virtually bullet-proof entry protection to your programs and files.

PC-IRIS 3.7 - This is state-of-the-art file encryption using various cipher algorithms, including RSA, DES, VERNAM, BAZERIES, CRC (checksum) generation, and secure file erasure. Also includes **PLAYFAIR**, the historically interesting British Army cipher. Implementing commercial cryptographic techniques, IRIS is perfect for storing or exchanging information in a secure manner. Any file containing sensitive information (such as a spreadsheet detailing company annual results prior to publication) may be encrypted to preclude unauthorized disclosure. Encrypted files may be copied to a floppy and sent by public mail to another party who has IRIS and your unique decryption code key.

PC-MERLIN 1.0 - Implements the DOS copy function, but with encrypted output, to produce secure backups of large amounts of data. Uses the DES algorithm.

PC-LOCK 1.0 - This highly effective yet simple "session lock" facility prevents unauthorized use of a PC during short absences.

POWER TOOLS (470)

A collection of 25 utilities to help you take charge of your computer. Includes: Lightening fast electronic ram disk; Print buffer enables you to use your computer while printing; Disk caching for up to six times improved disk performance; Disk cataloging; Screen saver; Menu-driven printer controller; DOS editor; Unhide hidden files; Undelete erased files; Print disk covers; Text file sorter; File finder; Clean up duplicate files; File mover; Carry out global commands in all directories; and more.

BURN-IN (471)

BURN-IN is a simple program designed to test your computer. It is especially useful for new computers still under the warranty period. **BURN-IN** runs a complete and exhaustive routine that thoroughly exercises and diagnoses the following computer components: Disk drives, CPU, Monitor, Display adapter, Ram memory.

DISK & DRIVE DIAGNOSTICS (472)

This disk includes two programs for testing floppy disk drives and diskettes.

TEST DRIVE is a comprehensive, menu-driven floppy disk drive (360K) diagnostic tool. Accurately measures spindle speed, performs a read/write test, and includes a head cleaning utility. Can also use a Dysan Digital Diagnostic disk (available for under \$50) to perform certain adjustments on drives and the following tests: alignment test, hysteresis test, head azimuth test, hub centering, continuous alignment. Eliminates need for oscilloscopes, special test equipment.

ANADISK is a menu-driven utility to analyze, inspect, edit, repair and copy diskettes. Features are: Determines diskette's basic readability; Disk sector and file editing; Repair data by reconciling File Allocation Tables and moving bad sectors; Copies one diskette to another regardless of format (can defeat some copy protection schemes); and performs read-after-write check of each sector.

BEST BATCH UTILITIES (473)

This disk is packed with 25 programs to enhance your batch files. Included are programs which will: Play tunes and sound effects; Execute a program at a user specified time; Allow entry of batch variables %1 thru %9 in response to questions; Return key scan codes as ERRORLEVEL for IF testing; Enhance the ECHO command by handling ANSI control sequences; Insert common sayings at random; Type big characters to the screen; Continuously beep until a key is pressed; Test for an available drive; Delay execution for a user specified amount of time; Check to see if a disk is formatted; Display binary screen files; Type text to the screen one character at a time like a teletype; Add user-specified foreground and background colors to text; and much more. There's enough here to make your batch files powerful, interesting, and attractive.

BATCH FILE MENUING (419)

~NEW

This disk contains programs (**BATCH FILE CONSTRUCTION KIT**, **BMENU**, **MYMENU**, and **BATQUEST**) which allow you to easily include menus in your batch files. Add an impressive, professional touch to your batch files with menus that "explode" on your screen. You can specify menu colors, title, screen position, and menu items. When the menu appears, the cursor keys move a menu bar to select an item, and the batch file continues processing based on the selection. You don't need any programming experience to produce beautiful menus with these programs.

SCANLON BATCH FILE UTILITIES ver 1.9 (420) ~NEW

Add power and the ability to create custom menus to your batch files. These utilities allow you to accomplish the following with your batch files: Set the cursor position, set the screen colors, Retrieve single and multiple key strokes. Test printer and disk drive status. Scroll display lines. Make boxes and windows. Display a list of files without using the Dir command. Repeat sets of batch file instructions by looping inside the batch file, and much, much more. Use these utilities to create batch files that help reduce the possibility of accidental disk formatting, to copy sequences of files from drive to drive or to different directories, and for creating helpful menus for carrying out DOS commands and for running programs. In addition to more than 50 batch utilities, this package includes a **BATCH FILE TUTORIAL** which will help you to learn how to write powerful batch files.

CTRLALT ver 1.0 (474)

CTRLALT is a powerful collection of memory-resident utilities that use only 7K of RAM. Its features include: pop-up tables of ASCII codes, color attributes, ANSI color codes and keyboard scan codes; A logical and convenient way of entering the IBM graphics drawing characters (any character can be picked off the resident ASCII table); Two monitor support - copy the active monitor to your inactive monitor on a two monitor system even inside a running program making your second monitor a useful scratch pad, plus

other dual monitor support; Resident Cut and Paste facilities - with one keystroke, you can mark a box (on either screen, if you have two) which you can save in a buffer and later insert in any program. Resident printer codes - you can send a variety of control codes at any time to your printer; Emergency exit - a way of recovering from situations where your system crashes due to some program getting into a loop or dead end. **CTRLALT** packs a lot of punch from a single .COM file, and the extra bonus is that it uses almost no memory.

PCjr UTILITIES (475)

This disk contains numerous utilities which are essential for IBM-PCjr users. Some of the programs are: A telecommunications program designed specifically for the PCjr; Ram disk, disk cache, print spooler; A program to turn your joystick into a functional mouse; A text editor written for the PCjr; A utility to enable use of BASICA.COM without the BASIC cartridge; A program to swap Com1 and Com2 ports; and much more. Requires IBM-PCjr.

PC-AT POWER UTILITIES (476)

This disk contains a collection of over 20 utilities designed specifically for the PC-AT and compatibles. Some of these programs are described as follows:

INTRCPT reliably formats 360K diskettes to 720K in 1.2 meg. drives - doubles your disk space.

SPEED slows down the AT to any speed you desire - great for playing games, etc.

GSETUP is a great replacement for the IBM Diagnostics setup program. It is menu-driven and allows you to set/modify from DOS the CMOS values for time, date, system configuration, etc. without resetting your machine.

TPW and **EPW** provide password security for executable files and for directories and entire subdirectory trees.

ATPARITY prevents memory parity error lockup.

AUTOPARK automatically parks hard disk heads after a user-specified period of inactivity.

These programs are joined by 15 others to provide AT users with a powerful package of utilities.

EPSON/LQ FONT EDITOR (477)

LQFONT allows you to create your own custom NLQ fonts for the EPSON LQ 800 and 1000 series printers. Fonts are easily created and edited on a grid, and they can be saved to disk. A loading utility allows you to download your new fonts to the printer. Includes 7 sample fonts (caps, sans serif, science, shadow, stencil, gothic, and script). Requires CGA.

PRINTER UTILITIES (478)

ALTPAGE prints documents on both sides of the paper.

PRINT BUFFER ON-LINE eliminates waiting on your printer before you can continue with your computing.

SWAP allows you to swap LPT1 and LPT2 printer ports.

DOCLEN estimates the total length of a document before you print it.

LPTX redirects output from your printer to a disk file.

PAGE adds user-specified headings to each page of a document you print.

SMALLDOC prints document files in a smaller size which will fit in small 3-ring binders. Adds page headings and numbers. Great for shareware documentation.

Also included are 5 different printer setup programs which will allow you to configure ANY function on ANY printer. Some of these utilities are menu-driven and/or memory-resident to pop up when you need them.

PRINTER CONTROL (134)

PPRINT ver. 3.83 is a very powerful, general purpose printer utility. The program is unique because it allows all users to control the features of almost any printer. Including laser printers, **PPRINT** allows you to access printer features not normally available for printing normal text files. Select from 43 options to control margins, spacing, case, headers, footers, page and line numbering, tabs, multiple copies, print selected text, print on both sides of paper, and much more. A special feature for the HP Laserjet allows printing 2 pages on one side of a sheet of paper. If you've had problems finding software to control your printer, **PPRINT** is the answer.

PCP is a memory resident program that provides improved print screen capability for text screens. Call **PCP** while running another program and you can print any part or all of the screen. You can also send control codes to your printer - very handy when your application program doesn't support printer functions that you would like to set.

ADVANCED DIAGNOSTICS #1 (479)

DIAGS is a diagnostic tool very similar to IBM's advanced diagnostics disk. Complete serial, parallel and video diagnostics. Tests printer handshaking and cable wiring, all sorts of async communications lines, 6845, 8250, etc. Examines interrupt vectors, resident device handlers. Fully menu-driven.

DMATEST tests and qualifies the operation of the DMA controller circuitry.

MEMTEST tests system memory and video card memory. Informs you of any bad memory chips that need replacement. Graphically displays system and expanded memory banks as it cycles through testing.

FAT reads the File Allocation Table for any drive, lists the files and their block numbers, and outputs relevant data concerning block sizes, the number of the first sector of the block, etc.

PC-STATUS is a full screen status report for memory, video, diskette parameters, environment settings, keyboard buffer, installed equipment, etc.

SPEED tests 10 different microprocessor and memory operations to determine the "real world" speed of a system. Far more sophisticated than Norton's SYSINFO.

ADVANCED DIAGNOSTICS #2 (480)

HDEST performs comprehensive read/write testing of hard disks. Other programs, including IBM's diagnostics, allow "surface scanning" and seek testing, but they do not test whether the whole disk can retain the data that is on it or will be written to it. HDEST can thoroughly test the surface of a hard disk which contains data while preserving the data. It tests the disk much more thoroughly than programs such as DFixer, Mace, and Norton's DT. They do not test clusters that are already in use - the very ones which contain your precious data! HDEST writes 20 different test patterns to every cluster on the disk and checks that each pattern can be read back correctly, while preserving the contents of the clusters that already contain data.

IAU (Interleave Adjust Utility) adjusts your hard disk interleave. And would you believe that IAU does it WITHOUT requiring you to reformat your hard disk when you make the adjustment. The method to accomplish this is: Read a single track. Format that track with the new interleave. Write the data back to that track. Continue for the entire disk. IAU is specially designed not to alter any of your data during operation. This latest version also supports RLL format drives.

CP/M - DOS CONVERSION (481)

22DISK is a media conversion package which will convert data from CP/M to DOS or vice-versa. Features include: Read, write, examine virtually any common CP/M 2.2 diskette; Support for single/double/quad density formats; Support for the following operations: CP/M-to-DOS, DOS-to-CP/M, directory display, display and erase CP/M files, format CP/M diskettes.

22NICE is a CP/M emulation package with the following features: Emulate 8080/8085/2-80 processors with or without NEC V-series chip installed; Terminal emulation for most common CP/M machines with terminal types for Osborne, Kaypro, Heath/Zenith, Morrow, Actrix, DEC VT-100/VT-52, Televideo 925 and LSI ADM-3X; Supports CP/M user number to DOS subdirectory translation; Allows use of DOS "pipes" and utilities with CP/M programs; Supports a complete set of BDOS and BIOS function interfaces, including direct disk read/write; CP/M programs are fully integrated into the DOS environment (user is unaware that a program is CP/M- or DOS-based).

RECONFIG ver. 2.1 (498)

RECONFIG allows you to quickly change to different AUTOEXEC.BAT and CONFIG.SYS files. It can be a real time saver if you need to change your hard disk system configuration to run certain programs. Just create alternate AUTOEXEC.BAT and CONFIG.SYS files to suite your various needs, and RECONFIG automatically makes the appropriate exchange and reboots your system. Features include drop-down menus, maintenance of up to 100 different configurations, built-in editor, and more. Hard disk required.

RAMTEST ver 3.0 (499)

Memory (RAM) chips can go bad and cause parity errors which can destroy your valuable data. **RAMTEST** is an excellent, thorough RAM chip diagnostic program. It tests every installed RAM chip and reports exactly which chip is faulty. Easy to use with pull-down menus and context-sensitive help. Should be used regularly for preventive diagnostics.

4DOS ver 2.2 (421) ~NEW

4DOS is a very powerful and flexible replacement for COMMAND.COM, the DOS command processor. **4DOS** offers much more powerful variations of the usual DOS commands and adds more than 30 new commands. On-line help is provided for ease of use. This program was highly praised in a PC-Magazine review. If you frequently work in DOS, you'll love the versatility and power **4DOS** will bring to your daily computing.

SPEAKER DEVICE DRIVER (422) ~NEW

The computer loudspeaker is capable of a variety of audible outputs in addition to the normal "beep". However, there is little or no supporting

software provided in DOS to allow a program to make use of this capability. In addition, the normal "beep" is a completely processor-intensive operation, resulting in the slow down of programs which occasionally have to do a beep. **SPEAKER DEVICE DRIVER** provides a solution to these problems. It is a true device driver for the speaker as ANSI.SYS is for the screen and keyboard. Supporting the speaker with a device driver means that you can open the loudspeaker like a file and write commands to it from nearly any language or program you like. Included are more than 150 songs that you can play by using the COPY command (COPY SONG SPKR.)

THE SWAP UTILITIES ver 1.50 (423) ~NEW

This set of utilities is designed to reduce the amount of RAM memory used by several popular commercial programs. This is accomplished by swapping the part of applications that use RAM space to extended or expanded memory (if available), to the hard disk, or to both. These utilities will reduce conventional memory usage to as little as 8,000 to 9,000 bytes for the following programs: Sidekick ver. 1.50 or later, Sidekick Plus ver. 1.00A and 1.01A, all versions of Tornado Notes, Metro, PCTools Shell, PCTools Desktop, The Norton Guides, and GOfar. Many of these programs can be loaded at the same time, enabling for example 350K of programs to reside in only 36K of conventional RAM. Once a program is loaded, memory usage status and type of memory used are accurately displayed. Desqview is supported. Requires a hard disk.

IEISSINGER UTILITIES ver 2.0 (424) ~NEW

This set of 27 utilities is designed for those who use the command line and for system integrators, consultants, programmers, or anyone setting up or using a system. These utilities add a rich variety of DOS commands, including: Set cursor size; Automatic batch file building and manipulation; Hardware configuration utility; Set screen and border colors; Clear screen above and below a specified line; Clear single line or specified box on screen; Variable beep utility; Print first n and last n lines of text file; Color type and pause commands; Batch file response utilities; Put cursor on specified line and optionally clear screen; Convert text files to upper/lower case; Pascal indentation/Case conversion utility; Pascal Structure extraction utility; Print source code mainline from any programming language; and more.

DBS-KAT ver 2.3 (425) ~NEW

This is a complete menu-driven easy-to-use file librarian for hard disk users who want information about their diskette library in one compact database for quick, flexible inquiry. **DBS-KAT** accommodates 9,999 floppies or removable cartridges and an incredible 16-million filenames. And, most importantly, NO DATA ENTRY IS REQUIRED! Features include: Backup and disk cleanup operations; An excellent file manager; A feature-rich print formatter; Creates menu operations inside of DOS batch files; and more. Requires 384K and DOS 3.0 or above.

MAKEDEMO ver 1.031 (439) ~NEW

This menu-driven text-based demo maker is actually a "word processor" for screens! Its intuitive feel and on-line help allows you to create demonstrations quickly and easily using text, color or monochrome, and Ansi graphics. Create demos for new or existing software or products, or even to promote your ideas. Show them to customers, students, etc. Its even ideal for creating help screens for your software. Includes full editing and file handling capabilities, and is very easy to learn and use. Requires 384K and 2 floppy drives or a hard disk.

SWIFTHelp (446) ~NEW

This invaluable program allows you to quickly and easily create your own memory-resident help and reference screens which can then be popped up over text screens while you're working in other programs. The help screens you make will save you lots of time and labor. **SWIFTHelp** is compatible with most major software programs, such as Microsoft Word, QuickBasic, SideKick, and SuperKey. An excellent demo is included to help get you started.

LOGITI ver 3.02s (440) ~NEW

This program is ideal for anyone needing a record of computer usage for personal or business reasons. It's especially useful for legal, accounting, programming, and other professions which require a record of time for billing purposes. **LOGITI** is fast, simple to learn, and easy to use. It is RAM-resident and automatically records clock time, elapsed times, and keystrokes used. It occupies less than 10K of RAM; records only the information you wish to have; produces a secure, tamper-proof master log file; and prints a detailed record. Many more options are included. Requires a hard disk or a 720K or 1.2M floppy drive.

SCREEN CAPTURE (445) ~NEW

TOTCAP is an extraordinary memory-resident universal screen capturing program that works with most video cards. Very easy to use. You'll be able to capture and save on disk nearly everything (graphics & text) you see on your monitor. Saves screens in 11 different video modes, including CGA 40x25 text and monochrome 80x25 text, to 320x200x256 VGA graphics. Also comes with a compression utility to save disk space and a file loading utility to allow viewing of saved pictures. Examples are included.

TAG ALONG and GLUE STICK (436) ~NEW

TAG ALONG ver 2.0 - This is a DOS enhancement/hard-disk management program and intuitive menuing system that's loaded with fine features to make your computer a joy to use. It includes: A screen-blanker to save your screen from burn-in; A password-protected keyboard lock; DOS lockout for unwanted users; Exploding windows; Displays directory tree and files at the SAME time; You can tag files for multiple deleting and copying - a real time saver!; You can hide files and subdirectories; One key command access enhances productivity; Quickly locate all duplicate file names on your hard disk; Easily create menus; Restrict menu access to only authorized users; and MUCH more! Requires a graphics monitor.

GLUE STICK ver 2.0 - This neat program allows you to create and paste pop-up memos on your screen (like Note-It and NoteWorthy). Saves you from having to deal with all those little scrap-paper notes that are always getting lost! **GLUE STICK** is memory resident, and the notes you create pop up over any program or in DOS when you need to read them. You'll also be able to leave memos for co-workers using the outstanding Mini Mail Box feature. And, all memos are date and time stamped when made, so you'll always know how old each note is. **GLUE STICK** even includes an extra feature that allows you to capture screens to disk in ASCII format. Requires a graphics monitor.

LASER PRINTING UTILITIES

LASER PRINTER UTILITIES #1 (482)

This disk includes four utilities for all HP LaserJet printer models and compatibles.

LASER is an excellent utility for easily controlling very simple to very complex operations. You simply select from the friendly Full Function Pull Down Menu System and **LASER** handles the rest. **LASER** makes downloading soft fonts a real snap. Other functions include: page eject, margin setting, selection and orientation of style, pitch, graphics, file printing, setting up forms overlays, ruler patterns, virtual cursor control for formatting, and just about every other function involving printing with your LaserJet.

ENVLJ is a great menu-driven utility to print envelopes. The screen displays an envelope with fields for return and mailing addresses. Fill in the address, select print from the menu, and **ENVLJ** does the rest. You can custom set five envelope sizes, specify any font, and access on-line help whenever you need it. **ENVLJ** is very flexible and easy to use.

LBBOOK prints text documents in a book format. There are four pages printed on each sheet of paper; two pages on each side of the paper. Each side consists of a title line and up to 66 lines of 80 characters each. You have options to add page numbering, current date, and file name.

HPFILTER is a memory-resident utility that enables the LaserJet to print out the IBM extended character set (lines, blocks, etc.) and to do bolding. The standard equipment LaserJet will not perform these functions unless you invest a few hundred dollars in a font cartridge or a soft font disk. This is a real money saver.

LASER PRINTER UTILITIES #2 (483)

This disk includes four utilities for the HP LaserJet series of printers and compatibles.

LISTFONT provides a simplified, automated method to understand and catalog your font collection. Type **Listfont** followed by the font name and the program prints the font and lists its characteristics (orientation, symbol set, point size, pitch, stroke weight, etc.).

FONTINFO performs the same function as **LISTFONT** but does not print the font. It is preferable to run this program when you want your information quickly (e.g. you don't want to wait several minutes while a large font is being downloaded to the printer).

PAMPHLET is a printing utility to help keep your hardcopy printouts and listings neat and in a more manageable size. It prints an ASCII text file to the HP LaserJet in the landscape mode and places 2 pages side by side. These pages are printed in the order required to create a small manuscript or pamphlet.

LASERJET PRINT SCREEN is a memory-resident utility that allows you to print the contents of your screen to the LaserJet by pressing the Shift-Print keys. Works with DOS, Lotus, Microsoft Word and Chart, Framework, and most other application programs.

LASER PRINTER UTILITIES #3 (484)

GFONT allows you to perform pixel-level editing of HP-format portrait soft fonts. Font customization features include: outline, shadow, embolden, reverse, patterning, slant, pattern-fill, and resize. You can zoom edit areas of a character. Also can draw lines, arcs, circles, ellipses, as well as free form drawing. Requires EGA.

FONTVIEW reads HP-specification LaserJet downloadable font files and displays all of the characters in the file on your screen in increasing ASCII order. **FONTVIEW** automatically magnifies the font character images as much as possible while retaining the font's original horizontal and vertical proportions on the screen. All font data is displayed in a box next to the graphic display.

FONTVIEW allows you to quickly see what fonts look like without taking the time to download and print them. Requires EGA.

FNTCLEAN reads HP-specification LaserJet soft font files, strips leading, trailing, or imbedded non-font descriptor strings from the file, and writes a new file containing a full 64 byte (40 hex) LaserJet font descriptor header. Its function is to clean up shareware fonts so that they can be read by other public domain or shareware programs, and to remove escape code sequences which should not be imbedded in the font itself.

FONTLOADER ver 2.1 (491) ~NEW

Easily download up to 10 soft fonts at a time to your HP LaserJet or compatible printer. Includes features not available with other such programs. Allows you to see which fonts (by filename) are being downloaded. You can save font lists that contain up to 10 fonts and retrieve them later to download multiple, pre-selected fonts in a snap. **FONTLOADER** also includes a complete, menu-driven utility package that features: Set font attributes like bold, italic, underline, etc.; Set offset, margins, lines per page, lines spacing, page length, pitch, number of copies to print; Envelope printing modules sets margins and prompts for address information; Print a text file with page number and optional header; Typewriter emulator allows you to easily type, edit, and print a page of text; and more. Also includes 21 soft fonts for you to download. Requires HP LaserJet or compatible and a hard disk.

LASER SOFT FONTS #1 (485)

This disk includes a variety of soft fonts for the LaserJet series of printers. The package also includes a small program to download these fonts to the printer. The fonts in this package are: Roman and Helvetica - 10 point, light, medium, bold; Century - 8 to 24 point, regular, bold, italic; Amertype - 10 to 36 point, regular, bold, italic; Century Schoolbook - 60 point, medium.

LASER SOFT FONTS #2 (486)

This disk includes a variety of soft fonts for the LaserJet series of printers. These are Glyphix fonts provided directly from the company that puts them out - Swift International. The package also includes a small program to download these fonts to the printer and a demo batch file to printout a sample of each font. The fonts in this package are: Chancellor - 12 point normal, and 24 point bold; Helvetica - 6 point normal, and 14 point bold; Rockland - 10 point bold, and 40 point normal; Roman-Times - 18 point bold.

LASER SOFT FONTS #3 (487)

This disk includes a variety of soft fonts for the LaserJet series of printers. The package also includes a small program to download these fonts to the printer. The fonts in this package are: Garamond - 12 to 30 point, normal, italic, bold; Optima - 10 to 24 point, normal, italic, bold; Obius Rockland - 24 point normal; Big City - 30 point (a very fancy hollow font).

SWFTE LASERJET FONTS (489) ~NEW

The Glyphix Demo from Swift brings you 700K of the LaserJet soft fonts. The 30 usable, 18 point portrait fonts in this package can be downloaded to your HP LaserJet or compatible printer. Included are: Abbey, Amertype, Avant, Basque, Beget, Big City, Centrum, Chancellor, Coop, Galaxy, Garamet, Gillies, Helvete, Olivia, Optimis, Orna, Palatine, Rockland, Roman, Courier, Prestige, Letter, Gothic, and a variety of Symbols. Requires a hard disk.

LASERLABEL ver. 1.1 (488) ~NEW

A powerful, easy, menu-driven, label printing system for LaserJet & compatible printers. Features include: Different Avery label formats; You can use soft fonts for added impact; Select by tags; Labels are printed by order of name or zip code; and much more. Includes sample soft fonts to demonstrate how creative your labels can look. Requires GRAB PLUS (Disk #127), HP LaserJet or compatible printer, and Avery labels specified in the program.

MENUS and DOS SHELLS

POWERMENU ver. 2.15 (702)

A powerful menuing program with a unique, colorful pop-up window display. Features include: Easy instant menu editing, run up to 10,000 programs with a single key, user-selectable colors, file manager, password protection, context-sensitive and user-definable help, resident program map, uses only 3k memory. The excellent file manager displays the directory tree and provides full file sorting, viewing, editing, execution, tag, copy, delete, etc. Menuing programs don't get any better than this folks! Runs on any monitor, requires a hard disk.

EASY ACCESS ver. 5.3b (703)

EASY ACCESS menu system is very easy to use, yet it has the features and aesthetics required in the business environment. Custom menus are simple to create. Point and Shoot to start your applications and carry out commands. This impressive program includes: User defined colors and headings; Sixteen options per menu with unlimited sub-menus; Usage logging with optional user log-on; No memory overhead when in your application programs; Screen

Saver; Calendar and Reminder subsystem. An excellent choice for those needing an easy to use, powerful menu system.

PRO-MENU (704)

Excellent new menu program. Run all your programs & DOS commands from the menu. Has advanced features and a fool proof automatic custom menu-maker called MENGEN. This feature makes PRO-MENU our pick for new users and those who don't want to take the time to learn how to set up an effective menu system.

AUTOMENU ver 4.5 (705)

There's no longer any need to remember complex DOS commands, syntax, or subdirectories. AUTOMENU lets you create menus that access and execute all of your programs, batch files and DOS commands with a single keystroke, or with a mouse. Customize AUTOMENU to perform complicated batch routines, and even password-protect menus and menu selections. Powerful and sophisticated, yet is easy to use. On-line help screens and prompts walk you through every aspect of this feature-packed program. Used by more FORTUNE 500 companies than any other menuing package.

TREEVIEW ver 1.1 (706)

A hard disk/file maintenance utility (DOS shell) which is uniquely attractive and versatile. Lotus-like pull down menus remove the guesswork from file operations. Carry out all DOS commands from menus or from ALT-key combinations. 1 to 4 windows allow access to as many as 4 directories or disks at the same time. Access all files on the current disk or under the current directory as if they were in one directory. On-line help is available at all times. TREEVIEW is the perfect tool for putting the new user in control of DOS and for giving the experienced user the advanced options he needs. We love this program.

DESK COMMANDO ver 1.30 (707)

Incredible new system utility; DOS menu & shell, 3 calculators (scientific/business, formula, tape), appointment calendar with 15 user settable alarms, disk optimizer, disk repair, unerase, text editor, memory resident option. Rolodex with auto phone dialer can print address labels and handle bulk mailings. And these are only some of the features! Fast, powerful, completely menu-driven for ease of use.

SCOUT ver 3.4 (708)

Extraordinary memory-resident disk/directory/file manager & DOS shell that reduces keystrokes required to perform specific functions to a minimum. Packed with many unique features that go beyond other such programs (print graphic screen image, view monthly calendar and ASCII table, send control codes to printer, etc.). Runs memory-resident or from DOS.

STILL RIVER SHELL ver 2.36 (709)

A fast, powerful file and directory management utility (DOS shell). By eliminating almost all command and filename typing, it will reduce DOS work effort by 80%. Some of the features include: Point and Shoot operation; Copy, move, delete and list files and directories with single keystrokes; Tag, untag, reverse tag files - directory or system wide; Find files and search text system wide and operate (view, edit, copy etc) directly on the found file lists; Recall and edit 20 of your prior DOS commands; Display graphically directory tree structures and use free display to make, remove or list directories; View the contents of a file in character or hex; Sort files six different ways; Protect against accidentally copying onto existing files; Modify file attributes; Backup large directories onto multiple diskettes; 40 user definable keys; and much more.

DOSAMATIC ver 2.06 (710)

DOSAMATIC is a powerful task-switching and disk/file management program. Run up to seven programs at the same time, instantly switch from one to another. Without task-switching, your computer is like a one-line telephone. With DOSAMATIC it's like a seven-line telephone with a hold button. You'll no longer have to exit one program to start up another. Adds a new dimension to your computing. The actual number of programs you can run simultaneously depends on your computer's memory capacity.

VMIX 286 ver 1.55 (711,712) 2 disks

VMIX provides the services of a multiuser operating system supervisor. The function of VMIX is to arbitrate the use of system resources by individual tasks with either or both UNIX I/O or MSDOS I/O. Features include: Incorporates enhanced multi-tasking support; The screen can be automatically partitioned into up to four windows, for a total of 4 tasks executed from the console; Provides concurrent multiprocess capabilities to the host operating system; The user can call a remote PC running VMIX, and teleoperate, as if he were at the console of the remote PC; Supports a maximum of five users, each with multiple processes up to a maximum of 16; loadable character fonts, 33 line CGA display; Built-in debugger; Memory manager and memory mapper; Assembly and C language Interface; Interrupt 15h System Services. VMIX is intended for use by experienced users. Runs on PC/XT/AT and compatibles (will not run on IBM PS/2).

QFILER ver 3.1F (713)

This hard disk file maintenance utility makes managing files easy. Displays two different sorted directories side by side. Select files or groups of files for QFILER to act on. Easily copy, delete, move files; rename files/directories; display DIR trees; pass files to external browse utility/text editor; add, delete, hide, unhide subdirectories; run programs from inside QFILER; display files in sorted order; print text files; set/clear attributes; and much more.

MENU MANAGER (714)

~NEW

This menuing program is loaded with extras. Features include: Many menu options; Copy/delete/tename/move/backup/restore files; Calculator; Word processor; Advanceable calendar; Check disk; Directories; Tree structures; Notepad; Phone directory; Park heads; Screen saver; and MORE! The program assumes the user has a small knowledge of DOS. Requires a hard disk.

PASS-AROUND MASTER MENU ver 1.02 (715) ~NEW

This unique menuing program allows you to quickly and easily create great menus with password entry protection for up to 64 users. And that's not all. Each user can have his own unique password and is allowed to see only those programs authorized for his use. Includes other outstanding features, such as usage tracking; send messages to a specific user or users; fully menu-driven; and MUCH MORE!

DESKTOP ORGANIZERS

HOMEBASE ver 2.15 (601,602) 2 disks

The ultimate desktop organizer puts Sidekick to shame. PC-Magazine's 1986 commercial software product of the year is now available to you as shareware. DOS Services, Calculator with tape, Calendar/Appointment Book/Alarm, Database, Notepad, Communications, Cut and Paste operations, Editor/Word Processor. The Mini BBS Terminal will carry out background communications while you are working in another program. Requires 2 floppies or a hard disk.

PC-DESKTEAM ver 2.01 (603)

PC-DESKTEAM is a complete desktop organizer. It is menu-driven with complete on-line help for easy operation. Gives you instant access to eight of the most useful desktop utilities: Alarm Clock, Calculator, Notepad, Phone Dialer/Phone Book, Calendar/Appointment Book, Typewriter, Printer Controller, DOS commands. Helps organize your work and keeps your desk free of the endless pile of paper notes, pencils, phone books, hand calculators and other odds and ends. Can be run memory-resident or from DOS.

SIDEKICK'S BEST PALS (604)

PAL and PALALARM transform Sidekick's appointment calendar into a high powered personal/business scheduling utility. Gives you complete, extended control over all appointment/calendar/alarm functions. Menu-driven, easy to use, and indispensable to Sidekick users.

PC-DESK II ver 2.4 (605)

PC-DESK II is a powerful desktop organizer that includes many features not found in similar programs. Includes Calendar/Reminder, Address File, Word Processor, Auto Letter Writer with mail merge, Calculator, Auto Phone Dialer with Phone Directory, and Clock. Also prints mailing labels, envelopes, letters, rolodex cards, invoices, etc. Automatically changes standard letter forms to make them appear personalized. Offers significant gain in personal productivity.

POWER DESK ver 1.26SW (606)

~NEW

POWER DESK is a powerful and complete office system. It consists of a 4-million name and address Database integrated with a full featured Word Processor and Spell Checker/Corrector with 70,000 word dictionary. Other features include Calculator, Calendar/Reminder, Timekeeper, Autodialer, Duplicate Checker, Alarm, and DOS File Manager. The program is entirely menu-driven and very easy to use. POWER DESK was a commercial program selling for \$99.00. It is now available as a slick, fully functional shareware program that has the capability of running an entire business. Requires a hard disk.

WORD PROCESSING

PC-WRITE ver. 3.03 (809,810,811) 3 disks

Word processing at its best! PC-WRITE is shareware's top-of-the-line word processor. Very fast and friendly, it includes a stunning list of the features you would expect from a professional word processor. Features include: Forty help screens; Command or Menu-driven; On-screen formatting; Automatic paragraph reformatting; Support for over 600 printers including Laser printers; 50,000-word customizable master dictionary and spelling checker that can catch your errors as you type and suggest the correct spelling; Cut-and-Paste; Mailmerge feature is one of the most powerful; Index and Table of

Contents generation. Other features are word count, one-finger typing, automatic page numbering, footnotes, macros, split-screen editing of multiple files, proportional printing and micro-justification, and much more. New with ver. 3.0: Use available DOS memory to edit large documents, on-screen multiple column formatting, optional context-sensitive help, new command menus, typewriter mode, and much more. PC-WRITE is the choice of many business and educational institutions, including the Harvard Business School. It has been rated in major PC publications as a \$350 to \$450 value. Requires 384K memory.

PC-WRITE MACROS ver 1.2 (842)

100 advanced and alternate commands for PC-Write users! Delivers greater power and efficiency with many commands not found in PC-Write, and helps place those commands on the keys of your choice. Use PC-Write Macros to: Grab an address block from a letter and print it on an envelope in your laser, dot-matrix, or daisy-wheel printer; Reverse the video on your monochrome or single-color display to show dark text on a light background; Travel through your document by overlapping screens, always with a complete paragraph on top; Set up margins, ruler, and spacing, all in an instant; Mark, delete, or transpose an entire sentence or paragraph with a single keystroke; Store deleted text in a special file, ready for retrieval at any time; and Begin continuous printing with one keystroke. And that's only the beginning! Once you try **PC-WRITE MACROS**, you'll wonder how you ever got along without it. Requires PC-Write 3.0.

PC-WRITE UTILITIES (848) ~NEW

FONT SELECTOR GUIDE ver 1.03 creates custom PC-Write print control files for: HP LaserJet & compatible soft fonts (including microjustification), resident fonts, and HP cartridges. Also creates batch files to download soft fonts to printer. 21 different fonts are allowed per document.

PAGEMAKER IMPORT FILTER ver 1.01 transfers PC-Write documents into a PageMaker environment while retaining most formatting. Retained formatting includes: Point size; Left/right margins; Line spacing; Print margins; Font types; Super and subscript; Leading; Paragraph margins; Justification; Centering; and Format protection.

DCA CONVERSION GUIDE ver 1.01 converts PC-Write documents to DCA (Document Content Architecture). DCA is used on mainframe and mini computers, with Displaywrite 3 and 4, and with Ventura Publisher. Also converts DCA to PC-Write format. NOTE: All three programs require PC-WRITE.

RACONTEX SEARCH SYSTEM ver 3.1 (849) ~NEW

Search through text files and databases with lightning speed to locate words and phrases. MUCH faster than any word processor or editor we've seen! Has tremendous business, legal, and professional use applications, such as searching statutes, transcripts, contracts, manuals, handbooks, library catalogs, databases, etc. Features include: Intuitive and contextual search with word proximity; No lost context of found pages; Page up and down from each found word or phrase; Instant access to next occurrence with a single key stroke; Handles 8,000 page documents; and much more. Easy-to-use, menu-driven, on-line help, plus a wealth of options. A hard disk is recommended. Uses any monitor.

VARITALE AUTHORING SYSTEM ver C1.01 (850) ~NEW

An incredible, multi-path, multi-author, story-writing system that can even be run as a "Door" on BBS's to allow several people to write a story together. Authors can branch off to create alternative versions ("story rounds"), which is great for readers disappointed with the way the story they're following is going. A modem is optional.

THE EDITING KEYPADS ver 3.89 (851) ~NEW

This disk contains 1,234 macros for use with PC-Write v3, with the macros organized on 30 new keypads and 8 access keys. This huge macro collection adds a new dimension and convenience to word processing. PC-Write now has new power with such a wide variety of keypads instantly on hand - only an access key away. And while adding so much to PC-Write, THE EDITING KEYPADS macros do not change the program. Requires PC-Write ver 3.0 and above.

MINDREADER ver 2.0 (813)

A powerful text editor that uses a patented Artificial Intelligence to suggest completion of words and/or phrases. It allows an unskilled typist to complete a document in a fraction of the keystrokes normally required with a conventional word processor, and checks spelling "on-the-fly" before words are even completed. The more you use **MINDREADER**, the smarter it gets because it learns about your style of writing. It contains a unique facility that "guesses" the word or phrase that you are trying to type, and presents its "guess" in a pop-up window. A single keystroke will call the word or phrase into the text. **MINDREADER** includes most features found in good word processors, plus items like glossaries with 260 canned phrases, pop-up Calendar, Rolodex and Diary. This is a fascinating program and is perfect for the slower typist and the busy professional.

NEW YORK WORD ver. 2.30 (814)

This is an excellent full-featured word processor which lacks some of the versatility of PC-Write but is easier to use. Features include: Pull-down menus, spell checker, macros and keyboard remapping, automatic hyphenation, header and footer controls, footnoting, mail merge, index and table of contents generation, cut-and-paste, box drawing, calculator mode, EGA 43 line mode and split screen editing, proportional spacing and microjustification. Good printer support.

GALAXY ver 2.42 (816)

A very fast word processor with a wealth of fine features that makes it very powerful, yet extremely easy to learn and use. Features on-line help, choice of pull-down menus or quick keyboard commands, macros, block commands, automatic tabs/indents, windows, undo, cut and paste, headers and footers, and much more. **GALAXY** is designed to have a very short learning curve, and it is the perfect choice as a first word processor for the new user.

PC-TYPE+ (817,818,819) 3 disks

PC-TYPE is a power-packed word processor from Jim Button of PC-File fame. It is loaded with all the standard features you'd expect to find in a high quality word processor, including full-screen editing and complete cursor control. Also many advanced features such as intensive on-screen help; a comprehensive 100,000-word spelling checker; mail merge which works in combination with PC-File databases, Wordstar files, and ASCII files; and a special key to unerase as many as ten lines of lost or deleted text. In our opinion, PC-Write is the one to beat, but you may prefer PC-TYPE+.

QEDIT ver 2.07A (820)

QEdit ("the Quick Editor") enjoys the reputation of being the best full-screen text editor available. **QEdit** can be used to write short documents or letters, as it includes word-wrapping and paragraph-reformatting capabilities. We use it for writing and editing program descriptions like the one you're reading. **QEdit** is also packed with features for creating and maintaining program source code. Features include: Lightening fast file loading, text searching, etc.; Easy to use with optional pull-down menus and help screens; Fully configurable keys, colors, etc.; Edit as many files simultaneously as can fit in memory; Up to 8 windows; 99 scratch buffers for cut-and-paste or template operation; Temporary exit to DOS and direct execution of DOS commands from the editor; Full character and line block control (copy, move, write to file, etc.); Macro recording; Run command line compilers from within the editor; UNDO command; and much more. **QEdit** is the perfect alternative to using a word processor when you want super fast results and don't need a lot of document formatting features.

NEW YORK EDIT ver 2.10 (832)

This excellent text editor offers multiple window editing of up to 12 files simultaneously. The powerful cut-and-paste utility can call upon 10 holding buffers. Other features include: Keyboard macros; Flexible column and block editing; Unix-style wildcard pattern matching for find and replace operations; Wordwrap; Undo; Support for EMS for editing large files; Mouse support; On-line help; and much more. Requires a hard disk.

WORDPLAN ver A.00.01 (821)

WORDPLAN is the first "Living Document Processor" for Lotus 1-2-3 and other applications. It can read multiple Lotus 1-2-3 files and produce custom reports and documents. When spreadsheet values change, **WORDPLAN** is able to update all the numbers and reformat the document. Because **WORDPLAN** has an interactive modeling language with full math and financial functions, it can be used as a stand-alone program to provide integrated text and numeric processing. Also includes a powerful programmable script processing language so that the user can create interactive applications. Interfaces to other spreadsheet programs and applications are provided via the DIF format which **WORDPLAN** can read and write. **WORDPLAN** is menu and function key driven, providing an easy and friendly user interface. It is excellent as a word processor, with all the usual features like wordwrap, justification, auto-indent, undo, read/write standard ASCII files, etc. **WORDPLAN** is a must for Lotus 1-2-3 users who mix text and numbers for reports and documents. It is also well suited for people who have custom applications (such as accounting) and want to create custom reports easily. **Wordplan** can be used to request information interactively and merge it with standard documents such as form letters, contracts, job offers, wills, legal documents, and competitive proposals. It can also be used as a data entry system for Lotus 1-2-3 via DIF files.

PRO-SCRIBE ver 3.0 (822)

The route to a message with high impact is short sentences, short, easily understood words, and a "personal tone" set by using Personal Words (I, you, him, etc.). **PRO-SCRIBE** is a fast, easy-to-use and fun package that helps you improve the impact and understandability of your writing and speeches. Features include: Shows you the readability/understandability of your message or text; Analyzes and reports on the "personal tone" of your message; Allows you to type text in directly, or import an existing text file; In memory-resident mode it will check your work while you are writing; Shows results in both numeric and graphic forms; Lists those words that are adding to complexity and offers synonyms for frequently used long words. In short, **PRO-SCRIBE** gives you an analysis of what you've written, along with some

benchmarks to help you interpret "the numbers." Together, these give you what you need to fine tune your work - to help make it clearer, crisper, more personal, and easier to understand. PRO-SCRIBE is fully menu-driven and has complete on-line help. We highly recommend this superior program to anyone who writes and/or talks.

RGB TECHWRITER ver 2.15 (824)

A word processor designed to make technical/scientific writing involving complex symbolic expressions fast, easy, and accurate. The program uses different colors to display special symbols (superscripted, subscripted, Greek, etc.). RGB Techwriter also includes many features found in good word processors. Menus and help facilities make it very easy to learn and use. Requires CGA, EGA or VGA. Color monitor is recommended.

BLACK MAGIC ver 1.4 (834,835,836) 3 disks

"Hypertext" has been getting a lot of attention lately. Now you have the chance to use it yourself. Hypertext systems link together related chunks of information in a way that database and spreadsheet programs cannot do. BLACK MAGIC is a hypertext system based on a word processor, and it boasts true WYSIWYG (what you see is what you get) graphics. Features include; Link any items you feel are related (text to text, text to graphics, and graphics to graphics); Multiple fonts; Justification, macros, mouse support; Screen capture; EGA graphics support; Extensive documentation and good demos; Run-time module; and much more. BLACK MAGIC is an upgraded version of a \$150 commercial program that is now available to you as shareware. Requires 320K memory, hard disk, graphics card.

PC-OUTLINE ver 3.34 (827)

The "next generation" outliner and idea processor. Quickly record detailed notes. Organize the endless pile of everyday details. Let your thoughts flow freely for creative writing. PC-OUTLINE gives you total control over the organization of your thoughts and ideas. Runs from memory or disk - PC-OUTLINE combines the power of an outliner like THINKTANK with the convenience of the RAM resident outliner READY! Pull-down menus and on-line help for easy operation. Powerful word processing features for maximum versatility. Up to nine windows on screen at the same time. Pops up whenever you need it. Has consistently beaten its commercial competitors in many major PC publication reviews.

SCREENWRITE ver 1.20 (828)

Screenwrite is a text formatting program specifically designed for screenplays and teleplays. You type in your screenplay using almost any standard word processor, and then Screenwrite types it on your printer in perfect screenplay format. ScreenWrite is designed to quickly and easily handle the special format required by the film and television industry. The program is simple to use, so you can apply your full concentration to your writing.

AVSCRIPTER ver 2.52 (846)

AVSCRIPTER is a two-column script formatter. If the scripts you write require separate audio and video columns, AVSCRIPTER is for you. While other programs graphically create two columns on your screen; AVSCRIPTER automatically works with full-screen input so you see more text on screen at one time: You don't keep jumping back and forth from one column to the other! And there's no need to worry about keeping appropriate audio and video lines opposite each other. Works from text files prepared with your word processor or text editor. Sends two-column output (single or double spaced) to your printer, screen or disk file; auto-syncs audio and video lines; auto-numbers/renumbers scenes and pages; looks for best place to start each new page, then adds "CONTINUED"s where appropriate; auto-centers title lines; prints header line at top of each page; allows switching between full-width lines and two-column format; allows underlining anywhere; chains files for processing; and much, much more.

LETTER WRITER ver 3.1 (829)

LETTERWRITER is a name/address book program which allows you to easily merge form letters with the names and addresses. It stores name/address information and attaches it to any text file to produce a letter. The result is a form letter that looks like a custom, personal letter. The program will print on continuous or single sheet paper and envelopes. Easy to use and convenient if you want to produce quick letters without bothering with a word processor.

WORD PROCESSING AIDS (830)

SBREAK splits large files into smaller files by size, match string, or line count. Files can be split onto floppy diskettes, or onto any other drive. Binary files can be split (useful for breaking up ARC files onto multiple floppies) and recombined using the DOS COPY command. This program splits files just about any way you need them. STRIPPER strips blank lines, extra spaces, and columns from an ASCII file. Menu driven for user-selectable options. JUSTIFY gives low cost printers the capability of producing justified copy (flush left AND right margins), a feature normally found only on expensive printers. Adds space evenly between words AND between letters in increments of 1/120 inch. Requires Epson/compatible dot-matrix printers. PROINDEX creates an index from any text file (including Wordstar). Runs in interactive mode or from the DOS command line. XWORD converts files from one word processor format to another. Handles Wordstar, Wordstar 2000, Sidekick, Multimate, XYWrite II PLUS, and WordPerfect. Menu-driven operation. WCX is a very fast word

counter. It outputs the number of lines, words and bytes in a text file. WSFMT reads Wordstar files, strips out all Wordstar formatting codes, and writes a new pure ASCII (text) file. Very fast and menu-driven with formatting options.

WORDPERFECT MACROS - 5.0 (831)

More than 90 useful WordPerfect 5.0 macros from Gordon McComb, the author of "WordPerfect 5.0 Macros and Templates" published by Bantam. Included are macros for: Creating complex menu systems, including a menu-driven contract generator; Producing quick and easy memos; Printing selected blocks of text; Quickly formatting documents with headers, footers, and various line spacing; and much, much more. Features on-line help and a listing of the purpose of each macro. If you use WordPerfect, this disk is for you. Requires WordPerfect ver. 5.0.

WORDPERFECT MACROS - 4.2 (837)

More than 72 macros and templates to unleash the power of WordPerfect 4.2. Delete, cut, paste, copy and move text; font menu; word count; set margins; scroll; justification; column setup; page numbering; and much, much more. Features on-line help and an explanation of each macro and template. This is an excellent package from Slate Systems.

WORDPERFECT 5.0 TOOLS (841)

Assorted WordPerfect 5.0 utilities perform a variety of important tasks, including: Searches directory for specified soft font files and lists information about the fonts found; Removes deleted/other data packets from the prefix of WP5 document files and from WP5 setup files to facilitate changing printer driver used with the files and to shrink the files; Lists file names of soft font files specified in PRS file; Lists names of fonts in WP5 document; Lists names/descriptions of macros in WPM and WPK files (and keys for WPK macros); Converts ASCII to WP5 format; Creates database of document summaries which can be processed using Merge and Sort; Paginates/formats ASCII files for printing; Lists/numbers names of fonts available in PRS file; Lists names/descriptions of styles; Lists printers described in ALL files; Displays WP5 document files specified on command line; and more. Requires WordPerfect 5.0.

WORDPERFECT 5.0 CLIP-ART (843,844) 2 disks

These disks include a library of more than 180 graphic images for WordPerfect 5.0. The clip-art covers a broad range of subjects, including animals, flowers, cars, holiday objects, sports, cartoon characters, and much, much more. Load these ready-made pictures into your WordPerfect documents and send interesting text and graphic output to your printer. Requires WordPerfect 5.0.

WORDPERFECT 5.0 BUSINESS LETTERS (845)

More than 70 fill-in-the-blanks form letters for WordPerfect 5.0. Included are commercial, legal, real estate, corporate, and personnel forms. Covers a broad range of subjects including: Last Will and Testament, Indemnification Agreement, Assignment of Note, General Security Agreement, Attorney Fee letters, Bad Check Notice, Mortgage Deed, Residential Lease, Independent Contractor Agreement, Bill of Sale, Power of Attorney, and much more. Requires WordPerfect 5.0.

HELPPERFECT for WordPerfect 5.0 (801) ~NEW

HelpPerfect 1.1 is a memory-resident set of pull-down menus designed to assist users of WordPerfect 5.0 with over 70 commands. (Also see Disk #802 - HelpPerfect for WordPerfect 4.1 and 4.2). These 70+ WordPerfect commands are easily accessed through a series of eight pull-down menus. The program is fully Microsoft Mouse compatible. It takes about 30 seconds to get the hang of HelpPerfect's menus. Once you do, you'll swear by 'em. But there's more! In addition to the 70+ WordPerfect commands contained within these menus, there are a number of other unique features: Files and Macros Journal keep track of your documents and macros; Electronic 300 Number Phone Book and Dialer; File Finder searches an entire disk drive for files in seconds; Pop-up Calculator with on-screen and printing tape; Calendar; Customizable Hot-keys; Hardware System Information; and much more. HelpPerfect will access expanded memory and use only 9K of RAM. If you don't use WordPerfect, this program will make you wish you did.

HELPPERFECT for WordPerfect 4.1 and 4.2 (802) ~NEW

HelpPerfect 1.1 for WordPerfect 4.1 and 4.2. Same features as HelpPerfect for WordPerfect 5.0. See Disk #801 for program description.

POPOP SCREEN TEMPLATE & LOGITECH MOUSE MENU SYSTEM for WordPerfect 5.0 (803) ~NEW

POPOP SCREEN TEMPLATE - A MUST for WordPerfect 5.0 users! Pop-up windows in the center of the WP-5 screen displays the meanings of all FUNCTION, SHIFT, ALT, and CTRL keys. This is much better and less cluttered than the keyboard template supplied with WordPerfect 5.0. This program received high praise in the 8/9/89 Washington Times. Remains RAM resident. Requires WordPerfect 5.0.

LOGITECH MOUSE MENU SYSTEM ver 2.3 - Allows WordPerfect 5.0 to approach Microsoft Word's elegant level of mouse sophistication while maintaining WordPerfect's command structure. The design is intuitive, so most WP users

can go straight to work with it. This is one of the finest and most functional of such systems. Requires WordPerfect 5.0 and a Logitech 3-button mouse with Logitech's LOGIMENU software version 3.0 or above.

ELRAY LEGAL DICTIONARY and PC DICTIONARY-10 (804) ~NEW

ELRAY LEGAL DICTIONARY ver 1.0 - This is a 981-word legal dictionary that provides an alphabetical listing of English and Latin legal words (no definitions). It supplements word processors with spell-checkers that read and write ASCII text, including WordPerfect, PC-Write, PFS:Write, XyWrite, and many others. Also includes supplemental dictionaries for Borland's spell-checker, MS Word 4.0, and WordStar 4.0.

PC DICTIONARY-10 ver 2.0 - This easy-to-use, menu-driven program will enhance your word power. It includes a database of 1,800 words and provides concise definitions for each (registered version contains 10,000 words). It helps readers the same way spell checkers help writers. Includes on-line help. Requires 2 floppy drives or a hard disk.

CROSS CHECK ver.10 (838)

CROSS CHECK is a fast, easy-to-use 16,000-word spelling checker, offering great flexibility in checking and correcting text files and documents. Features include the ability to convert an ASCII file into a **CROSS CHECK** dictionary, to remove words from a specified dictionary, and to convert a **CROSS CHECK** dictionary into ASCII for easy editing. **CROSS CHECK** allows you to see bad words as they appear in the document, to individually replace them, to add them to a specified dictionary, to place unknown words into the user dictionary, and much more. Includes on-line cursor-sensitive help.

SHARESPELL ver 1.2 (805) ~NEW

This menu-driven 44,000+ word spelling checker allows you to check the spelling of text files in a completely interactive manner. It displays the text of the file as it checks for spelling errors. At each misspelled word, you have the option of replacing the word from a list of correct spellings, manually correcting the word, automatically adding the word to the dictionary, or ignoring the word for the rest of the document. After spell checking the file, it is automatically updated and saved with all the corrections.

TEXT FILE CONVERSION (839)

TEXTOUT/5 1.0 converts WordPerfect 5.0 document files to ASCII and improves upon WordPerfect's Text Out command in both the "DOS text" and generic word processing formats. For example, **TEXTOUT/5** expands tabs to spaces and properly formats hanging indents (feature not found in WordPerfect 5.0). Converts files at about twice the speed of WordPerfect. Many more features.

TEXTCON 1.6 is an ASCII file converter with a twist. Importing ASCII files to your word processor usually requires laborious manual editing to delete carriage returns, remove extra spaces, and generally reformat the document. **TEXTCON** does this for you, saving hours of work. Correct paragraph breaks are generated; excess spaces, blank lines, headers, and footers are intelligently eliminated; etc. Even words with difficult formats such as fully nested, outline-style, and hanging indents. Accepts any form of ASCII file.

CONVDW 1.0 converts IBM Displaywrite 3 & 4 document files to ASCII. It greatly improves upon Displaywrite's ASCII output function.

XYPOWER PROGRAMS (806) ~NEW

This collection of add-in utilities for XYWrite greatly facilitates the use of that program. The programs range from nifty utilities to a complete file management shell that has most of the features of PCTOOLS or XTREE. Add-ins include: **OUTLINE** loads a save/get file that gives you a real-time outline formatter; **POWER SEARCH** performs versatile, automatic searches; **CENTER** and **RIGHT** move blocks of text center or flush right; **MODES** lets you quickly mark words to change later into underline, bold, or italic; **CHAIN** is a big improvement on XYWrite's chain printing facility; and **MUCH MORE**.

THESAUR PLUS (807) ~NEW

This pop-up thesaurus includes nearly 6,000 words and 30,000 synonyms. Functions include scroll, search, cross reference, and print. Also, you can instantly chain through found words. This time-saving feature replaces the usual page turning as you search for the word you want. You can add words to the program. Works with any text-based word processor except XY-Write and Windows Write. Requires a hard disk and DOS 3.0 or above.

MEGASTAR ver 1.0 (808) ~NEW

MEGASTAR is a powerful, full-featured word processor with special enhancements for programmers and those who edit/examine numerous files. Pull-down menus and complete on-line help make this program easy to use even for the novice. Features include: Macros and Style Sheets; User-definable Quick Keys; Stx text Windows can be resized and zoomed; Shell to DOS; Table of Contents and Index generation (even for source code); Powerful, sophisticated printing features; Versatile Book Markers; Adjustable screen colors; Color coded fonts; and much more.

PC-INDEX ver 1.0A (815)

~NEW

This amazing program creates the type of index found in the backs of books and reference manuals. Includes many options to quickly produce a very professional looking index with a minimum of fuss. Produce an index on every word in a document, or you control which words to be included or discarded. Handles any size file. Actually faster and easier to use than the index feature found in many expensive word processors. Features pull-down menus and lots of options. Requires 384K.

PRINTING

FORMFIT (114)

FORMFIT allows you to quickly fill out preprinted forms using any printer. Say good-bye to your typewriter. Once you create an overlay template for your preprinted form, you can easily enter and change the text you wish to appear on the form. And the text will be printed exactly in the rows and columns you specify. Accommodates form sizes up to 137 columns by 132 rows. Many options are allowed at print time, such as selection of several fonts and override of out-of-paper detection.

EZ-FORMS (119)

EZ-FORMS LITE allows you to easily design forms tailored to your individual needs. You can create, revise, fill in, store and print your forms on almost any printer. The program features a custom setup utility and sequential numbering. More than a dozen existing forms are provided, including invoice, calendar, expense summary, phone book, etc. Requires 320K.

EZ-FORMS EXECUTIVE (120)

This is the more powerful **EZ-FORMS** program. Features include: Keystroke/record playback macros; LQ 24 pin and HP LaserJet printer support; Database merge; Spreadsheet style column/row math functions; Word wrap, text centering and justification; Form compression to reduce disk space; Forms up to 132 lines by 248 columns (2 pages); Auto date, time, and incremental numbering; Full-screen draw mode; and many other features. Except for draft mode, printing is slowed down in the shareware version. Requires 512K, hard disk recommended.

FORMGEN ver 3.33 (122)

FORMGEN is a powerful, easy-to-use package for making forms. Using the full-screen editor, you can quickly draw lines and boxes and position text. You then print the form on your Epson, IBM or HP LaserJet compatible printer. The printed results are excellent. Professional quality forms can be printed in minutes.

PF FORM DESIGNER ver 2.0 (112) ~NEW

PF FORM is comprised of two programs - **FORM DESIGN** and **FORM MASTER**. These combine to make up one of the most powerful yet easy-to-use form programs available. Form design, math, formulas, date, database and "auto-edit" features are all built in. Design and print professional looking forms in minutes. **FORM MASTER** links forms to a database of names, addresses, phone numbers, etc. and will automatically fill out forms for you. Mail merge feature automatically puts names, address, phone nos., etc. from your database into your forms. You can save forms in ASCII format and then load these into any word processor or other program. Other features include: Forms may be up to 200 columns wide and 100 lines long; Text can be auto-centered inside boxes; Automatically date your forms; Block options include copy, move, erase, shading; and much more. **PF FORM** interfaces with MAIL CALL (Disk #8941) and will use the same database to handle your mailing list, forms, etc. Supports almost any printer with best output on HP LaserJet and compatibles.

EASYTYPE ver 3.11 (115)

EASYTYPE is "The Intelligent Word Processing to Typesetting Translator." When ordinary laser printing just won't do, and you require the quality of typesetting, **EASYTYPE** is the answer. It will translate virtually any word processing file to formats for virtually any true typesetting machine. In the process, all text and formatting codes are faithfully retained. The program is set up for Wordstar and WordPerfect formatting codes, but even ASCII files can contain formatting through the unique, optional macro functions. **EASYTYPE** is as simple as entering input/output filenames, yet offers extensive advanced features for the most sophisticated user. This powerful program is menu-driven for ease of use and includes complete on-line help.

ON-SIDE (121)

ON-SIDE is the best sideways printing program we have ever seen. Entirely menu-driven with a beautiful user interface, **ON-SIDE** will print your reports and documents sideways - down the paper instead of across. This enables you to print wide documents like spreadsheets on an 80 column printer. If a report overlaps onto two or three pages, the perforations can be left connected so that a really wide report folds up nicely into letter-size for filing. **ON-SIDE** gives you a choice of several character font styles, some of which may be better than the fonts your printer normally produces horizontally. All the font styles provided with **ON-SIDE** can be enlarged or magnified to "stretch" themselves vertically or horizontally, or both. By magnifying the fonts in all their various sizes and shapes, you have 175 different style/size combina-

tions to choose from. ON-SIDE also includes an easy-to-use Font Editor with which you can create new fonts and customize existing fonts. ON-SIDE from ExpressWare beats all competitors hands down. Requires Epson or IBM graphics compatible printer.

CITYDESK ver 7.31 (123)

A modest, menu-driven desktop publishing program which is good for creating simple 2- and 3-column newsletters. Text is right and left margin justified and can be formatted in bold, italics, and underline. Headlines and footers can be printed in expanded type across the top and bottom of the page. You can also include extended ASCII graphics and print 66, 88 or 110 lines per page with Epson, IBM Proprinter and compatible dot-matrix printers.

MR. LABEL ver 4.1 (124)

The finest multi-feature label printing program we have tested. Use your printer like a typewriter to print everything from simple reports to custom labels on any type of single sheet or continuous form. Import information from lists created with any word processor and print essential information from most major databases. Design custom labels of any size. Address envelopes. Print letterhead, price tags, ID badges, file folder labels, name tags, inventory slips, disk labels. Create professional mass mailing applications. And much more. Supports almost any printer and is a fun, easy to use and powerful program.

PRTLABEL ver 5.0 (125)

PRTLABEL is an easy-to-use, menu-driven label printing program. This powerful utility prints labels in a variety of formats: You specify size, shape, number of labels across, special fonts (condensed, italics, etc.), and border (no border or any of four border designs which you can actually draw anywhere on the label). Labels can be saved and recalled later. Compatible with more than 55 printer configurations and includes many options -- even one to sequentially number each label for serialization applications.

ADDRESS-O-MATIC (127)

Did you ever want your favorite word processor to take the name and address from a letter and automatically print your envelope? GRAB PLUS ver. 5.5 is a memory-resident program that will allow you to point at the address in your letter, "grab" it, and then automatically print your envelope. Easy to use and fully configurable from its menu. Once inside your word processor, just point at the address and GRAB will print it to large or small envelopes. It allows you to manually enter an address and will print return addresses as well. With the GRAB database feature, you can keep a file of names and addresses for automatic printing. You can even import from other databases as well as export. Works with any printer (we use it with both dot-matrix and LaserJets). Can be used memory-resident or from DOS.

IMAGEPRINT ver 3.21 (128)

IMAGEPRINT produces real letter quality printing on your 9 pin dot matrix printer. Print important letters, resumes, etc. - there's no need to buy a daisy wheel printer. Includes full print and page formatting controls. Letter quality printing of the IBM extended character set - mathematical symbols, national characters, graphics characters. If you ever wanted to print BETTER than "near letter quality" (NLQ) on your dot matrix printer, now you can. This new version includes an easy-to-use menu-driven interface. Requires Epson MX/FX/Compatible printers or IBM Proprinter.

BRADFORD ver 2.04 (129)

BRADFORD prints ASCII (text) and Wordstar files in high quality and in a large variety of fonts. It also supports 21 formatting functions to control how your document will be printed. Also features a program for making your own fonts. The following fonts are included: Typewriter, Vanilla, Nostalgia, Modern, Italic, Small Caps, Pizza, Jazz, Orator, Greek, and Italic Typewriter. This new version (2.04) is more versatile and faster than previous versions. Printers supported are Epson MX/FX, IBM Graphics printer and Proprinter, Star Gemini 10X, and compatible dot matrix printers.

SIGN & BANNER MAKER (130)

This disk includes five programs for printing signs and banners on any printer. You can print in a variety of user-selectable designs for parties, advertising, etc. You have control over size, spacing, shading, characters, and whether you wish to print horizontally or vertically. One of the programs even prints with a Gothic type face. SIGN & BANNER MAKER includes enough programs to provide you with flexibility and creativity for your designs.

LQ-PRINT (131)

LQ is an attractive printer utility which allows you to produce near letter quality text in a variety of fonts on most inexpensive dot matrix printers, including Epson. LQ installs in memory and will function with your favorite word processor or other program. Pop-up windows control several options. LQ even includes a print spooler which allows you to continue using your computer for other tasks while your document is being printed. And with the built-in character editor, the customized fonts you create will impress everyone.

LETTERHEADS PLUS (132)

LETTERHEAD GENERATOR allows you to design and print custom letterheads, envelopes, index cards and labels. The system provides for a very simple way to design logos to be printed on the top left side of the paper. Other name and address information is printed on the top middle or right side. Requires Epson or IBM and compatible printers.

YEARCAL produces annual calendars and daily/monthly/weekly schedules for years 1901 to 4000. Normal, Fiscal Year, AGGIE, or 3-Digit Julian Date Calendars can be produced in multiple copies for any number of consecutive years. Fiscal Year calendars may be produced for any arbitrary 12 or 13 month fiscal year. There is also a Programmer's calendar that is numbered in Hexadecimal or Octal numbers rather than decimal numbers. The calendars may be displayed on the screen, printed, or written to a file. And all of this in English or any one of 14 foreign languages.

BUSINESS CARD CREATOR allows you to create and print simple business cards. You select the layout, border design, and the information you want to appear. Requires Epson or IBM and compatible printers.

BOXLABEL prints an address label for a box or package. You need a pair of scissors and a glue stick, but it's neater than hand scribbling with a marking pen. Prints the top line of each address in double width mode if it will fit. Can optionally center the sender and return addresses. Ideal for UPS mailings. Requires Epson or IBM and compatible printers.

COLUMNAR PRINTING UTILITY (133)

COLUMNAR PRINTING UTILITY prints text files in 1, 2 or 3 columns. It produces true proportionally justified text by inserting micro spaces between each letter in a line of text. Most word processors can't do this; they just add extra spaces between words to create a justified appearance. Right margins are even, resulting in a very professional "typeset" look. Features many formatting options. Requires dot matrix or daisy wheel printer with micro spacing capability.

DATABASE PUBLISHER (135)

A clever, unique publishing program especially suited to creating brochures and catalogs. Organizes people and products for profit. Keeps track of 2000 people and/or products, defines up to 100 categories, then creates a catalog, brochure, or magazine of people, services, products, software, etc. Uses any dot matrix or laser printer to print a booklet on both sides of 8.5 x 11 paper. Descriptions of products or services can be up to 60 words. A typical catalog of 200 people and/or products costs about 15 cents to print using a dot matrix printer. Compare this to 40 or 50 cents from a printing company! Also performs as an easy-to-use mailing list manager. Features lightning search, telephone timer, plus too many other fine options to mention here.

BADGE-O-MATIC ver 1.1 (113)

~NEW

Create nifty 1- to 4-line 3" by 4" badges and nametags with optional header and footer lines. Includes 5 large size LaserJet fonts, 20 to 40 point type sizes, download fonts to printer utility, editing, and a database program to maintain a file of names and descriptions for printing. Prints 6 badges per page, and you can order perforated badge stock and holders from the author. The program can access data from any dBASE III compatible file. Requires 350K, hard disk, HP LaserJet or compatible printer.

PICTURE LABEL ver 1.1 (108)

~NEW

Produces exciting address labels by using all PrintShop and PrintMaster graphics. And because PICTURE LABEL is a stand-alone program, you won't need to have PrintShop or PrintMaster to run it. Uses any of our PrintShop or PrintMaster graphics libraries (See under GRAPHICS section). If you happen to have PrintShop or PrintMaster, you can create your own graphics to produce truly distinctive address labels. Includes a graphics library to get you started. This shareware version of PICTURE LABEL prints only 2 labels at a time. However, you'll receive a new disk which prints up to 5,000 labels when you register the program with the author for only \$5. Runs on any monitor and with a wide variety of dot-matrix printers, including 9-pin and 24-pin Epson or IBM and compatible printers.

PRINTMASTER LABELS (1647)

~NEW

PICTURETHIS ver 1.0 - Quickly, easily creates exciting custom address, return address, and diskette labels with PrintMaster/compatible graphic images on standard 1" x 3 1/2" Avery labels. Prints 1 to 100 labels in 6 font styles. Each label holds 3 lines of text with a different font for each line. Save labels to disk; automatically center text lines; selectively delete text lines; and more. Includes 56 high quality graphics. Requires CGA and an Epson/IBM Graphics or compatible printer.

GETPM ver 2.4 - Reads a PrintMaster (PM) library and displays the graphic images on your screen. Displays 25 images at once with EGA or VGA; 15 with CGA. Each screen can be printed to an Epson/compatible printer. Perfect for creating an easy-reference catalog or index of your PM graphics library.

GETART ver 3.0 - Like GETPM, except displays only 15 images per screen. Unlike GETPM, though, corresponding filenames are displayed along with the images. Also, the library to be read doesn't have to be in the same directory as GETART. Requires an Epson/compatible printer.

GRAPHIC LABELS (109)**~NEW**

IKE is a labeling program with unique features. The program allows you to add a picture to your labels, and 400 labels can be placed in a file to be called up at any time. A design feature also allows you to create and edit your own personal images. You can maintain a name and address file from which you can print out mailing labels; you can print specialized diskette labels; and you can print inventory labels with pictures to assist in item identification. Picture images can be viewed before printing. Handles standard size labels of 3 1/2" by 15/16". Requires IBM Proprinter or Epson and compatibles printers.

LABEL MAKER ver 6.25 (110)**~NEW**

This is an excellent, full-featured utility that will print labels containing file and directory information. Affix the labels to your diskettes and you'll never wonder what's on them. Features include: Automatically reads and prints all file names on standard 3 1/2" X 15/16", 4" X 1 7/16", or 5" X 1 7/16" label, and on labels for 3 1/2" disks; Entries for disk name and 4 or 8 comment lines; Handles subdirectories; Prints 1 to 4 labels as necessary; Prints 30 or 78 file names sorted alphabetically per label; Edit title and comments without re-running the program; and much more. Works with printers capable of expanded and compressed print. Performs best with dot matrix printers like Epson or IBM and compatibles.

MICROTEXT ver 2.2 (111)**~NEW**

This "Document Cruncher" cuts down on the amount of paper needed to print documentation. Now you can print the equivalent of 2 or 4 pages on a single sheet of 8.5" X 11" paper. MICROTEXT abounds with special features: Use almost any dot matrix printer; Remove all extra blank lines from a document; Remove all control characters which can confuse printers; Automatically wrap long lines to fit; Display a page preview of your document; Format your document for one- or two-column printing; Powerful search function to find a starting point for printing part of a file; and much more. This program is great for saving paper when printing shareware documentation.

GRAPHICS and DRAWING**HI-RES RAINBOW (1601)**

An excellent, full-featured color graphics paint program that includes pull-down menus, and icons. All options can be accessed by joy-stick, mouse, keyboard, or tablet. The following is just a partial list of many functions included in this feature-packed graphics package: Connecting lines, ray, zoom, erase, draw (two modes), spray, lines, brush, smear, box, fill, circle, arc lines, connecting arcs, undo, move, copy, reflexing, screen swap, and rainbow scroll. Includes templates and various fonts of different sizes. Each function has its own icon. Printing options are supported. This program will bring out the artist in you. Requires CGA.

GRASP ver 1.10C (1605)

GRASP (Graphical System for Presentation) is designed to create and run animated graphics demonstrations, tutorials, and presentations. The program contains a screen capture utility and a simple graphic programming language for slide show creation. Features include 16 picture buffers and 128 clipping buffers, single command to control animation sequences, 25 different fades, and much more. Supports CGA, EGA, Hercules, Plantronics, and other video cards. Many text fonts are available along with Fontrix compatibility. From the authors of PC-Paint Plus, Grasp is compatible with PC-Paint pictures and Basic language BSAVE format graphics. Requires CGA, EGA or Hercules graphics card.

PC-KEY DRAW ver 3.52 (1607,1608,1609) 3 disks

A very powerful combination CAD drawing and paintbrush program. Its ability to create and use clip-art makes it perfect for flowcharts, maps, drafting, architectural and circuit board designs, etc. You can create and save a custom symbol library and insert the symbols anywhere in your drawings. Supports keyboard commands and Microsoft or Mouse Systems and compatible mouse. Layout work is facilitated by the constant display of X/Y coordinates. Painting features include line, circle, box, arc, ellipse, fill, shading, text, smear, flip, zoom, mirror, grid, and much more. Also includes an animation function and full color support. Requires CGA or EGA and Epson compatible printer.

DANCAD3D ver 2.0EE (1610,1611) 2 disks

A comprehensive, high-resolution graphics program that allows you to create 2-D and 3-D line drawings and graphs. With this exciting package, you can also draw simple objects and designs such as letterheads. DANCAD3D allows you to divide the pictures you create into elements, and then magnify, rotate, flip, move, and use them over again in countless ways after saving them on disk. Printed output is extremely sharp and can be used for technical drawings and illustrations, wire-frame animation, business forms, animated slide-show demonstrations, and much more. With DANMOVIE (included) you can create screen animations. For example, you can make an animated view of parts of a drawing in order to verify the fit of moving parts, or even show an entire assembly with all its parts in motion. Works with Epson, Proprinter, Star, Postscript and compatible printers and a wide variety of

plotters. Works with CGA, EGA and Hercules graphics. Requires 512K and a hard disk.

QUEST-3D ver 3.1 (1612)

A very good 3-D wire-frame modeling program to create, view, and edit 3-D objects. Menu-driven interface allows you to quickly choose commands that perform a large variety of design and viewing tasks. A keyboard drawing mode eliminates the need to set up x,y,z coordinates on each line. Move, scale, rotate, zoom, and tip your image anyway you choose. 3-D drawings can also be viewed on a single plane for easy interpretation. Supports EGA graphics. Requires 512K, CGA or EGA. (Formerly titled IMAGE-3D).

EDRAW ver 3.2 (1614)

Easydraw is a general purpose drawing program designed for technical people like engineers, teachers, technicians, etc. In addition to drawing lines, boxes, circles, symbols, etc., EDRAW includes logic/electronic symbols and fonts which enable users to draw electronic circuits. EDRAW can load/save symbols, and it allows you to design and edit a library of your own symbols. Features automatic panning, mouse support, and prints on Epson and HP Laserjet compatible printers. Easy to learn and use and ideal for drawing schematics, block diagrams, and flowcharts. Requires 320K, CGA or EGA graphics monitor.

THEDRAW ver 3.20 (1615)

A powerful ANSI (text) graphics editor that allows you to easily draw screen images with the IBM character set. Normally, you have to press a combination of the ALT-key plus a number key to produce one IBM character. Creating an entire screen is complicated and time consuming. Selecting from TheDraw's menu, the novice can produce beautiful images in minutes instead of hours. TheDraw also features a powerful animation system with which you can animate the images you create in complex and dazzling ways. TheDraw can transform your work into the following data file formats: Ansi, Ascii, Binary, Bsave, Assembler, Turbo Pascal, and Turbo C. Great for fancy batch files, BBS's, presentations, and whatever your imagination can conjure up. Designed for ease of use and packed with powerful features. Works with any monitor.

THE DRAFTSMAN ver 1.0 (1616,1617) 2 disks

An advanced, menu-driven business graphics system that converts data into high quality graphic displays. Charts can be produced by directly entering data, or importing data from other files. Features pie, exploded pie, line, bar, stacked bar, and scatter charts. Draw, scale, move, lines, circles, titles, legends, slide show, mouse support, colors, variable aspect ratios, flowcharts, help screens, and more. Lotus, dBASE, and Symphony compatible. This powerful program supports Epson-compatible printers and HP 7470-type plotters. From the author of Dr. Halo. Requires CGA and 2 floppy drives or a hard disk.

PC-DEMO ver 2.1 (1618)

A terrific ANSI (text) graphics demonstration system. You can easily create program demonstrations, prototypes and other kinds of presentations using the full range of characters and colors on your computer. You can create 40 and 80 column screens, and fill, move, copy, rotate, and animate objects. You create slides and call them up in any sequence you specify for customized slide shows. A really nice feature is that you can make your slide shows interactive (user input is requested and processed). This makes the system ideal for very professional business and educational presentations as well as for pure entertainment. You draw pictures using the cursor keys. The complete on-line help facilities make PC-DEMO easy and really fun to use. Requires 2 drives (floppy or hard) and works with any monitor.

OPTIKS ver 2.15 (1619)

OPTIKS is a spreadsheet for graphics. Sound intriguing? OPTIKS was developed with Lotus 1-2-3 as a model for its user-friendly interface. What 1-2-3 is to the cell, OPTIKS is to the pixel. Use it to view files of various graphic formats and to perform a number of routines on them. The graphic files are those created by OPTIKS or by paint and drawing programs like PC-Paintbrush, MacPaint, Ventura Publisher, etc. With OPTIKS you can move pieces of the picture around, type in various fonts and do various things to change and improve the picture. OPTIKS will even allow you to MERGE another picture (perhaps from another type of paint program) into an existing picture. You can save the picture in any of two dozen or more different file formats supported by OPTIKS for both read and write. This makes the program ideal as a file conversion utility. OPTIKS can read files that other programs can't, and create files that are perfect for inclusion in paint and publishing programs. With more than 300 menu items, OPTIKS is a "Jack of all trades" program and is like having a Swiss Army Knife in your pocket. Runs on CGA, EGA and Monochrome graphic monitors. Extensive support of dot matrix and laser printers, scanners. Supports Microsoft mouse and compatibles.

FINGER PAINT ver 2.0 (1620)

An easy to use paint program with a user interface similar to PC-Paintbrush. Has most of the functions of a good paint program: dots, lines, arcs, circles, rectangles, fill, spray paint, loads of patterns, etc. Includes six different fonts and each one can have 81 different sizes. Mouse support, a movie command to play cartoons, cut and paste, easy to learn command-line messages that

Instruct you as you go, support for EGA, CGA and Hercules graphics cards. Most dot matrix and laser printers are supported, but a registration fee of \$20.00 (a real bargain for a program of this caliber) is required for printer drivers.

MANDELBROT MAGIC ver 3.0 (1621)

MANDELBROT MAGIC generates color slides and programmed slide shows of the Mandelbrot Set. The Mandelbrot Set is perhaps the most famous of a fascinating group of mathematical structures known as fractals. It has been called the most complicated object in mathematics. Unique to fractals is that they reveal more and more detail the closer you get, and the small scale details are similar to the large scale details. This program allows you to zoom in on specific areas surrounding the set. Includes a 15 minute demonstration program. Hard disk recommended. Requires CGA or EGA.

VGA PAINT ver. 1.1 (1622)

VGA PAINT is a graphics/drawing program that produces screen images in up to 248 colors at once. Fourteen brush shapes and four automatic shapes are provided. Image handling capabilities include: sizing, flipping, moving, copying and saving images to disk. Although the resolution of the screen is only moderate (320 X 200), the careful use of color mixing can produce images with near-photographic realism. Pictures and images are saved on disk in the form of BASIC "BSAVE" files and can be loaded by BASIC application programs. Requires VGA, 450K memory. Mouse recommended.

DRAW2ME ver. 1.0 (1623)

DRAW2ME combines the features of a color Draw/Paint program with those of a modem program to create a unique new concept in graphic telecommunications. **DRAW2ME** allows two people to connect their computers via modem and interactively create and edit the same picture. Both users see any changes and additions at the same time. A full range of drawing/painting features include line, box, fill, spray, cut and paste, etc. Communications features include host and caller modes, dialing directory, etc. Great fun for two people connected on the phone. Requires CGA, 320K, and a mouse.

CHARTS UNLIMITED ver. 1.8 (1624)

Integrates graphics and text processing into one powerful system to allow quick and easy creation, editing and printing of flow charts, organization charts, floorplans, electrical diagrams, Gantt charts, forms, and many more types of charts. Charts are drawn on a 256 column by 1000 row worksheet, providing a graphics area of over 4 million pixels or dots. You can scroll quickly in any direction around the worksheet, and a unique "VIEW" feature allows you to shrink and display the entire chart. With just a few keystrokes, 36 objects, including various geometric shapes and bar graph designs, can be displayed, moved, stretched, shrunk and replicated on the worksheet. There are also 36 symbols available, ranging from math symbols to flow chart arrows. You can also create your own custom symbols. Text can be entered anywhere on the worksheet and text files from spreadsheets and word processors can be imported. A chart can be printed on most dot matrix printers either horizontally or vertically and in many sizes due to a magnification feature that can expand a chart up to 100 times. A printer buffer is provided to facilitate printing of a chart while simultaneously creating or editing a chart. This is a fabulous program for anyone who needs to draw charts. Runs on CGA, EGA, VGA and Hercules graphics cards.

PC-DRAFT II ver. 3.2 (1665,1666) 2 disks

A high-quality full-function drawing and graphing program that operates much like PC-PAINT, Dr. Halo, etc. Commands include window, circle, ellipse, line, box, arc, curve, color, paint, spray paint, fill patterns, expand, contract, rotate, grids, text, zoom, undo, jump markers, cut-&-paste, etc. Captures and imports text and graphic screens from other programs. Create bar, line, and pie graphs directly from data; edit fill patterns; macros; create animations; edit one pixel at a time; edit fonts; and much more. Menu-driven or command-driven; use keyboard or mouse; drawings compatible with Ventura Publisher and WordPerfect 5.0; and more. Prints high resolution printing on Epson, IBM and compatible dot matrix printers, HP LaserJet/compatibles and Desk Jet printers. Includes large clipart graphics library. Requires 384K and CGA or Hercules with CGA emulation (see Disk #433 - CGA SIMULATOR).

COLLAGE (1604)

COLLAGE is a show-&-tell software system that allows you to create colorful graphic screens, combine them in the order you wish, and then run them as a professional looking automatic slide show presentation. Lets you create and maintain text files (upper ASCII included) with excellent editing and block features. A slide show demo is included to give you some idea of just how fine and versatile this program really is. Mixes text and graphics (edits graphic characters as easily as text), draws bar and flow charts, includes a set of predefined flow chart symbols that can be added with a single keystroke, generates tables, prepares MIS reports, and more. Supports features like copy, rename, file delete, directory viewing, etc. Music and color are easily integrated into your presentations, and slide duration is selectable. **COLLAGE** is menu-driven, comes with excellent on-line help, and is well suited for both business and educational uses.

COMPUSHOW ver 7.00b (1667)

Reads and displays GIF and RLE graphic formats. The many display options available are shown on screen for your selection along with information about the particular graphic format of the selected file. Supports virtually all graphics cards and monitors. Features extensive on-line help and program information. If you register the program for \$15, the author will send you the enhanced version which adds MacPaint format to its graphics recognition, and also includes full graphics printing capability.

PAINTER'S APPRENTICE (1668)

An extremely well designed EGA and VGA graphics drawing/paint program styled after PC Paintbrush, Dr. Halo, and MacPaint. The screen shows only a portion of a considerably larger drawing surface that is accessed by moving the window. This beautifully featured program includes support for a large number of printers, including Epson FX and MX, Gemini, IBM, Okidata, Prowriter, Thinkjet, and more (over 20 in all). Requires EGA or VGA and an MS-compatible mouse.

PC-DRAFT-CAD ver 2.0 (1669)

Excellent, sophisticated, object-oriented Computer Aided Drafting system for a variety of drawing and drafting needs. Stores drawings as basic drawing elements, NOT bit-mapped images. Produces scale drawings up to any size supported by dot matrix or laser printers or HPGL-compatible plotters. Uses CGA high-res (640x200) graphics mode. Draws circles, lines, boxes, arcs, ellipses. Menu-driven or command-driven. Drawing grids displayable with optional grid-lock (snap). Status panel shows x-y cursor position and relative position in feet/inches. Displays PC-Draft II images for tracing. Records graphic macros for playback and animation. Add text to drawings with multiple fonts. Compatible with many printers and plotters. Drawings compatible with Ventura Publisher and WordPerfect 5.0. Features automatic dimensioning, variable line widths and styles, object rotation and scaling, unlimited layers, object libraries, and much more. Requires 384K and CGA or Hercules-compatible graphics card with CGA emulation (see our TSI Disk #433).

CURVE DIGITIZER for COLOR ver 3.5 (1670,1671)

2 disks

~NEW

This is a powerful, full-featured CAD system with easy input from the keyboard or a Micosoft/compatible mouse. Features include: Box, circle, arc, 8 line styles, points, grid, move, expand, scale, zoom, rotate, mirror, copy, smooth, shading, symbol library, text entry in normal or bold in 15 sizes vertically, or horizontally, semi-automatic dimensioning, calculation of perimeters, 16 color displayed on an EGA, and more. **CURVE DIGITIZER** can process as many as 333 layers of drawings. Drawing is facilitated by on-screen coordinates and removable grids. Output can be printed on Epson/compatible printers and a wide variety of plotters. Requires 2 floppy drives or a hard disk, CGA (EGA is recommended). Does not work with an AT&T 6300 color display. (See Disk #1672,1673 if you have a Hercules monochrome system).

CURVE DIGITIZER for HERCULES ver 3.5 (1672,1673)

2 disks

~NEW

This is a powerful, full-featured CAD system. This set of disks is for Hercules/compatible video cards with monochrome monitor. See Disk #1670,1671 for full program details.

ICONVERT ver 1.49 (1600)

~NEW

ICONVERT is a powerful graphics format conversion program that allows graphics created with one type of software to be used in another. The program supports conversions to/from the following formats: ASCII, Basica Blood, Dr. Halo II, PFS First Publisher, Fantasy, Gem, GIF, IFF, Newsmaster, Newsroom, MacPaint, PC Paintbrush, Printmaster, Print Shop, RLE, and Windows Paint. (PC Paint TIFF files are not supported). In addition, **ICONVERT** includes other powerful features. **VIEWMODE** allows you to preview and mark graphics for later conversion. **CONVERSION** allows for unattended conversion of up to 255 files, clipping of graphics, converting color to mono, color separation, mirroring, flipping, inverting, and double width. The program is menu-driven for ease of use. Requires CGA or Hercules graphics adapter, 2 floppy drives or a hard disk.

EasyCASE ver 1.5 (1628,1629) 2 disks

~NEW

This CASE (Computer Aided Software Engineering) tool is designed to simplify the creation of data flow diagrams (DFDs), transformation graphs, state transition diagrams, structure charts and entity-relationship diagrams (ERDs). **EasyCASE** provides an easier to use, more automated method of producing these diagrams than does a presentation graphics or drawing program or most other CASE tools. **EasyCASE** provides the capability to add the appropriate chart type objects to the chart and then manipulate them. Objects can be added, moved, deleted, labelled, identified and associated with other objects on the chart. If an object is modified in any way, any other similarly identified or associated objects are also modified. Drawings of up to 24" X 21" can be panned to a desired area. Entire charts or specified areas can be printed on normal or wide paper to the following devices and compatibles: Epson FX/LQ, IBM graphics and Okidata printers, HP LaserJet, DeskJet, QuietJet printers, and HPGL plotters. Charts can be imported in .PCX and .MSP formats. The beauty of **EasyCASE** is that it is so easy to use. Requires

640K, a hard disk, EGA or VGA, Microsoft or compatible mouse, and an AT-class computer.

COMPUTER COMPLETERS CLIP ART (1630) ~NEW

This diskette contains 36 pieces of electronic Clip Art from Computer Completers. They are in .PCX format and can be used with Pagemaker, Ventura, and other desktop publishing programs. These images were drawn by professional artists and cover a wide range of subjects. Also included is a slide show that allows you to preview the images on-screen with an EGA or VGA monitor. Requires a hard disk.

COMPUTER COMPLETERS BORDERS (1631) ~NEW

This disk contains 12 ready to use, high quality borders from Computer Completers. They are in Windows Metafile (.WFM) format which can be used in Pagemaker, Ventura Publisher 2.x, and a number of other desktop publishing programs. These borders can be used for making flyers, bulletins, newsletters, etc. Because these images are vector graphics, they can be proportionally sized without losing resolution. Whether you are producing commercial documents, flyers, inter-office memos, etc., graphics such as these borders will make your pages look more interesting and hence more readable. Also included is a slide show that allows you to preview the images on-screen with an EGA or VGA monitor. Requires a program which accepts .WFM format.

COMPUTER COMPLETERS HEADLINES (1632) ~NEW

This diskette contains 30 general use, high resolution headlines from Computer Completers. They are in Computer Graphics Metafile (.CGM) format and can be used with Pagemaker, Ventura Publisher 2.x, Word Perfect 5.0, and a number of other applications. The images can be proportionally sized without losing resolution. Also included is a slide show that allows you to preview the images on-screen with an EGA or VGA monitor. Requires programs that can use .CGM format and a hard disk.

ROLY-POLY PUDDING (1633,1634) 2 disks ~NEW

This disk contain 41 scanned images from Beatrice Potter's classic 1908 book, "Roly-Poly Pudding. About one megabyte of pictures in Dr. Halo .CUT format are included along with the complete text of the book. These delightful images can be used with Ventura Publisher, Dr. Halo, Optiks, and 1st Publisher. A utility is provided to convert the images to .MAC files.

WHIPLASH CLIP ART (1606) ~NEW

This disk contains 19 clip art images in .MAC format to be used with PFS First Publisher. The files include: Boxes, borders, and highlights; Scanned Logos from major auto companies; Popular cartoon characters; Sailing ship, theater masks, map of the U.S., Bi-planes, Smurfs, Thanksgiving scenes, and more. These images have very good resolution. Requires 512K, 2 floppy drives or a hard disk.

OFFICE PICTURES (1635,1636) 2 disks ~NEW

Includes almost 100 office scenes in .IMG (Gem) format. Great for creating business flyers, newsletters, etc. Many leave room in a chalkboard or balloon to insert your own text. Use with Ventura Publisher and other desktop publishing programs.

DROPCAP (1637) ~NEW

This disk contains 26 Gem (.IMG) files containing the letters A thru Z in oversized Helvetica. These image-style drop caps can be sized to taste in Ventura Publisher and other desktop publishing programs. Also included are ten .IMG symbols - right and left pointing hands, check marks, and up/down/right/left arrows.

PFS FIRST PUBLISHER ART #1 (1638) ~NEW

The high resolution maps contained on this disk are .ART files in your PFS First Publisher program. The following maps are included: North America, Canada, Hawaii, Outline of Continental U.S., Mexico, Central and South America with country boundaries, Caribbean Islands, Australia, Antarctica, and view of the world from the North Pole. Requires PFS First Publisher.

DRAFT CHOICE ver 1.3D (1639) ~NEW

This powerful, very fast, menu-driven, object-based engineering graphics and drawing program uses floating point math to record the size, shape, and position of objects you design and draw. Draws lines, circles, boxes, and complex shapes like multi-sided polygons and Bezier curves. Choose a mixture of these elements and create AMAZINGLY DETAILED drawings. Impressive graphics, or conceptual schematics. Includes on-line help. Get even higher resolution if you have Hercules or EGA. Features include freehand drawing, copy, move, edit, scale, rotate, array, flip, break, convert, fill, style, update, window, pan, double, half, zoom, origin, and much more. Requires any graphics monitor. Works with Epson and compatible dot-matrix or LaserJet printers, and HP plotters. A mouse is optional.

EGRAPH (1640) ~NEW

A menu-driven engineering linear, log, spline, cumulative-percent, probability, time-series graphing program with $Y=a+bX$ and $Y=aX^b$ regressions and Pearson III distribution. Features include: Allows 16,000 observations per variable; Data can be read from ASCII or Lotus files or entered directly from the keyboard; Selected lines and columns can be extracted from read files, and sequential data in rows can be extracted and stacked for importing to Lotus or EGRAPH, or sent to the printer; Reads ASCII files and creates new files with tabs expanded to 8 spaces; Creates contour plot files for EGRAPH from randomly spaced X,Y values and associated Z value, and reads Y2 values as labels; Linear, log, probability, and time-series axis scaling may be mixed; Over 32,000 X,Y data pairs may be graphed; Graphs can be printed or saved as Lotus PIC files; PIC files can be imported into WordPerfect, etc. and desktop publishers for editing and printing; and more. Requires graphics monitor and Epson/compatible printer.

EZGRAPH ver 2.0 (1641) ~NEW

This very powerful, easy-to-use, scientific plotting program creates presentation-quality 2-dimensional graphs. Includes pull-down menus, optional mouse support, on-line help, and plots up to 5 data sets of unlimited size. You have total control over: graph and text size, screen colors, plotter pens, axis endpoints and positions, linear and log scaling, grid/tick types, and grid label decimal points. Features built-in bar graphs, flexible and self-updating legends, built-in function generator, and much more. Supports dot matrix and LaserJet printers. Generates HPGL output for plotters and desktop publishing, and true WYSIWYG output. Requires a graphics monitor.

VGA CAD ver 1.5 (1642) ~NEW

This is an excellent, full-featured, menu-driven, drawing and painting program for VGA, utilizing the 320x200x256 color mode. It is not, as the name implies, a computer-aided drafting program. VGA CAD has all the usual drawing, painting, and editing features, including squares, rectangles, circles, ellipses, filled or hollow, grey scale, hue, zoom, brush, shrink/expand, undo, cut and paste, curve smoothing, and much more. Colors are picked from palettes. VGA CAD uses two proprietary formats, but it can also create BLOOD files. It even includes a utility that captures VGA and CGA screens for use with the program. You can use either a mouse or your keyboard. Requires VGA, 512K, and an AT class (80286 or 80386) computer.

MIND CHART (1643,1644) 2 disks ~NEW

A very professional, menu-driven graphics charting and drawing program for business, education, and home use. Quickly and easily produces a variety of charts/graphs from empirical, statistical, analytical, or other data. Adds special symbols, text, or drawings to each chart. Features on-line help. Supports line, surface, scatter, centered bar, offset bar, step, pie, stacked bar, and Gantt charts. Charts may be displayed in any of nine windows, up to four per screen at a time. Charts are plotted on standard, log-log, or semi-log axes. Options include user-defined scaling, axis parameter options, grid construction, description positioning, pixel spacing, text size, color and pattern selection, and much more. Includes a very powerful drawing utility for enhancing charts, creating logos, and lots more. Requires 384K, CGA, EGA, VGA, or MCGA.

PRINTMASTER GRAPHICS LIBRARY #1 (1602,1603) 2 disks

Over 1,000 terrific graphics to make Printmaster soar. Includes an incredible array of high-quality graphics for every possible occasion. Requires any version of PRINTMASTER.

PRINTMASTER GRAPHICS LIBRARY #2 (1645) ~NEW

This outstanding collection of 600 cleverly designed, high quality Printmaster graphics from Cooper Graphics includes interesting and amusing faces; imaginative signs, slogans, and sayings; state symbols; astrological symbols; a mixed assortment of exciting graphics; and a great selection of frames for use as borders. Requires any version of PrintMaster.

PRINT SHOP GRAPHICS LIBRARY #1 (1663,1664) 2 disks

An incredible variety of more than 1,000 high-quality PRINT SHOP graphics for every conceivable occasion. Requires any version of PRINT SHOP.

PRINT SHOP GRAPHICS LIBRARY #2 (1646) ~NEW

Contains the same great collection of 600 incredible graphics presented in our PrintMaster Graphics Library #2 (Disk #1645). Requires any version of PRINT SHOP.

PRINTMASTER LABELS (1647) ~NEW

PICTURETHIS ver 1.0 - Quickly, easily creates exciting custom address, return address, and diskette labels with PrintMaster/compatible graphic images on standard 1" x 3 1/2" Avery labels. Prints 1 to 100 labels in 6 font styles. Each label holds 3 lines of text with a different font for each line. Save labels to disk;

automatically center text lines; selectively delete text lines; and more. Includes 56 high quality graphics. Requires CGA and an Epson/IBM Graphics or compatible printer.

GETPM ver 2.4 - Reads a PrintMaster (PM) library and displays the graphic images on your screen. Displays 25 images at once with EGA or VGA; 15 with CGA. Each screen can be printed to an Epson/compatible printer. Perfect for creating an easy-reference catalog or index of your PM graphics library.

GETART ver 3.0 - Like GETPM, except displays only 15 images per screen. Unlike GETPM, though, corresponding filenames are displayed along with the images. Also, the library to be read doesn't have to be in the same directory as GETART. Requires an Epson/compatible printer.

COOPER CLIP ART LIBRARY #1 (1648,1649)

2 disks

~NEW

An incredible assortment of 192 quality clipart graphics from Cooper Graphics: 96 each in .PCX and .MAC formats. These can be converted for use with various graphics programs using a conversion program such as ICONVERT - TSL Disk # 1600. Covers a broad range of subjects. A MUST for your collection! Works with WordPerfect, Ventura Publisher, Microsoft Word, AMI, First Publisher, Pagemaker, Publish-It, and many other desktop publishing programs.

COOPER CLIP ART LIBRARY #2 (1650,1651,1652)

3 disks

~NEW

This is a wonderful collection of 133 quality clipart graphics from Cooper Graphics. They're all in PC Paintbrush (.PCX) format. They can, of course, be converted for use with other programs using a graphics conversion program such as ICONVERT - TSL Disk # 1600. They cover a wide range of humorous subjects, including people, animals and other critters, etc. Some even contain multiple graphics. This will certainly make a sparkling addition to your graphics collection.

COOPER GRAPHICS LIBRARY #1 (1653)

~NEW

A great collection of 300 quality graphics from Cooper Graphics: 100 each for PRINTMASTER, PRINTSHOP, and FIRST PUBLISHER. Includes funny faces, characters, assorted graphic images, sign language symbols, and most of the Cub Scout word symbols. Requires PRINTMASTER, PRINTSHOP, or FIRST PUBLISHER.

DESIGNER'S CHOICE CLIPART (1654)

~NEW

This is an assortment of 20 VERY high quality clip-art graphics for Ventura Publisher and other programs that can use .PCX format. Subjects include holidays, special occasions, and business. All are 300 dots per inch and digitized in large sizes for maximum quality when resized. Great for desktop publishing projects and presentations.

UNIVERSE (1655)

~NEW

UNIVERSE is a beautiful color, high resolution (640x350) slide show consisting of actual digitized photographs from space. Pictures include the Earth as seen from Apollo 16, the Apollo crew on the moon, Saturn and its four moons, Jupiter as seen from Voyager 2, the setting Earth as seen from the moon, a Quasar, a Supernova explosion of a massive star in the Crab Nebula, and the Andromeda Galaxy. Requires a hard disk, EGA or VGA.

VGA GRAPHICS SHOW (1656)

~NEW

This disk contains visually exciting programs that will show off the full capabilities of your VGA monitor. Files included are DAZZLE, LUMEN, FUSE, VGAFISH, PLASMA, TORUS, TUNNEL, and PYRO. Animated graphics range from randomly generated patterns to an aquarium and a revolving spaceship. Several of the programs allow for user input to change the shapes or parameters of the images. We cheated a little on this disk because PYRO works on EGA as well as VGA. But this dazzling fireworks show with sound is so terrific that we thought you wouldn't mind. If you want to see what VGA is all about, this disk is for you. Require VGA.

DATABASE

FILE EXPRESS ver 4.29 (1002,1003) 2 disks

One of the best flat file database programs on the market. PC Magazine said, "File Express performs like a blue-ribbon thoroughbred racehorse." Menu driven and very easy to use, this latest version features: 16 million records per file, 120 fields per record, unique formula-based fields, lightning fast sorting, all new report writer, duplicate record deleting, new custom screen painter, search on multiple fields, and much more. A superb program and our personal favorite for new and less experienced users. Requires 320K.

WAMPUM ver 4.0 (1006,1007) 2 disks

WAMPUM (Wards Automated Menu Package Using Microcomputers) is a superb, full-featured implementation of the dBASE III programming language.

It is both an application development tool and a menu-driven, fully relational data base management system. Now you can have the power of dBASE III without the cost. Performs every function supported by dBASE III but is easier to use. Creates and uses dBASE III-compatible data bases with up to 58-free indexes per file. Add, edit, delete, undelete, display, list, and print records; 10 data screen formats; Compatible reports and labels; Mail merge form letters; Import/export; Macros; Printer templates support up to 10 fonts; Restore damaged data bases; Boolean searches of memo fields; Preformatted output forms; Edit checks; Calculated fields; Audit trail/transaction logging; and so much more we'd need another page to list it all! Requires 512K and a hard disk.

PC-FILE+ ver 3.0 (1009,1010,1011) 3 disks

Top of the line database manager from Jim Button. This new release replaces PC-FILE III and PC-FILE/R which sold commercially for \$149.95. Menu driven; 175 context sensitive help screens; Teach mode; Easy macros, 2 to 10 times faster than PC-FILE III with twice the number of records (65,000); Searches are 6 times faster than dBASE; Sophisticated report writer; Relational capabilities; New mailing label program; Produce pie and bar charts directly from the database; Instant calculator imports/exports figures from fields; Find, list, delete duplicate records; and much more. PC-FILE+ combines ease of use along with all the power and versatility of database programs costing hundreds of dollars more. Includes excellent documentation. Requires 384K, 2 floppy drives.

PC-FILE.dB ver 1.1 (1026,1027,1028) 3 disks

PC-FILE.dB offers the features of Jim Button's powerful PC-FILE+ (see disk #1009-1011), plus it automatically creates (and reads) fully compatible dBASE III/IV files. Stores up to 1 billion records. Requires 512K, a hard disk or two 3.5" or 1.2 meg floppy drives.

NEWSBASE (1012)

NEWSBASE will help you unravel the mystery of what's in all those magazines and periodicals you've been accumulating for years. This powerful program will conveniently keep track of the contents of all your magazines. Simply enter a description, key words, phrases, etc. along with the column and page number, volume, and issue date. Key words are then used by NEWSBASE to automatically quick-search your database to locate the article(s) related to the subject. NEWSBASE can also list descriptions of articles and print a report for you.

BOOK MINDER ver 1.40 (1038)

~NEW

BOOK MINDER is a menu-driven, specialty data base system specifically designed for collectors, researchers, and other people who like books or magazines. It makes cataloging a library easy and allows you to find magazine and newspaper articles that may have been virtually lost. Catalog books, magazines, articles, and chapters by title, author, subject, or any of 19 other variables. Searches can be easily performed using complex multiple cross references. For example, you could find all of the technical articles, written in 1982, about comets, that were written by Carl Sagan and published in Omni Magazine. BOOK MINDER has a whopping capacity of 10 million entries per data file, and reports can be printed. Requires a 2 floppy disk drives or a hard disk.

THOUGHT ORGANIZER ver 1.83 (1013)

A text-based data manager that manages information by integrating the free format facility of a word processor with the organizing power of a database program. Create free format records of 40,000 characters each. Designed with unusual organizational capabilities to help you think better. Menu-driven and complete on-line help for ease of use. Very unique and effective.

INTELLI-TRIEVE (1014)

A weighted retrieval utility for dBASE III, dBASE III+, and compatible database managers. It performs weighted retrieval by comparing each record in a database to user-defined selection criteria and producing a new database with the records arranged in descending order of 'acceptability'. A simple, menu-driven process allows you to obtain an entirely new 'view' of your data, one that cannot be attained through standard indexing, filtering or sorting operations. Sharpen investment or purchasing decisions, develop quality sales leads, etc. Extends the power of your database manager to increase the value of your data.

SIDEFIL ver 2.33 (1015)

A unique data manager which allows you to easily manipulate your many notes, lists and files with great speed and flexibility. SIDEFIL is fast and does common functions like adding, deleting, listing, sorting, printing, finding, replacing, merging, editing, etc. But Sidefile also has functions reminiscent of more powerful spreadsheet type applications, such as changing field widths, totaling fields, and viewing and editing your data in column format. With its Lotus-style menu-driven interface and thorough on-line help, SIDEFIL is an excellent choice for any number of small to medium size data management needs.

3-BY-5 (1016)

A free-form information management system for entering, indexing, and retrieving text and data. Fast, versatile, and as simple to use as a 3x5 card file. Features multiple windows, built-in word processor, multiple file search, and more. Great for maintaining personal records and mailing lists, cataloging and cross-referencing student notes, etc.

INSTANT RECALL (1017)

A memory-resident, free-form database system, featuring cut-and-paste, on-board word processor with word wrap, high interaction with other programs, no field size limits, and much more. Instant cross-referencing lets you store bits and pieces of unrelated and loosely related data, and then retrieve them together as a coherent whole. Very easy to use, menu driven, versatile!

ON-LINE REFERENCE ver 1.0 (1018)

A memory resident, high speed, information retrieval and display system that can provide you with all of your valuable reference information at the touch of a few keys. Once loaded, you can pop ON-LINE REFERENCE over your current application screen and select the information you need from a table of contents screen - FAST! With one keystroke you can export the information into your favorite word processor. Use ON-LINE REFERENCE for price and parts lists, programming notes, business and personal contacts, or any information you want to access quickly without having to exit your current program.

COMPASS ver 1.0 (1019)

An integrated system that combines several major programs into one menu-driven package, including: Database, Word Processor, Spreadsheet, Accounting, Calendar, Mailing List Program, and Dos Utilities. Trades convenience for the power of stand alone programs. Includes complete on-line help for ease of use. Requires 320K memory, color monitor.

ONBASE ver 1.42 (1020)

With ONBASE, you easily create custom, single screen data bases which are memory resident. Three databases can be on-line at one time, and they can be called up at any time by pressing hot keys which you define. You can import and export data to and from other programs. You can even password protect your files. The size of your databases is limited only by disk space. With ONBASE you can have on-line any information you may need (phone lists, price charts, etc.) and retrieve it quickly and easily. Requires DOS 3.1 and above.

MEMBERSHIP LIST ver 5.2 (1030)

This program allows the user to maintain a membership list for a club or organization with up to 2,000 members. It addresses envelopes, folders and labels; prints file cards; prints a membership list that includes all file information, and much more.

ZOOMRACKS ver 1.2 (1034)

This powerful menu-driven information management system helps you organize everything in the home or business (letters, recipes, hobbies, class notes, finances, etc.). Can easily run an entire business. Uses patented card and rack metaphor, and is based on the idea of racks containing cards which have information on them. One of the fastest, easiest databases to use. Voted 1988 Choice Award for Databases by Compute Magazine, and one of the year's 13 best products. User is not limited to specified fields: put anything you want on a card, including information and text into preset fields. Uses templates like a spreadsheet, includes prepared templates. New templates are easy to create. Features text search, powerful macro language, online help and tutorial, word processor, spreadsheet functions, and much more. A true do-all program! Requires 384K.

1 ON 1 = 3 (1039,1040) 2 disks ~NEW

This programmable, relational database management system is easy-to-use and powerful. It has many of the features of dBASE III+ and FoxBase+, and then some. 1 ON 1 reads and writes dBASE compatible files, offers a more complete and flexible menu system than dBASE III+, and beats dBASE III+ on all benchmark speed tests. We're not saying 1 ON 1 is better than dBASE III+. It is a good, low cost alternative, especially for smaller applications. Other features include: Unlimited records per database; Versatile keystroke macros; On-line help; and much more. 1 ON 1 received a good review in PC-Magazine, placing 9th for overall speed out of 38 commercial programs. Requires 512K and a hard disk.

EUROCAR (1001) ~NEW

New from a Swiss software company is EUROCAR - a dBASE compatible database covering every 1989 model car manufactured in the world. Listed vehicles even include police cars and taxi cabs. A lot of technical and comfort data is provided, including company, model, number of years in production, fuel type, engine data, maximum speed, data on gears, transmission, etc. Vehicle prices are given in Swiss Francs and German Marks when available. If you're a serious automobile enthusiast, you'll appreciate

EUROCAR. Use with any dBASE-compatible database program in this catalog (see dBASE-compatible database programs in our Database section).

OLYMPIAD (1004) ~NEW

OLYMPIAD is a database of Olympic Games data from 1896 through 1984. A fast look-up program searches records which contain the following data: Olympic year, the event, winner of the event's gold medal, winner's country, winner's score, whether the event was men's, women's, pairs, or both men and women, and whether the event was a summer or winter game. Information can be searched according to 5 key variables. For example, if you want to know which U.S.A. woman won a gold medal in the 100-Meter dash in 1976, OLYMPIAD will quickly find it for you. Great for the sports history enthusiast.

PIROUETTE ver 1.0 (1035,1036) 2 disks ~NEW

PIROUETTE is a powerful, relational database program that sports many unique features. Several functions are incorporated to reduce data entry time by as much as one-third. Creates and opens B-Tree index files automatically to perform hassle-free, lightning fast searches. The relational feature is so powerful that the program in some ways outperforms dBASE. Versatile report generator produces form letters, labels, or nearly any style report. Other features include: Full customization; Unlimited number of records; 99 fields per database; 256 characters per field; 25 windows open simultaneously; Full file compatibility with dBASE III/III+, FoxBASE, dXBL, Quicksilver and Clipper. Requires 640K, 2 floppy drives or a hard disk.

FILEBASE ver 7.95 (1005) ~NEW

An uncomplicated, user-friendly, menu-driven database program that's perfect for personal use. Where dBASE III and similar programs are too powerful for keeping Christmas card lists, and low-end programs are too weak to handle anything else, FILEBASE is designed for those in-between needs. It is a flat-file database manager and file-processing system which stores records (files) in MailMerge format, which can be used by letter-merge functions of most word processors. PC Magazine said, "You won't want to use MailMerge without the file-juggling muscle of FILEBASE." The files consist of comma-delimited field records. FILEBASE generates variable-length records, eliminating the need to predetermine the size or nature of each field. FILEBASE is also a file processor: It manipulates pre-existing files in this format, allowing them to be sorted, merged, split, modified, etc. Database functions include restructuring, indexing, appending, adding new fields, joining fields, generating reports, comprehensive error trapping, and much more.

NEWBASE II ver 4.a (1008) ~NEW

A powerful, menu-driven, easy-to-use database manager for mailing lists, reports, labels, and form letters. Easily organizes and manages information so it can be ordered, changed, or retrieved, and then printed (including mailing labels) to suit a variety of needs. Interfaces with many word processing programs. Great for beginners or experienced power users. Accommodates 32,000 records per data file. Features B-tree indexing, multi-key sorting, multiple record deletions, global search and updating, merge data files, recover damaged data files, password protection, send reports to disk, and much more. Requires 2 floppy drives or a hard disk.

PROFESSIONALLIBRARIAN ver 2.0 (1029) ~NEW

PROFESSIONAL LIBRARIAN helps you locate information in your library. This data retrieval system stores citations of articles, books, etc. so you can later find them quickly. Includes add, delete, edit, browse, sort, search, and print functions. Records include subject, title, author, date, citation, number, brief description, and more.

SIMPLICITY ver 2.0 (1033) ~NEW

This very handy menu-driven recordkeeping and information retrieval system stores relevant information (names, addresses, birthdates, notes) on up to 500 people. Prints a comprehensive record directory, birthday report, and mailing labels. Prints labels one at a time, by names beginning with a certain letter, alphabetically, or by zip code. Perfect for organizations, small businesses, and home use. Very easy to learn and use.

THE TAGGER ver 1.1 (1042) ~NEW

THE TAGGER allows Ventura Publisher and database users to very easily and quickly "tag" a database file before loading it into Ventura Publisher. The program works with "delimited" ASCII files which are supported by most popular database programs. While it is possible to export data from a database in a format that is readily acceptable to Ventura Publisher, it is a time consuming process. THE TAGGER parses out the records and fields of data from a delimited ASCII file and tags them. The resulting file is ready to load into Ventura Publisher as a pre-tagged ASCII file. Tagging each field by hand in Ventura Publisher is not required. Requires DOS 3.2 or above, CGA, EGA or VGA monitor.

DYNABASE III (1021)

Performs certain simple functions at high speed on dBASE III and dBASE III+ database files. Pack a dBASE file and produce an SDF file in 1/20th the time dBASE takes to do it. Rapidly delete all records from a dBASE file without packing. Rapidly recall all records from a dBASE file. Rename fields without having to re-copy the entire file. Perform a simple APPEND of one file to another. Check a dBASE file for records containing invalid (non-printable) characters and remove errant records. We tested the DYNABASE routines on a 6 megabyte dBASE file, and the operations were carried out at blazing speed.

dBASE AUTO-PROGRAMMER ver 1.31 (1022)

dPROG is a fantastic dBASE III systems generator that works from your screen design and field descriptions. This great package allows you to generate screens, format files, validation files, databases, entire systems with lightbar menus, mailmerge, record filtering, and much more. And the beauty part of it is that dPROG does almost all the work for you. dPROG writes over 1000 lines of dBASE III+ code and a complete users manual for YOUR system. Using dPROG is incredibly simple. You paint your fields on the screen, name them, go through dPROG's menus to assign them characteristics, and type in your name. The results are complete .DBF and .PRG files, along with a detailed 30 page user's manual which even includes your copyright notice. The user's manual generated by dPROG is a full walk through and user's guide for the end user on how to use your system. Use dPROG and you can stop coding and documenting. If you have dBASE III/III+, Runtime+, or a dBASE compiler such as Clipper, you can run your dPROG generated system.

dBMENU ver 4.0 (1023)

dBMENU is an outstanding dBASE III+ menu application generator. It was developed to save countless hours of development time when working in a dBASE III+ environment. A key factor in developing a database system is the ease of use to the end-user. dBMENU will produce uniform application menus in dBASE III+ code which is easily read, and will run error-free. The least complex menu this generator can produce would take a good programmer a minimum of a half hour to write. dBMENU is very easy to use. It presents you with questions about what you want your custom menus to include (contents, colors, submenus, etc.). Explanations of each option are given at every step. Even without reading the documentation, you can create a beautiful full blown menu within 3-5 minutes.

SNAPI ver 3.12 (1024)

One of the best source code analyzers and documenters around. Finds program structure errors, indents and cleans up your code, adds copyright notices, generates flow diagrams. SNAPI produces complete, detailed, technical documentation for an entire dBASE system. Includes on-line context sensitive help for ease of use.

dFLIPPER ver. 12.03 (1025)

dFLIPPER is a powerful data base engine that allows you to rapidly "flip" through and manipulate dBASE, Clipper, and compatible database files. With dFLIPPER you can toggle between edit and browse modes to quickly scan, search, edit, print, add and delete records. It allows quick and easy access to .dbf files produced with commercial accounting packages such as SBT, SourceMate, and many others. Other features include: Handles up to 1 billion records; Fast mid-string searches on any field or combination of fields; Pop-up calculator; A control file to allow for relational setups as well as preconfigured function key glossary definitions. You do not need dBASE to use dFLIPPER. Requires 512K.

dLITE ver 1.0 (1031)

dLITE is a memory resident database utility which gives instant access to up to 10 dBASE III-compatible applications from within virtually any other text-based program. dLITE provides the most common database functions and some fantastic new ones from a pop-up, light bar menu which displays on the top four lines of the screen. Functions include: Adding, updating or displaying records in any dBASE III-compatible data base using up to 7 indexes; Creating a custom dBASE III-compatible data entry screen using a dBASE-standard .FMT file; Creating a dLITE PASTE-IT template to extract any information from a database and instantly "pasting it" into your favorite foreground word processing or spreadsheet program in seconds (say goodbye to complex file conversion routines!); Creating customized lists, labels, or reports that can be pasted into your word processor or spreadsheet. This disk includes three complimentary databases: A fantastic mailing list manager, a complete index of PC-Magazine articles from 1985 thru 1987, and a Congressional membership list. dLite is a fantastic utility for dBASE users who can spare 160K for a ram-resident program. dLite even includes a function to remove it from memory when you're through using it.

dBASE UTILITIES 1 (1032)

dBACKUP will reliably backup and restore large dBASE III+/IV files to and from floppy diskettes. During the backup process, large dBASE files are broken into

smaller units for floppy disk storage. This menu-driven, easy-to-use program tested perfectly on our large data files.

dSCAR 2.0 is a dBASE Source Code Analyzer and Reporter. The following functions are provided: Structured formatting (Indentation) of dBASE code, flow diagrams to highlight control statements, cross-referencing of variables and field names, display of structural errors in code, source code line numbering, flexible reports, and Clipper support.

SPREADSHEET

AS EASY AS ver 4.0 (902)

Shareware's best spreadsheet program. Looks, behaves like, is compatible with Lotus 1-2-3. Almost all Lotus functions are present, complete math functions, 5 graph options, complete on-screen menus and function key utilization, macros, range names, absolute and relative addressing, creates and can use Lotus WKS and WK1 files, and much more. New features of this MAJOR UPDATE include: 8,192 rows x 256 columns; Spreadsheet linking; Shell to DOS; Supports string functions; Supports 24-pin printers and HP LaserJet graphics; Reads/writes dBASE files; Easy data input form for entering, viewing and editing records; Improved on-line help; Samples; Most of the function arguments (commands) of Lotus 1-2-3 version 3.0; and much more. Supports CGA, EGA and Hercules graphics. This is a super spreadsheet bargain. Requires 384K.

QUBECALC ver 3.02 (903)

A superlative 3-D spreadsheet with all the functionality of Lotus 123. 64 columns by 64 rows by 64 pages. Just imagine having 64 separate 64x64 cell spreadsheets in memory at the same. The real power of QUBECALC is its ability to rotate the "WorkQube" to allow you to look at your data from many different perspectives. For example, you can turn rows into columns, columns into pages, and so on. Import/export Lotus 123, dBASE and .DIF files; Full graphing; Powerful macro language; Many financial, statistical, math, trig, logical, date, time, text, special functions; and many more features that can't be found elsewhere at any price. QUBECALC is extremely powerful yet easy to learn and use (Lotus-like structure, on-line help). PC-Magazine "Editors Choice."

INSTACALC ver 3.02 (904)

A full featured Lotus-like spreadsheet program for medium size files. It is unique among spreadsheet programs because it is memory-resident and thus can be called up while you are running another program. For example, call up INSTACALC while you are running your word processor and then automatically transfer tables and figures from INSTACALC into your word processor. Supports a large range of math, trig, financial, statistical, logical, date and time functions. Won "Editors Choice" in the Feb. 1988 issue of PC MAGAZINE. If your spreadsheets are moderate in size, INSTACALC may be your cup of tea.

GOALSEEKER ver 3.4 (905)

GOALSEEKER is a memory resident program that will make your spreadsheet much easier to use. It automatically finds solutions with a "reverse" search method. Install GOALSEEKER in the background and tell it what value you want in a specific calculated cell. Then choose a value cell and GOALSEEKER will tell you what value is necessary to arrive at a previously chosen solution. With GOALSEEKER you now have the ability to achieve certain targeted values by varying the associated data. The program is fast, uses only 40K of memory and can insert new, completely recalculated values. There is no limit on spreadsheet size. Supports Lotus 1-2-3, SuperCalc 4, MultiPlan and VP Planner. This shareware release was formerly a purely commercial program.

LOTUS HOME BUDGET TEMPLATE (906)

This disk contains 12 monthly files to help you maintain a log of your monthly household expenses with tax purposes in mind. Features include: Graphing of expenses vs. income, printing portions of the spreadsheet; Automatic transformation to different parts of the spreadsheet. Automobile log to keep track of auto expenses (Lotus calculates gas mileage, distance traveled, etc.); Each monthly file has its own checkbook monitor to allow easy checkbook balancing. Requires Lotus 1-2-3.

LOTUS SPREADSHEET TEMPLATES (907)

ANNUITY is a menu-driven worksheet that will calculate an annuity or equity builder amortization schedule for up to 50 years. COUPONS uses 123 macros, provides a convenient way to keep track of your coupons and to use them while shopping. UTILITIES keeps track of your monthly gas and electrical bills. Macros and graphs. BUSINESS includes four worksheet files for creating a financial statement, invoice, employee FICA and withholding sheet, and a balance sheet. 1-2-3 +CASH is a powerful, versatile and easy to use cash management system. FLOWCHART is designed to quickly draw a flowchart outline using the ALT keys. ICR-CALC automatically computes IRS interest owed on underpayment of income tax. MI-STOX is a menu driven worksheet to examine what-if scenarios for stocks. GOLF is a golf handicapping template. RENTAL is a complete rental record and analysis system for property owners. Requires Lotus 1-2-3.

LOTUS MACROS (908)

This disk contains a worksheet file integrator for 1-2-3 macro files in worksheet format. The 21 macro files include: Check Book Balancer, Cash Disbursements, Cash Flow Manager, Cash Flow Projection, Loan Amortization, Loan Payoff Calculator, Line-of-Credit Tracker, ACRS Depreciation Calc., Internal Rate-of-Return, Acc. Rec. Tracker, EOQ Inventory Ordering, 5-in-1 Financial Statement, Ratio Analyzer, Interactive Inc-Statement, Statistics Calculator, Growth Capacity Calc., Queue Analysis (single and multi), New Venture Budget, Price Volume Analysis, Quote Generator. Designed to save you time and effort. Requires Lotus 1-2-3.

LOTUS LEARNING SYSTEM ver 2.41 (909,910) 2 disks

This excellent interactive tutorial teaches you to use Lotus 123. It was written with the novice computer user in mind. Some of the areas covered include: Spreadsheet background; Applications for Lotus 123; Lotus command menu structure; Lotus use of the keyboard; and much more. The tutorial allows you to select from a menu the specific area you wish to cover. Included are Lotus 123 "Real Time and Feel Simulations" and tutorials on Trail Balance and Profit/Loss Worksheets. Four useful worksheets are provided for you to keep and use. This is a great system for anyone who owns or plans to buy Lotus 123.

1-2-3 POWER-WORKSHEETS (911,912) 2 disks

Relieves you of the need to set up (or program) and test 1-2-3 worksheets to solve standard problems. The worksheets are fully automatic, completely menu-driven and easy to use. Even first-time users can immediately enter data and generate useful results including graphs. This first-rate package from Wildfire Technology includes over 130 pages of documentation. Requires Lotus 1-2-3. Six of the twelve excellent worksheets in this package are:

AGENDA - Allows you to go from one worksheet to another while remaining entirely under menu control.

DEPREC - Performs four kinds of depreciation calculations.
PROFIT - Comprehensive profitability and breakeven analysis worksheet that produces a wide variety of graphs and is loaded with graph options.

SREGR - Provides both tabular and graphical linear regression analysis.

BSTAT - Performs a basic statistical summary of data sets and allows visual comparison of the data with over 40 graphs.

ANALYZER - Powerful financial planning tool.

BTIMES - Powerful stock trend analysis tool with over 40 graphs.

LOTUS UTILITIES (913)

SPRINT/4 is a Lotus 1-2-3 add-in that significantly increases the speed of 1-2-3 recalculation. Can be configured to be automatically attached to 1-2-3 on startup and takes up about 16K of memory. Uses "sparse-matrix" technology to recalculate only those worksheet cells that have been changed since the last recalculation. Compatible with 1-2-3 Release 2.01 only.

ENHANCER allows you to set screen colors for 1-2-3 and Symphony worksheets. Also allows you to use the line graphics characters in the IBM character set for screen as well as printouts (if you have a printer that will print graphic characters). Solid lines make your printed reports look very professional.

LFMD reads in 123 spreadsheets (WKS and WK1) and documents the author, purpose, longevity, and does a brief analysis of the worksheet. The program looks for the keywords "author:", "purpose:", and "type:" if then prints the cell contents to the right of each keyword.

1234 allows you to start 1-2-3 and have it load any spreadsheet from any drive and/or directory. You can still have a default auto-load spreadsheet (AUTO123.WK1) in your 123 program directory. 123RANGE prints out worksheet ranges.

@LAST (918)

Extremely useful Lotus ad-in for 1-2-3 version 2.0 and 2.01. It provides a feature that 1-2-3 sorely lacks - powerful search and replace functions for spreadsheet cells. @LAST allows you to find and modify specific cell entries. It can be executed from the command line or by macros within 1-2-3. Searches can be set to range, direction, case, label, and cell type (character string, formula, number, error). You can verify before modifying cell contents, perform global search and replace, and recalculate the entire worksheet. @LAST is easy to use (works just like 1-2-3), is fast and uses only 20K of memory.

SCIENTIFIC AND ENGINEERING TOOL for LOTUS**ver 1.0 (900)****~NEW**

This easy-to-use, menu-driven scientific and engineering tool for Lotus 123 operates with Lotus-style commands, menus, formulas, etc. The sophisticated programmable calculator performs: Simple math; Functions editing (programming) and calculations; Units definition and conversion; integration and differentiation of functions and data tables; Editing and calculating statistical functions on lists of numbers; Frequency and normal distribution; Curve fitting (4 types); Root finding (incl. non-linear equations); Matrix operations; and Simultaneous linear equations. Requires Lotus 123 version 2.0 or 2.01.

PIVOTI ver 1.01 (901)**~NEW**

PIVOTI allows you to print your LOTUS, AS-EASY-AS and compatible spreadsheets in either portrait (vertical) or landscape (horizontal) orientation and with different fonts. A second, very interesting program on this disk (GCHAR) allows you to develop your own fonts for use by PIVOTI. Requires a graphics monitor.

BIGPICXX (926)**~NEW**

This is a full-featured home or business budget spreadsheet template for Lotus 123 and compatibles (like AS-EASY-AS). It places you in that all-important middle ground between overwhelming detail and not enough information, allowing you to manage your money so you can accomplish the things you want in life. Helps prevent those yearly bills from sneaking up on you! Its main purpose is to record those sneaky annual expenses for which there's no other dependable way to keep track of, and then show you predicted yearly expenses on a weekly basis. Weekly costs are broken down into 15 categories. Annual, weekly, and monthly averages are then shown for the year. As you enter data, you immediately see the computed sums and differences of your entries. Prints next year's bills on a map-size chart for easy reference. Also, **BIGPICXX** is easily customized to your special needs. Requires Lotus 123, AS-EASY-AS, or compatibles (any spreadsheet that reads .WKS or .WKT files).

CHEKCHEK (927)**~NEW**

This is a checking account spreadsheet template for Lotus 123 or compatible (like AS-EASY-AS). Banks do make mistakes. That's why you need **CHEKCHEK**. It's very easy to use. All that's required is for the first check of the series to be entered, followed by a sequential listing of deposits and withdrawals. Just like your checkbook, one mistake makes everything afterwards incorrect. But, unlike your checkbook, correcting that single error corrects EVERYTHING that follows -- instantly and automatically! Requires Lotus 123, AS-EASY-AS, or compatible (any spreadsheet program that reads .WKS or .WKT files).

POWER SHEETS ver 2.25E (922)

One of the most powerful of all spreadsheet programs, **POWER SHEETS** was PC Magazine's Editor's Choice for 1984. Used by Ford, AMOCO, and First Chicago to develop sophisticated turn-key applications beyond capabilities of other spreadsheets. Major features include true 3-D structure with ability to rotate cube of data to view slices of data in other orientations; 255 rows x 255 cols x 255 pages (1,651,375 cells); true programmability; program language can exist as ASCII files or in cells; language is easy to learn for simple operations, yet has power to write large turn-key applications; user priority creates blinding speed; descriptive menu system; computed cell references and ranges; the only spreadsheet where bounds of a range can be computed based on values of other cells; true-date and true-time math; all functions fully recursive and can nest to any depth; restricted calc; natural recalculation order and sparse memory mapping; reads/writes DIF files row- or column-wise; reads/writes non-delimited or delimited ASCII files with any choice of delimiters; function library includes trig, log, statistical, and boolean functions, yes-no-maybe logic, and sophisticated case function; includes EXEC programs for nearly every financial function; and much more. Not Lotus-compatible. Requires 256K.

EZ-SPREADSHEET (917)**~NEW**

This simple spreadsheet program is an ideal pick for users who are new to spreadsheets and want to learn the basics. While **EZ-SPREADSHEET** will not satisfy the needs of the power user, it will meet the needs of most users. If you're looking for a program that will ease you into the world of spreadsheets, this program is for you.

EXPRESSCALC ver 4.06 (920,921) 2 disks

One of the best beginner's spreadsheet program for home, school, or office. 64 columns by 256 rows. Spreadsheets can link to other spreadsheets or to data files from File Express or PC-File to extract data or add up numbers. Produces reports in minutes that would take hours or days to do manually. Perfect for preparing sales journals; computing taxes, depreciation, interest, etc; preparing business forecasts; and more; and then playing "what if" games to see how the results change.

PC-CALC+ ver 2.0 (914,915,916) 3 disks

If you've struggled with your accounting, budgeting, checkbooks, etc., you're ready to enjoy the benefits of an electronic spreadsheet. **PC-CALC+** combines ease of use with powerful features, making it an excellent spreadsheet program. With features like graphics, split screens, DOS access, powerful printing options, 8087 and 80287 support, full DOS PATH support, macros, flexible formatting, and more, **PC-CALC+** proves invaluable. **PC-CALC+** also includes trigonometric capabilities, powerful business functions, and sophisticated date and time functions. 256 columns by number of rows limited only by memory. In addition, the program offers extensive context-sensitive help screens and easy-to-follow menus. Requires 280K.

MIPSCALC PLUS ver 0.9 (923,924,925) 3 disks ~NEW

This powerful graphic-based spreadsheet program operates under GEM Desktop. Features include: Fast 8192x256 sparse memory matrix cells; Multiple windows; Pie, Bar, Line, Stacked, and Scatter graphs; Ventura Publisher-compatibility; Reads and writes Lotus files; Over 50 math @ functions; On-line help;

Mouse support; and more! Shareware version creates spreadsheets of about 50K in a 640K environment. Requires GEM Desktop 1.2 or above, 512K, hard disk, mouse, and any graphics monitor.

COMMUNICATIONS

TELIX ver 3.11 (1715,1716) 2 disks

TELIX is the preferred communications program at TSL, and we use it exclusively. This is a powerful and fast program that is as easy to use as it is good looking. It has the features sported by other top programs, including: Multiple dialing directories each with 1,000 entry capacity; 12 internal transfer protocols including SEALink (20% faster than X-Modem) and the extremely reliable ZModem; Support for 4 external transfer protocols and up to 8 com ports; Keyboard macros; Automatic logon; Powerful programmable script language; Host mode; Access to DOS and 64K screen backscroll buffer; Session logging; Support for baud rates up to 115,200 bps; and much, much more. TELIX is designed for easy set up and use for the novice, and it will meet the needs of the most demanding communications veteran. With all the great communications programs available, we wouldn't use TELIX if we didn't love it.

PROCOMM ver 2.43 (1700,1701) 2 disks

PROCOMM is an outstanding communications program and is packed with every feature you could possibly ask for. Yet it is so logically organized that it couldn't be easier to use. Features include dazzling speed; beautiful user interface with exploding windows, sound effects and context-sensitive help screens; 100 number dialing directory; auto redial; automatic logon and unattended operation; Host mode for remote access; DOS gateway; keyboard macros with record (learn) mode; multiple error correcting file transfer protocols and terminal emulations; keyboard remapping; and much more. Designed exclusively for the convenience of the user, PROCOMM is strictly 'state of the art.' Rivals the very best commercial programs

PROFONEDIT (1704)

A utility for editing more than one entry at a time in your PROCOMM dialing directory. You can mark entire blocks for adding, deleting, moving, sorting, exchanging, and packing your phone entries. Other features include: Enhanced line editing capabilities; Undo changes; Creates directory backup files; Completely menu driven with on-line help. If you use PROCOMM and have a substantial dialing directory, PROFONEDIT is a must for directory editing and reorganization. Requires PROCOMM communications package (see above).

BOYAN ver 4.0 (1705-1706) 2 disks

BOYAN version D3 is a full-featured communications program. It has raised a lot of eyebrows because it was written by a high school student. But the PC publications have given it a big thumbs up. PC WEEK said: "... its overall look and feel are combined with many delightful design features to offer users smooth and intuitive control over practically any telecommunication function... In short, BOYAN smooths nearly every minor inconvenience, peculiarity or awkwardness that plagues other telecommunication programs." Includes most all the features of other top programs, and adds some of its own, like: A calling log that records calls, uploads, and downloads; Dialing directory keeps the last date a BBS was called; Filenames for downloads never have to be entered twice; and more. What BOYAN does lack is a variety of terminal emulations. BOYAN is an excellent choice, especially for the newer user.

BIMODEM ver 1.10 (1717)

BIMODEM is a new communications protocol that allows simultaneous bidirectional file transfers. This means that BIMODEM can upload while downloading. Imagine the time savings if you could upload with Zmodem and YmodemG efficiencies while downloading at the same efficiency at the same time. Everyone from occasional BBS users to fulltime network managers will appreciate the advantages of exploiting full duplex operations. If that feature isn't enough to get you really excited, how about the ability to chat while the transfer is going on? BIMODEM uses 32 bit CRC's to insure accuracy and allows you to create a large list of upload and download requests before you even start a session. This unique program runs with all popular communications programs (Telix, Procomm, etc.) and BBS programs.

COMHELP (1707)

COMHELP is a useful menu-driven utility for both reading and writing COM port communication parameters - can even read COM port Uart settings. Sets communication parameters and Uart speeds, helps solve communications problems, checks serial/internal modem installation, tests Uart, tests EIA cable, and more. Includes in-depth help screens.

TAPCIS 5.2a (1708,1709) 2 disks

TAPCIS is a complete, must-have program for accessing CompuServe. Acclaimed in PC-Magazine and CompuServe's own ONLINE TODAY, it automates the use of CompuServe, thus reducing connect time to a minimum. Rich in features, menu-driven and easy to use, if you are accessing CompuServe without TAPCIS, you are wasting precious time and money. This program is a true value.

VT 50/100 EMULATION ver 9.0 (1710)

PC-VT is a software emulator which makes your PC function as a DEC VT102, VT52, or VT100 video terminal for most functions except for 132-column screen and half-duplex capabilities. Features on-line help, dialing directory capabilities, support for ASCII and XMODEM file transfer, ANSI and DEC escape sequences, XON/XOFF, local printer support, etc. Works with Hayes and compatible modems.

WILDCAT BBS SYSTEM v. 1.03 (1711,1712) 2 disks

At first glance, WILDCAT may appear to be just another bulletin board software program because it incorporates the favorite features of other popular BBS programs. But this is where any similarity ends. Powerful, precedent-setting features have been added, including: 14 security levels; 26 customizable display files; Folders for messages and wastebasket; Unlimited callers; Remote event timer; Runs up to 9600 baud; and much more. Easy set up and extensive, clearly written documentation make this program most ideal for novice and experienced BBS operators. Emphasis on security makes it ideal for the business environment. WILDCAT is simply a vision of what a full featured bulletin board program should be. Requires 384K, hard disk drive, Hayes compatible modem.

TELEDISK ver. 1.05 (1713)

TELEDISK converts any diskette into a tightly compressed file. You can then transmit the file using your communications program and again use TELEDISK to reconstruct an exact copy of the diskette from the file. The diskette need not be a DOS diskette, and many copy-protection schemes are handled. Some applications of TELEDISK are: Send a whole diskette without worrying about including all the right files; Transmit diskettes complete with hidden, read-only and system files, volume labels and subdirectories, and boot sectors; Transmit "foreign" diskette formats - an answer to how to send a diskette from, say, a Wang word processor over the phone lines. When necessary, TELEDISK automatically splits large files across several diskettes (essential for diskette-only systems). Supports low- and high-density formats. Menu-driven with on-line help screens for ease of use.

PRIVATE ACCESS ver. 1.0 (1718) ~NEW

PRIVATE ACCESS allows telecommunications access to your PC and allows the sharing of the same phone line with a fax machine or answering machine. If you use an answering machine, the PRIVATE ACCESS "MESSAGE ALERT" will call your pager whenever a message has been left on the answering machine. You configure the program with your pager's phone number and modem information, and leave your answering machine and modem attached to the same phone line. PRIVATE ACCESS will wait until a message has been left on your answering machine and then uses your modem to call your pager. You can then gain remote, private access to your computer - view directories, process and transfer files, etc.

SAPPHIRE BBS ver 1.10 (1719) ~NEW

A zero-maintenance bulletin board system ANYONE can set up and operate. You can have all the advantages and enjoyment of running a BBS without the repetitive work required by many BBS packages. Easy to learn, amazingly powerful Sapphire commands are in plain English. Requires 512K, a hard disk or 2 floppy drives, and a "smart" modem.

PYROTO MOUNTAIN ver 1.0 (1720) ~NEW

A bulletin board system (BBS) that is also an exciting multi-player adventure game. Modem users become wizards, learn spells, and gain power. If you can reach the top of Pyroto Mountain, you can decide the fate of other players. Can also run under another BBS as a "door" program. Requires a modem.

THE MESSAGE MANAGER ver 1.10 (1721) ~NEW

This is essentially a text editor with many special enhancements that allow you to easily compose messages to be posted on electronic bulletin boards. With THE MESSAGE MANAGER, you have time to carefully compose your thoughts before posting a public message - you do it all OFF-LINE. A pop-up ASCII chart makes it easy for you to create neatly formatted notes and accent text with lines, boxes, and fill characters. You can even throw in some ANSI color! The program works with almost ANY bulletin board system. You don't need to enter any special "doors" or worry about whether or not the system you're calling is compatible. A BBS Directory stores the name of the board, the number of characters allowed per line, and the total number of lines allowed per message. This eliminates the need to reformat a message that you want to send to more than one board. You can also capture and read BBS messages and reply to them from within THE MESSAGE MANAGER.

QMODEM SST ver 4.1 (1722,1723) 2 disks ~NEW

QMODEM is one of the most popular communication programs and boasts even more features than Procomm. In addition to standard features, QMODEM offers: Exhaustive, context-sensitive on-line help; Internal host mode; Script "Quick-Learn" mode; 200 number dialing directory can be sorted, tagged, searched, and printed; File transfer windows feature dynamic bar graph display that tracks file transfer in progress; Support for 43-lines on EGA; Built-in support for PCjr; and much more. Requires 384K, 2 floppy disks or a hard disk.

EDUCATION

COMPUTER TUTOR (302)

TUTOR.COM ver 4.42 is a complete interactive DOS and computer tutorial. Covers the basic terms, keyboard, I/O, DOS commands, subdirectories, and batch language. Uses interactive method of teaching (asks questions, you answer, it corrects you when necessary). Menu-driven and easy to use. An absolute must for the new user.

THE GTE TIPS & TRICKS DISK (303) ~NEW

This entertaining and enlightening slide show presentation from the GTE Service Corporation is designed to cover computing fundamentals for new users and to bring experienced users back to proper computing habits. There is a wealth of information here, and it's presented in an attractive "plain English" package that will delight the novice user. Several areas are covered, including: Computer setup and organization; An introduction to DOS - the software operating system that runs the PC; Computer and software terminology; The essential DOS commands; Hard disk setup; Introduction of User Supported and Public Domain software; Introduction to modems and communications; and much more. We strongly recommend this package to anyone who is new to computing. Requires a graphics card and color monitor.

EASY DOS (305)

PC-PROMPT is a unique, memory-resident help utility that looks for DOS commands as you type them and automatically displays their correct syntax on the bottom line of your screen. This is a fool proof system for new users because it automatically activates when you type a DOS command and deactivates when the command is executed.

POP-HELP is an on-line DOS reference manual that can be used as a pop-up program or from the DOS prompt. Highly recommended for new users.

HELP-DOS (306)

Put your DOS manual where it will do you the most good: on-line. Full on-screen help with every DOS command. Just type HELP and choose from the HELP-DOS menu. Select from two levels of help - summary explanation and detailed explanation including examples. Get the answers fast. Help is also available for many important topics not normally discussed in the DOS manual. The more you know about DOS the more control you'll have over your computer. Become a more knowledgeable user. Put the important DOS information where you need it - at your fingertips. Excellent user interface and extremely easy to use.

AMY'S FIRST PRIMER ver. 1.7 (307)

Six delightful games will give your children a head start in school with the alphabet, numbers, counting, shapes, matching, problem solving, and pattern recognition. Has very exciting colors and sounds that help keep preschoolers involved with learning. Simple to use and based on positive feedback. Each game patiently waits and helps until the correct answer is discovered, then celebrates with obvious glee. Requires CGA or EGA. If you have monochrome graphics, you can use a CGA simulator (see TSL Disk #433).

KIDGAMES (308)

This disk includes a very nice set of learning games designed for children ages 2 to 5 years. **HANGMAN** teaches letter sounds and spelling and includes a customizable dictionary. **ALPHABET** teaches the alphabet and alphabet sequence. **ANIMAL MATH** teaches simple preschool math. **CLOCK & MOUSE** teaches how to read an analog clock. **MOSAIC** teaches pattern matching. Plenty of positive reinforcement for correct answers. Tunes and 90 different pictures make these games entertaining and stimulate the learning process. Includes a program to design your own pictures to be used by the games. Requires CGA or EGA.

ABC FUN KEYS (309)

This is a musical learning program that teaches the alphabet to children. Includes four related learning games based on the alphabet. Letters are displayed along with colorful pictures of items whose names begin with the appropriate letter. When the child presses the key corresponding to the letter, a nursery rhyme melody is played. A buzz sounds if the wrong key is pressed. Designed to make learning fun for children ages 2 to 5 years. Requires CGA.

ELEMENTARY EDUCATION #1 (310)

FUNNELS and BUCKETS is an outstanding game that teaches young children basic math skills (addition, subtraction, division, multiplication). The key to this program's success is that it is so entertaining that it holds the child's attention.

EM1 is a math education program for 1st graders. It effectively teaches shapes, size and counting.

WORD PROCESSING FOR CHILDREN is a simple word processor specifically designed for the needs of a child who is just learning to write. It features graphic menus, extra large characters, and word wrap. All three programs make extensive use of color and sound effects. Requires CGA or EGA.

PLAY 'N' LEARN ver 2.03 (316)

PLAY 'N' LEARN combines six educational games with 12 variations for young children ages 18 months to 4 years. Games include **AMANDA'S LETTER LOTTO** (learn the alphabet), **ZACH-A-DOODLE** (like Etch-A-Sketch), **COLOR SCREEN** (changes screen colors), **COLOR MATCH** (learn colors and the alphabet), **WORD WHIRL** (learn about words and names), **NEXT NUMBER** (learn numbers 1-9), and **BLACK BOARD SHAPES** (learn to match shapes). Excellent for a young child's first introduction to computers.

SECONDARY EDUCATION (312)

This disk includes four educational programs. **CELLPART** uses graphics to teach and test on the parts of the cell. **IQ-BUILDER** covers synonyms, antonyms, analogies, and number logic. **MATHPAK** is designed to make advanced math easy to learn. **USACON** puts the entire text of the U.S. Constitution on-line and accessible via a menu. Requires BASIC.

BALLOON SPELLER (326) ~NEW

This set of three challenging spelling games is fun for young and old alike. You move a hot air balloon around, picking up the letters you need. Uses lists of words YOU create. In **WORD FLASH**, a word is flashed, then you must spell it. In **WORD JUMBLE**, letters of a word are scattered around, then you must pick them up in proper order. In **WORD GUESS**, you must guess the letters in the word to be spelled (a Hangman-type game). Makes a great educational development tool.

PC-FASTYPE ver 4.0 (311)

An excellent, interactive typing instructor and drill for beginning, intermediate and advanced typists. A picture of your keyboard is graphically displayed on the bottom half of the screen. As you type on the top half of the screen, the correct key to hit is highlighted on the picture of the keyboard. Especially helpful for beginners to learn basic typing skills. Requires CGA, EGA or VGA. Works with Hercules monochrome when you use a CGA simulator (see Disk #433).

TOUCH TYPE TUTOR ver 2.0 (300) ~NEW

TTT is designed to help you learn touch typing and to improve your skills if you already know how to type. It does this through a series of carefully planned lessons, speed tests, and a game. **TTT** keeps track of your progress as you learn, always presenting you with an appropriate level for learning. The tutorial section displays a sample keyboard, showing the keys used for the current lesson along with information about finger placement. The speed test section uses several files to test your typing speed that are typical of the types of text you'll encounter in various jobs. You can even create your own files. The game portion of the program is an excellent way to improve your mastery of the keyboard while having fun. Five levels of difficulty let you start out easy, graduating to more difficult levels as you make progress. The program is menu-driven with on-line help for ease of use. Works with any monitor.

ALGEBRA 1 ver. 1.4X (313)

PROFESSOR WEISSMAN'S ALGEBRA 1 is a new menu-driven algebra tutor designed for high school, junior college, and adult education students. The shareware version of Algebra 1 includes 10 lessons covering inequality symbols, signed number math, order of operations, exponents, and more. Each lesson has up to five levels of difficulty with automatic branching to more difficult problems. You answer freeform rather than multiple choice. A particularly nice feature is the display of step by step solutions to wrong answers. The program grades the student, and results can be displayed and printed. This is an excellent, easy to use program. Requires CGA, EGA, or VGA.

WORDPERFECT 4.2 LEARNING SYSTEM (353,354) 2 disks

This step-by-step multi-featured tutorial teaches you the skills you need for using WordPerfect 4.2 with ease. Over 300 tutorial screens help you learn to create and edit a document, use page formatting parameters, use the spell checker, thesaurus and arithmetic features, and much more. There are even lessons which help you understand the basic hardware, DOS, and keyboard functions. This tutorial is a must for anyone starting out on the road to understanding and using WordPerfect 4.2. Requires 512K, CGA, and WordPerfect 4.2.

WORDPERFECT 5.0 LEARNING SYSTEM (355,356) 2 disks

This step-by-step multi-featured tutorial teaches you the skills you need for using WordPerfect 5.0. Includes all the features of our WordPerfect 4.2 Learning System tutorial set (see above). Requires 512K, CGA, and WordPerfect 5.0.

HEBREW QUIZ (314)

This is a Biblical Hebrew language tutor covering the alphabet, grammar, verbs, and vocabulary. Verbs are taught according to type, tense, person, number, gender suffix, or conjugation. Vocabulary is taught according to word type, cognate groups, and how frequently they occur in the Old Testament. You can select a specific part of grammar for review. Quizzes for each area of study are timed and keep a record of your scores. The program is menu-driven and easy to use. If you have a graphics monitor (not required), the display of Hebrew characters is especially attractive.

VIDEOCHEM (315)

VIDEOCHEM is an educational program designed to teach secondary school students about the nature of atoms and molecules. The lecture section covers the following: Introduction to atoms and their structure, how atoms combine to form molecules, which atoms can and cannot combine, number of atoms needed for molecular combinations, chemical valence, etc. The practice lab section provides guided, hands-on experience with chemical combinations, and the lab section allows you to run your own experiments and alerts you to your errors. The lessons are easy and the animated graphics are great. Requires CGA or EGA.

TEST ver 1.0 (317)

TEST is a student study aid, providing a dynamic, structured approach to learning a set of facts. **TEST** should be of special interest to those having difficulty studying on their own. Test questions and answers are easily entered in multiple choice or question/answer form. Additional questions are asked on only incorrect responses until all questions are correctly answered. Questions may be in any form: straight questions, fill in the blanks, or math problems. Separate test databases are easily created. Question/answer editing and deleting is very simple. Features random-order testing and includes a sample test.

HYTEXT ver 2.03 (318)

HYTEXT offers authors and teachers the advantages "hypertext" - the latest development in computer aided instruction. We think and learn in a non-linear fashion, skipping about various ideas that interest us at the moment. Yet we are forced to read through books and articles sequentially, line-by-line, page-by-page, from beginning to end. **HYTEXT** solves this conflict by allowing the author to write in such a way that the reader can jump off the main subject and study related topics. The reader uses a simple "point-and-shoot" menu to dig deeper into a subject, study material that sparks his interest, and return to the main subject at any time. Includes **HYTEXT** files for learning the program, and foreign language and MS-DOS instruction. This is an excellent system for any teacher or instructor using the computer as a learning aid.

WORD-PART DICTIONARY ver 2.0 (319)

This program is one of the most effective systems to improve your word power. It was designed specifically to help individuals prepare for SAT, GRE, ACT, CBAT or any civil service test. Learning words through word parts allows you to study a group of words at a time as opposed to one at a time. It can also help you understand and remember words. This system has a database of 500 word parts and 2000 related words with concise definitions. The selected list of word parts are related to about 70% of the tough words in a typical SAT, ACT, CBAT, or GRE verbal test. Menu-driven with on-line instructions for ease of use.

PC-CAI ver 1.0 (320)

PC-CAI (Computer Assisted Instruction) allows you to create computer-driven tutorials, tests, and demonstrations. It works much like a word processor: You enter your information into a word processing-like editor along with some simple commands, and **PC-CAI** does the rest. Even allows you to create pictures for use in your tutorial. A demo shows some of the things you can do with **PC-CAI**. Includes on-line help screens. Any monitor will work, but only graphics monitors display pictures; non-graphics monitors display only text. Hercules/compatible graphics display only text; not graphics. Requires 320K.

EZ dBASE III+ and dBLX TRAINER (321)

Teaches you basic dBASE III+ and dBLX operations in a fast-paced, challenging format. Training covers modifying a basic menu and data base, indexing a data base file, modifying an input screen, modifying the report-producing program, modifying the other programs, and modifying the program that documents the system and provides user instructions. Requires dBASE III+ or dBLX.

dBASE IV TUTOR (301)

~NEW

This 950 page tutorial (you print it) includes basic and advanced courses in using dBASE IV. This very comprehensive trainer shows you how to design databases and covers numerous applications using the new dBASE IV Assist as well as writing program code. The text includes 450K of programming samples. Requires a hard disk, IBM compatible printer that prints the extended character set, and dBASE IV to use the programming samples.

R U READY FOR CALCULUS I ver 2.4 (322)

The main reason students do poorly in calculus is: (1) forgotten algebra and trig skills and (2) they did not master the material in algebra and trig that is essential for success in calculus. To address this problem, the University of Arizona Math Department brings you **R U READY FOR CALCULUS**. The program quizzes the student and hones skills on those areas of algebra and trig which are actually needed for success in calculus. Includes quizzes, review quizzes, and performance assessments. The student is informed if he has sufficient knowledge of the material or if he should work on a specific problem area. This easy-to-use program is entirely menu-driven and has on-line help. Also included is a version of the program called **R U READY FOR BUSINESS CALCULUS** which is designed for those who need to improve skills specific to a business environment. Highly recommended for every pre-calculus student.

TURBO LESSONS ver 5.0 (323)

A 16 lesson tutorial to help you learn to program in Turbo Pascal. The lessons are action oriented in that sample programs are included with each lesson. The idea is that learning by doing is better than just reading about a subject. Very well organized and complete coverage of Turbo Pascal through version 5.0, including the new Debug feature. Also includes many example programs for you to review and use.

PASCAL TUTOR ver 2.2 (357,358) 2 disks

PASCAL TUTOR is an exceptional program that will teach you all you need to know about the majority of your Pascal programming needs. The first few chapters even assume you know nothing about programming in general. Includes sample programs to help teach you the basics. The tutorial is written especially with Borland International's **TURBO Pascal** versions 3.0 through 5.0 in mind.

BASIC TUTOR (329)

Three Basic Language learning programs recommended for the novice programmer.

BASIC PROFESSOR is a very good interactive tutorial on Basic Language programming. Basic statements, commands and functions are introduced in an easy-to-understand, well organized manner. You try them out, see them in action, and are prompted when you make a mistake.

BasicDOS is a Basic reference card covering Basic commands, statements, etc.

ARCHIE is a very clever and entertaining introduction to Structured Basic. (See **PROGRAMMING & LANGUAGES**, Disk #1411 for more information on Structured Basic).

PC-BASIC PRIMER (330)

PC BASIC PRIMER is a menu-driven BASIC tutor designed with the beginner in mind. Features graphics, color, sound, and very friendly user interaction. Maintains a professional appearance throughout. A hints section contains many helpful programming ideas, and a collection of 11 entertaining BASIC programs can later serve as programming examples. Requires BASIC, CGA, and color monitor.

PC-QUIZZER ver 2.1 (334)

PC-QUIZZER is a Computer Aided Instruction (CAI) package designed for easy use while retaining many of the features found in expensive CAI packages. The user can create computerized lessons without the requirement to learn a complex CAI programming language. The lesson is presented to the student using windows which contain options, questions, the answer prompt, and help. From the options menu the student is able to select features such as immediate question retry, Repeat missed questions, Almost correct answer, Select questions based on keywords, and more. Questions may be true/false, fill in the blank, and multiple choice. **PC-QUIZZER** can be used for instruction in almost any subject including foreign languages, history, science, math, vocabulary and word definitions. It may also be used to ask trivia questions at your next party for hours of fun. **PC-QUIZZER** is an excellent educational tool for everyone involved with learning or teaching. Requires any graphics monitor and 384K.

THE PRESIDENTS (341,342) 2 disks

THE PRESIDENTS is a designed for students to learn, review, and test their historical knowledge of the Presidents of the United States. This menu-driven program is made up of two parts: Biographies of the 40 U.S. Presidents and Quiz-review. The biographies are informative and interesting. The quiz questions are presented randomly and you have the choice of subject area. A search option allows you to look up specific pieces of information (i.e. which Presidents were involved with China or Panama). This is a very good, easy to use learning tool.

FLAGS of the WORLD (343)

This menu-driven program displays 115 different national flags in full color. Nations can be selected from the menu, or all flags can be displayed successively in automatic mode. Many of the displays are accompanied by

the country's national anthem. Requires CGA. Will work with EGA equipped with CGA compatibility mode.

FOREIGN LANGUAGES (344)

Eight menu-driven language tutorials, each with hundreds of word combinations and verb conjugation forms for Spanish, French, German, Italian, Hebrew. Select language-to-English or English-to-language combinations, choose multiple choice answers, be retested on misses, print a multiple choice test, and run a full quiz diagnostic routine with printer output. Requires BASIC.

FRENCH LANGUAGE TUTOR ver. 2.02 (350)

This is a menu-driven language learning tool that enables you to conjugate thousands of French verbs, all of which are included in the extensive library. An English definition is provided for each verb, and the selected verb may be fully conjugated into all 14 tenses. The meaning of each tense is explained, and a search mode allows you to go quickly to the verb you wish to conjugate. Verbs may be selected either by their French name or English translation. Includes many options.

SPANISH LANGUAGE TUTOR (351)

This package contains three tutorial programs: (1) **SPANISH VERB CONJUGATOR 2.02** functions identically to our **FRENCH LANGUAGE TUTOR** (see disk #350), including all features and options. (2) **SPANISH VERB CONJUGATOR QUIZ 3.1C** is a complete tool for learning the conjugated forms of any Spanish verbs, regular or irregular. Includes many options, even selection between Latin American and Continental Spanish. (3) **SPANISH NOUN GENDER QUIZ 1.1** tests you on the forms of the definite article for selected words. Includes many irregular words.

SPANISH FOR TRAVELLERS ver 1.0 (352)

One of the most advanced programs of its type available. Includes eight formal lessons, with an occasional quiz, and some tests thrown in for good measure. You are also pleasantly treated to short passages of Mexican music. A separate menu teaches verbs and standard phrases, and includes extra vocabulary words for the more serious student.

JAPANESE TUTOR ver 1.2 (345)

JAPANESE FOR BUSINESS & TRAVEL is an interactive tutorial program that teaches Japanese vocabulary, grammar, and culture. The course is geared toward the "illiterate" in that it assumes no prior knowledge of Japanese language. The program is composed of teaching and exercise (test) sections.

CANTONESE TUTOR ver 2.0 (346)

CANTONESE is designed to teach spoken Cantonese and serves mainly to teach vocabulary and pronunciation. It keeps score about the user's success with word recognition, tone recognition, measure recognition, and sentence translation. **CANTONES** will print lessons, including lists of those words the user still does not know from a lesson. With a standard word-processor, the user can also MergePrint the lessons into other formats for flash cards, vocabulary tests, etc. The program works best if it is used in the context of a language course.

CHEMICAL ver 2.0 (347)

CHEMICAL is a molecular modeling program to aid in the formation of three dimensional pictures of chemicals. Atoms are selected from a Periodic Table and electron orbital information retrieved. The atoms are then bonded. The chemical is displayed as it is being constructed. The chemical can be viewed from different directions, and Hybrid and Ionize commands can be used to alter the orbitals before bonding. Atoms can be bonded into groups, then the groups bonded to other groups to make large chemicals. A companion program, **CHEMVIEW**, shows 3-dimensional animation of the models generated with **CHEMICAL**. Requires CGA or EGA.

MORSE CODE TRAINER ver 4.01 (348)

CW is designed to help prospective hams learn the Morse Code and to help existing hams upgrade to a higher class of license. This is a comprehensive program which provides several modes of learning and practicing the code. Allows complete control over character, word and send speed. Learn through logically progressive levels. Includes receive test and FCC simulated licensing test. Entirely menu-driven.

RS-232 TUTOR (349)

RS-232 TUTOR is a tutorial on a typical communications connection. It takes you step by step through the more common signal sequences. It defines the electrical characteristics and pin assignments of a standard (25 pin) RS-232 interface connector, and it shows you how some of the more common pins are used in a communications session. The program employs a very effective slide show with 70 color slides accompanying the explanations. Designed for users with a technical interest.

COLLEGE PROBE (304)

~NEW

COLLEGE PROBE is an easy-to-use, menu driven program designed to help you select a college or university. This shareware version includes information on 113 educational institutions. Schools can be searched by such criteria as state, tuition, median SAT and ACT scores, size of student population, etc. More specific searches can be conducted by combining any of the above criteria, and top colleges can be searched by academic program. A search results in a "College Profile" that lists a school's enrollment statistics, number of applicants and percent accepted, tuition, financial aid, median SAT and ACT scores, application fee, etc. This information can be printed out, and the program even helps you write a letter to the school. A list of additional books on college selection is also provided.

THE AMERICAN STATES 2 disks (338,339) ~NEW

This excellent educational tool helps students learn, review, and test their historical knowledge of the American States. The program is entirely menu-driven, and you can use the search function to find material of direct interest or print the information. The Quiz-Review asks you up to 50 questions on the 50 States. You can choose to be quizzed on State names, capitals, geographic region, population, date of statehood, etc. Quizzes feature up to 23 different types of questions, hints for correct answers, and review of State histories. You can select from 50 tests which can be written to screen, disk or printer. Questions can be randomized, and the correct answer is given after each response.

FLASHCARD (325) ~NEW

FLASHCARD allows you to easily create lists for memorization, and to test your self on the subject of your choice. The test feature prompts you for the correct answer and lets you know if your response is correct or incorrect. If you don't know the answer, type 'C' the program shows you the correct answer and moves on to the next item. For foreign language tests, you can choose to be prompted in English, the target language, or mixed. Test order can be random or sequential. Included are foreign language lists for Italian and Latin. This nice educational aid is entirely menu-driven and very easy to use.

TOTAL RECALL ver 1.1 (327) ~NEW

This exciting, full-featured menu-driven learning system helps you memorize any subject where you must remember words, phrases, facts, names, dates, acronyms, etc. It automatically tracks terms you're having trouble with and gives you additional practice on them accordingly. Even includes example subject files. Although the unregistered version is limited to 50 entries per file, it'll take you a long way! Requires 448K.

ELEMENT STUDY AID ver 1.0.0sw (328) ~NEW

This excellent study aid helps students learn all 106 chemical elements. Very useful as an information source when performing chemical calculations. Data includes: Element symbols; Atomic numbers and weights; Valences; Specific gravities; and Melting & boiling points. Features a test section which keeps a running score. Requires a graphics monitor.

JORJ ver 4.1 (331,332) 2 disks ~NEW

This is one of those "MUST-HAVE" programs! It's an extraordinary, concise, easy-to-use English language dictionary that does things no ordinary dictionary can do. **JORJ** offers quick reference for spelling and definitions, lists all inflected forms of the word, and its incredible phonetic capability ends the need to know exact spelling to look up words (Example: Want to look up "casino" but can't spell it. A search for "kaysyno" or "kaseeno" yields "casino"). Also includes a fantastic browse/scan/search mode. Scanning on "baseball," for example, lists baseball-related terms. On the other hand, scanning on "Baseball" lists 167 Baseball Hall of Fame members, including date each was installed and their positions. Looks up postal abbreviations, weights and measures, and MUCH more. Requires a hard disk.

SCHOOL MOM ver 2.5 (333) ~NEW

This very imaginative menu-driven learning tool for ages 4 to 14 covers English, math, spelling, art, and music composition. Math includes +, -, x, /, and algebra. Nice features, including selectable difficulty levels, make learning fun. The music section includes an on-screen scale, 7 octaves, musical editing, tune replay, and more. The art section includes Draw, Spider Webs, Space Tunnels, Space Worms, and Space Ribbons. The spelling section includes a library, testing, and more. The English section covers nouns, verbs, adjectives, adverbs, testing, and more. Requires CGA. A joystick is required for the art section.

GOOGOL MATH GAMES ver 2.0 (335) ~NEW

A set of very high quality arcade-style math games which are as entertaining as they are educational. Actually makes learning basic math FUN! The games cover addition, subtraction, multiplication, and division, with skill levels adjustable for players of all ages. Requires CGA.

KEY TEACHER and QUIZ MASTER CONSTRUCTION SET (336) ~NEW

KEY TEACHER ver. B - This unique program is based on revolutionary new concepts in collecting and transferring knowledge on virtually any subject. Knowledge transfer is actually accomplished by means of "Tutorial Exams" which **KEY TEACHER** enables you to easily and quickly create. Besides making such exams, the program also provides automatic scoring, key-word look-up reinforcement, and much more. The result is absolutely verifiable knowledge transfer! Use **KEY TEACHER** to help yourself, your children, your friends, or students. You can even use it to create and market your own computer-based teaching examinations. The profit potential is enormous! **KEY TEACHER** comes with sample tutorial exams, including one to help you learn the program's principles. You'll see first hand just how effective the method can be!

QUIZ MASTER CONSTRUCTION SET - This menu-driven educational tool for students and teachers allows you to create quizzes for later testing. Testing may be on-line or printed in quiz format up to four different ways. You may create a new quiz or add/edit/delete an existing quiz. A quiz can be printed sequentially, randomly, or by selected question numbers. Each quiz may contain up to 100 questions. Features many options, and a sample quiz is included.

STRUDLE (337) ~NEW

STRUDLE is a unique drawing/painting program for children of nearly any age. It's an excellent child's educational, developmental, FUN tool designed to be as simple as possible. It's actually a child's "crayola" version of an adult-size art-quality drawing program. It includes sound effects, saves drawings to work on later, and MUCH more. When saved drawings are re-loaded, they are actually redrawn as if you were watching them being originally drawn, which is particularly fascinating for children! There are only a few "grown up" keys such as Save and Load, so drawings can be enjoyed over and over again. Everything else takes place on the numeric pad. **STRUDLE** includes a neat sample file you can watch being drawn. A mouse is optional. Requires EGA or VGA.

TUFF-SPELL (359) ~NEW

TUFF-SPELL helps you master the correct spelling of commonly misspelled words. This menu-driven program includes three tests which present the phonetic approximations of the words, and you must input the correct spelling of each word. When you misspell a word, the correct spelling is displayed along with helpful hints and emphasis on troublesome letters. Misspelled words are randomly repeated until they are spelled correctly. Misspelled words, correct spelling, and test results are recorded for review. Some of the TSL staff ran **TUFF-SPELL** and all agreed - this program really works.

PC-REVIEWS (360) ~NEW

Current hands-on reviews and hard-hitting, honest evaluations of computers, printers, FAX boards, software, books, on-line services, mice, modems, & other peripherals. No punches are held back! Includes easy-use menu. The author's articles are published in **PC WORLD**, **MicroTimes**, **LINK-UP**, **Computer Currents**, **PC WEEK**, **L.A. Business Journal**, **Information Today**, etc. Loaded with useful information that will educate you on the latest hardware and software and will assist you in buying decisions. Very entertaining, informative, and highly recommended. NOTE: **PC-REVIEWS** is regularly updated by the author, and the contents will vary with each update.

XYSEE ver 2.5.0 (361,362) (2 disks) ~NEW

XYSEE is an **INSIGHT ENHANCING** addition to high school and college level studies in **ALGEBRA**, **GEOMETRY**, and **TRIGONOMETRY**. By dealing with mathematical functions in graphic form, it overcomes the classic difficulty in visualizing the curve represented by a given equation, and the effect upon the form of the curve when parameters within the equation change. **XYSEE** is a highly interactive, graphics oriented computer-aided-instruction program covering mathematical functions and forms within the Cartesian (rectangular) Coordinate System. **XYSEE** provides full coverage of primary level subjects such as **POINTS** and **LINES**, intermediate subjects such as **QUADRATICS**, **TRIGONOMETRICS**, and advanced subjects such as **PARAMETRICS** and **COMPOSITES**. In addition, interactive coverage is extended to forms such as **TRIANGLES**, user defined **POLYGONS** and designs utilizing **ARTISTIC MATHEMATICS**. This marvelous educational tool is packed with advanced features and yet is fully menu-driven with context-sensitive help. Recommended for grades 7 through adult. Requires CGA, EGA or VGA.

MATH CASTLE ver 1.01 (363) ~NEW

This outstanding game is actually a tutorial designed to build a strong math foundation in a fun and challenging learning environment. In this game, alien spacecraft are attacking your castle. You have an energy shield which surrounds the castle, but it loses power whenever it's hit. To maintain the shield you must solve math problems that appear in the castle. Answer them correctly and an energy beam is fired, blasting the enemy ship from the sky. Also, your score is increased, and some energy is given back into the shield. Features include: 40 levels of play challenge students from age 4 to adult; Choose questions on addition, subtraction, multiplication, division, or all of these in combination; Use ready-made math questions or make up your own; "Forced" review of missed problems; Game delay; Hall of fame; and more.

APPOINTMENTS / PERSONAL RECORDS

ACTIVE LIFE for DOS ver 1.0 (509,510) 2 disks ~NEW

According to a CompuServe survey, this program became THE HOTTEST shareware program in the country since it hit the market in May 1989. **ACTIVE LIFE** is a very powerful, unique system for planning, managing, and tracking one's active business and personal life. All types of recurring activities need be entered just once. What sets **ACTIVE LIFE** apart from other such programs is the unifying method of task scheduling and appointment calendar integration. All tasks flow into automated daily schedules which provide you with greater control of time-budgeting and priority sequencing. Because both appointments and tasks have durations, **ACTIVE LIFE** schedules provide a clearer picture than conventional programs. The result is that you are able to realistically plan how much can be accomplished, and when, on any given day. The Notebook function provides an indexed text/graphics database manager, featuring auto-sorting, title/text search, telephone auto-dial, and a built-in word processor. **ACTIVE LIFE** also includes pop-up calendars, alarms, week-at-a-glance, and tracking of what has been accomplished. Printed schedules provide anywhere reference and notation. Schedules can be easily juggled and manipulated. All of these features run in a unique, menu-driven Microsoft Windows graphics interface that you'll find very easy to use. You don't need MS Windows to run the program, and if you would like to see what Windows is like, this program will show you. Supports expanded memory and a mouse if you have them. Supports CGA, EGA, VGA or Hercules displays. Requires 512K and a hard disk. (Also see Disk #511 if you have Microsoft Windows).

ACTIVE LIFE for Microsoft Windows ver 1.0 (511)~NEW

This highly advanced time-management system will maximize your daily life in ways you never dreamed of. **ACTIVE LIFE** allows you to accomplish more in less time, which results in greater free time. It's easy to learn and use, and is visually exciting. So, activity planning will be both effortless and FUN! This version of the program is for users who have Microsoft Windows. See Disk #509,510 for more details. Requires 512K and Microsoft Windows 2.03, or MS Windows/286 or /386 2.1.

NAMEPAL ver 1.44 (500)

Complete, automated phone & address book. Prints pocket-size "book" to carry with you. You can code your data to keep track of club members, birthdays, babysitters, or any other grouping that is important to you. Also print mailing labels, Rolodex card files, and full-page rosters. Menu-driven with on-screen help for ease of use.

MAKEMYDAY ver 2.0 (501)

This is a thorough time management system including job scheduler, appointment calendar, expense account manager, and time log. Manages the affairs of one or several individuals. Prints reports and worksheets which help you to plan and organize your personal or business schedule.

ELECTRONIC ROLODEX (502)

CARDEX ver 1.4 creates rotary index card files for storing addresses, phone numbers, and other information of persons or companies. It looks just like a **ROLODEX**. Search by name, print cards and mailing labels, transfer cards between card files, and much more.

APPOINTMENT BOOK (503)

TO-DO is a full-featured, menu-driven system for managing daily reminder notes. It provides ready access to today's notes, a glimpse at the notes for the next few weeks, a global note feature that allows you to post long-term reminders, full editing features, flexible date entry, on-line help, and much more. Notes for future dates are automatically displayed when the date arrives. Notes for the current date can also be automatically popped up when you start up your computer. Notes can be separated into user specified categories and priority levels. The contents of a note for any date can be automatically copied to a note of another date.

JUDY stores all your notes and appointments for the rest of the century. There can be a thousand appointments pending at any one time, and an unlimited number recorded in her logs. **Judy** is memory-resident, uses only 7K, and is like having your own personal secretary. She will remind you every week about regular weekly appointments. She will remind you every day about the things you need to get done as soon as possible - until you get them done. Other features include: Full-screen interactive calendar and editing functions; Printing, Clock, flexible Search functions; and much more.

FREE FORM CALENDAR (504)

KEP-A-DATE ver. 1.1 is an appointment calendar program that allows you to enter appointment times and as many lines of information as you desire. This "free form" scheduler overcomes the restrictions of one line per time period. A large pop-up window for each day provides ample room for daily schedule and notes. A pop-up to-do file carries unfinished tasks over from day to day. Prints daily schedules and event listings.

MAXICALENDAR ver. 2.45 is another excellent appointment calendar that includes: Automatic scheduling of events by day, week, month, or year; To-do notepad; calendar printouts in various formats; and more.

Both programs are menu-driven and easy to use. Not ram-resident. Color monitor required.

FLEXICAL ver 4.1 (507)

FLEXICAL is an engagement calendar and runner's diary. It records business and social engagements and events, and includes an up-to-date calendar that contains complete descriptions of where to go and what to do. It lists only your engagements with no wasted space on "empty" days because it expands each day, hour, or minute to fit your needs and to hold as many events as you choose, in any time span, with all the details you wish to enter. Calendars are printed on 8-1/2 x 11 paper. Includes two types of calendars: engagement calendar and annual calendar. The runner's diary tells you how far and how fast you've run in any period with detailed run reports, and is also suitable for hikers, cyclists, etc. The calendars and the Runner's Diary are independent of each other, and may be used individually or in combination. Requires 384K.

YEAR PLANNER ver 2.89 (508)

YEAR PLANNER is an organizing tool which mimics the familiar "write-on, wipe-off" wall planner calendar system most businesses use to schedule important events. You are allowed to write deadlines, appointments, and other important information into "day blocks" which can later be printed out in a large standard calendar format. Information can be easily updated or erased altogether and reprinted. Features include an overlay template to apply similar messages in many "day blocks", an on-screen year summary so you can see the whole year at a glance, large calendar printouts, and all major holidays already built in. Requires 520K.

AMPLE NOTICE and OUTSIDE ver 1.22 (505)

AMPLE NOTICE is a calendar/alarm-clock program that will help you organize your life. Enter appointments and notes, then view a calendar of commitments. Appointments can auto-set pop-up alarm clocks to notify you in advance. Appointments can be printed out, and "Tiny" option prints in compressed type for wallet or purse. Very easy to use, yet flexibility ensures you won't outgrow it.

OUTSIDE - Prints addresses sideways so that large envelopes can fit in a standard dot matrix printer. Addresses can be captured from the screen or printed directly from a file. Requires Epson/compatible printers.

PRODEX PLUS ver 1.6 (506)

A memory-resident personal productivity tool to assist you in handling daily activities. Combines phone log/manager, to-do list, work-activity/appointment planner, correspondence manager, and a "loose-data-on-desk" manager. Auto dials through your modem; maintains info lists you can manipulate in many ways; features simple word processor for storing notes, events, or whatever; and much more. Easy to learn and use. Only your imagination limits you. Includes long list of suggested uses. This excellent program was commercial and is now available as shareware.

PC-NAG and DAY-MASTER (513) ~NEW

PC-NAG ver 1.0 - You'll never again forget a birthday or other special occasion. Menu-driven PC-NAG lets you save reminder messages on your computer. Every morning when you turn on your computer you get reminded of things. Messages can pop up every year, month, week, day, or every certain number of days. Messages are even held over to the next day in case you didn't run your computer the previous day when a message was to appear. As a bonus, PC-Nag comes with a year's worth of humorous daily sayings.

DAY-MASTER ver 2.10, like PC-NAG, is a menu-driven program that provides you with birthday, anniversary, appointment, and trivia reminders and information for a particular date. Also includes a quote for the day. All of this takes place at boot up or whenever you run the program. Appointments flash on-screen. Handles five events, five appointments, and three birthdays/anniversaries per day. Requires a hard disk.

NAMES & DATES ver 2.1 (514,515) 2 disks ~NEW

NAMES & DATES is a powerful integrated address book, mailing list manager, and date reminder system. ADDRESS BOOK features include: Large name and address fields which support U.S., Canadian, and foreign formats; Home phone and business phone with extension; Large Notes area; 5 different report formats; Automatic phone dialer. MAILING LIST MANAGER features include: Unlimited records; Mail merge with optional salutation; Automatic search for duplicates; File export and import; Prints mailing labels; rolodex cards; envelopes, custom labels of any size; Sort by name or Zip; "Hot key" printing for individual labels or envelopes. DATE REMINDER SYSTEM features include: Store unlimited number of date events; Display dates by name, month, category, or chronological order; Display a monthly "wall-type" calendar that highlights the dates; List dates in two report formats. This terrific program is fast, menu-driven, and has context-sensitive help. Supports laser, dot-matrix, and daisy wheel printers. Requires 512K memory.

BUSINESS and ACCOUNTING

ZIP CODE FINDER (1900)

ZIPKEY ver 1.0e is a fabulous new program that will completely replace your zip code book. Run it from the DOS command line or memory-resident. Type in a zip code or state and city, and ZIPKEY will display the correct city and state or zip code as fast as you can blink. If that isn't enough, ZIPKEY will automatically enter information in your database or other programs. For example, type in the zip code and ZIPKEY will enter the correct city and state. A great time saver.

AREA CODE FINDER (1962)

AREA CODE FINDER quickly looks up area codes throughout the United States and foreign countries. Input is entered at the DOS prompt, and area code can be searched or a full list printed out.

CODE BLUE is a menu-driven program that allows you to quickly find area codes throughout the United States and Canada. Just place the cursor over the city or state you want to search and all area codes are instantly displayed.

BUSINESS ACCOUNTING (1902)

The **MEDLIN ACCOUNTING** package is a complete and very fast accounting package for small to medium size businesses. This proven system includes:

PC-GL ver. 3.3 is a double entry general ledger for a maximum of 800 items in the chart of accounts, 4000 transactions per accounting period, rapid production of financial reports.

PC-AP ver. 1.3 is an accounts payable program for a maximum of 1500 vendors and 1500 invoices per accounting period.

PC-AR ver. 3.8 is an accounts receivable and sales analysis program for a maximum of 2000 customers and 2500 charges and payments per accounting period.

PC-PR ver 1.7 is a payroll writing program for a maximum of 500 employees and 1000 payroll checks per accounting period.

FASTBUCKS ver 4.10 (1903)

FASTBUCKS is a fast, menu-driven home finance package. It has excellent home budgeting capabilities and is very easy to use. Features include: Avoids the use of accounting language and computerese; Automatically creates and names files and updates them; Supports up to 26 each checking, savings, and charge accounts, and one cash sheet; Complete transaction editing and automatic account balance updating; Customizable expense categories; Recursive budget model; Financial calculation section for item depreciation, savings (what if's), and loan information; Loan amortization generator. Requires color or monochrome graphics card.

FLOWCHARTING ver 1.2 (1904,1905) 2 disks

FLOWDRAW is a comprehensive system for flowcharts, organization charts, system diagrams, and other symbol oriented documents. Handles symbols quickly and easily and comes with customizable symbol libraries for flowcharts, HIPO charts, and electronic diagrams. You can enter text and graphics in the same document, choose among character fonts, and do basic graphic editing or edit at the pixel level. Supports portrait (8.5" x 11"), landscape and large landscape (16" x 11") printing. This is a very good system which is flexible and extremely easy to use. Requires 320K, CGA or EGA, Epson/compatible printers or IBM Proprietary.

PLANNING & PROFIT ver 6.3 (1907)

A set of business programs designed to increase productivity, including: (1) Complete project management system which can produce fast presentation quality (high resolution graphics) printouts on most dot matrix printers. (2) Two GPM calculators to calculate single and two-tier gross profit margin. (3) Learning curve calculator to calculate learning (experience) curve parameters. (4) Personnel Reminder/Alarm system pops-up messages at scheduled times and stores up to 14 dates, times and messages. Requires color or mono graphics monitor.

PORTFOLIO MANAGER ver 2.41 (1908)

PFR01 measures portfolio performance (stocks, bonds, other securities) to set and meet long range investment goals. Most portfolio software packages don't address or correctly compute return on investment (ROI) - the classical performance measure for a single investment. PFR01 correctly computes both portfolio and individual security ROI before and after taxes. PFR01 is also a complete portfolio manager, handling all usual portfolio transactions as well as most investment types. PFR01 permits daily portfolio valuations and provides securities' cost bases for monitoring of unrealized capital gains. PFR01's tax features also make it an excellent tax planning and preparation tool. Menu-driven, easy to use, prints graphs and reports. We rate this package tops in its class.

QUANT IX PORTFOLIO EVALUATOR ver 2.10 (1909)

QUANT IX is designed to increase the efficiency of investment decision making. The program accomplishes this by compiling important investment information, organizing and classifying data, and using accepted quantitative investment models to identify portfolio risk and return potential. Features include: Operate in either a menu or command line mode; Produce 9 different professional reports; Manage multiple portfolios; Compare individual securities to one another; Ask "what-if" questions; Cross reference portfolios. **QUANT IX** was a commercial program - now available as shareware.

PC-SELL (1910)

A totally integrated program designed to assist with inventory control, accounts receivable and invoice production. 17 modules and 5 databases comprise a network-capable Point-Of-Sale System for the retail industry. Interfaces with Lotus 1-2-3, prints a full range of reports, mailmerge facility. Packed with features. Requires 2 floppies or hard disk.

MAILING LIST MANAGER #1 (1911,1912) 2 disks

PC-MAIL ver 2.71 is a very powerful mailing list manager that is designed especially for the novice user. This outstanding program is totally menu-driven and has complete on-line help. Every function is accompanied by a help window which hand carries you through every step of operation. Not quite as powerful as **CATALIST** (see below), but will satisfy the needs of most users. Features include: Add/Edit/Delete records; Print variety of mailing labels, rosters, telephone lists, 3x5 cards, etc.; Record and file reorganization through alphabetizing and numerical sequencing; File splitting and merging; File and disk management; and much more. The sort function allows you to sort on any field in a matter of seconds. Designed as a simple to use, self-prompting, fool proof system. Requires 2 floppy drives or a hard disk, IBM/Epson/compatible printer.

MAILING LIST MANAGER #2 (1913,1914) 2 disks

CATALIST 3.27 is the most powerful and versatile list and file manager available. Tracks 32,767 names and addresses. Features on-line help, auto-key on last name, "smart search" and browse, duplication detection, date stamping, postal code formatting, mass changes. Printer output includes 1-up to 8-up mailing labels in sizes you can customize, and Rolodex cards in two sizes. Can even be used for stock labeling, inventory tags, etc. Print control for almost all popular printers is excellent. Data can be mail-merged for many popular word processors including PC-Write, Easywriter, Wordstar, DisplayWrite 3, Multimate, Samna, XyWrite, Microsoft Word, Volkswriter, WordPerfect, and others. Powerful selection and sort criteria. Includes extensive on-line help. Requires a hard disk.

MAILING LIST MANAGER #3 (1973)

RELIANCE MAILING LIST ver 2.20 is a powerful, menu-driven database program for names, addresses, phone numbers and other information. Successfully used in an Austin political campaign, this easy-to-use program is also valuable for individuals, charitable organizations, and small businesses. Features include virtually unlimited name capacity (limited only by disk size), prints mailing labels up to four across, 4 formats for listing names, 7 ways to select output, mailmerge, sorts by last name or zip code, and much more. Requires a 132-column printer or an 80-column printer that can print 132 columns in compressed mode.

MAILING LIST MANAGER #4 (1974)

LABEL MASTER ver 4.0 has received top honors: "Editor's Choice" - 1987 PC Magazine; "Makes the job easier...than any other reasonably priced mailing list manager on the market" - 1988 PC Computing Magazine. **LABEL MASTER** is a powerful, easy mail management program. Allows you to create and edit a file of names and addresses, search for specific records or just browse, print labels in several formats, and auto dial phone numbers. Features memo, country, and state/province fields; extra large phone field; full search/replace capability; pop-up help, calculator, calendar, and digital clock; coffee break game; records filter (you'll love this!); and lots more. Requires slightly more than 256K. Needs a Hayes-compatible modem for phone dialer.

MAILING LIST MANAGER #5 (8941) ~NEW

MAIL CALL ver 3.0 is a full-featured "mailing assistant" that can handle anything from simple tasks (like printing a memo or envelope) to managing large mailing list databases. On top of the usual powers to add, edit and delete names, MC's database features include: Unlimited database capacity; Browse, Search, Sort and Range features so you can view or print all names, one name or a specific group (range)-sorted as you like; Powerful B-tree indexing for super fast sorting and locating names; 13 fields including message and comment fields; Print envelopes in 5 sizes or mailing labels in 8 sizes, personalized documents (form letters/memos), name & phone number lists, appointment schedules; Print 1-99 copies of each label, up to 3 columns per page; Import names from or Export names to Mail Merge files compatible with major word processors and database programs; Dial phone numbers; and much more. **MAIL CALL** supports most any printer, and makes printing envelopes on LaserJets a real snap. Despite all of these powerful features, this program is especially designed for ease of use. Will interact with the form design program **PF FORM DESIGNER** (Disk #112).

MAILING LIST MANAGER #6 (1928) ~NEW

LETTERS 'N LABELS ver 2.10 is a complete feature-packed menu-driven mailing list management program that is easy to learn and simple to use. Features include: Prints labels 1 to 4 across; Prints form letters you create with your favorite word processor; Enters and stores names, addresses, phone numbers, incidental data, classification codes, and more; Imports/exports data from other programs; Selects records by zip code ranges, classification codes, or manual selection. Stores 4,600 names per each hard disk file or 1,300 names per 360K floppy.

MAILING LIST MANAGER #7 (1963) ~NEW

MASS APPEAL ver 3.2 is a very comprehensive yet easy to use mailing list manager. It is fully menu-driven and generates reports, addresses envelopes, prints mailing labels, and creates rotary cards. It also produces mail merge files used with most word processors for creating form letters. Even includes a communications option for modem users. Features include, add, delete, edit, view, search, and a host of other options too numerous to mention here. Interfaces with (but does not require) **ZIPP APPEAL** (Disk #1969,1970) for automatic city/state input from zip codes. Requires 512K, 2 floppy drives or a hard disk.

ZIPP APPEAL ver 40,000 (1969,1970) 2 disks ~NEW

ZIPP APPEAL is a companion product to **MASS APPEAL** (Disk #1963). It is a database of 40,000 cities, states, and zip codes used by **MASS APPEAL** in the Add mode. Enter a zip code, and **MASS APPEAL** looks it up in **ZIPP APPEAL** and then automatically inserts the city and state. Or, enter the name or partial name of a city, and examine a list of possible zip codes and states for the entry. You can page forward, backward, or find another city. Requires **MASS APPEAL** and a hard disk.

CARRIER ROUTE ENCODING ver 1.0 (1998)

CR ENCODING will perform the necessary matching between your mailing list and the US Postal Service's **CRIS** (Carrier Route Insertion System). When a correct match is found, the matching carrier route number is automatically inserted into your mailing list. Sorting by carrier route numbers saves you 6 cents per piece on bulk mail postage. Requires 640K and a hard disk.

SOAR ver 3.07 (1915,1916) 2 disks

SOAR (Service Oriented Accounts Receivables) is an easy to use, complete customer billing system for businesses that provide services and/or products. Charges can be fixed (inventory) item, services hourly rates, fixed costs or variable cost. Handles automatic billing of service contracts, late charge rates, and customers with tax exemptions. Powerful reporting including 22 summary categories, 5 sort keys, 3 billing formats. Produces mailing lists and labels, mail merge, tax and receivables reports, and customer histories. Powerful and easy to use. Can export to Lotus 123 and database programs via DIF format. Requires 2 floppy drives or a hard disk.

MR. BILL ver 3.3 (1917,1918) 2 disks

MR. BILL prepares customer/client invoices and bills. This powerful, yet easy-to-use, system is great for big and small businesses alike. Prepares ledger cards, reports on items billed/credited, billing entry audit trails, client ageing reports, summary reports, etc. Requires 2 floppy drives or a hard disk.

SOLVE-ITI ver 3.0 (1919)

A very handy financial analysis tool with a unique twist - it's memory resident. **SOLVE-ITI** puts at your fingertips the ability to perform more than 29 financial calculations without exiting your present application program: Future Value of a Deposit, Accelerated Payments, Future Value of a Series, Three methods of Depreciation, Present Value of a Future Series, Interest Rate Earned, Gross Profit Margin, and much more. **SOLVE-ITI** is powerful, entirely menu-driven, and it couldn't be easier to use. Can also be run from DOS (non-memory resident).

PAYROLL USA ver 2.11 (1920,1921) 2 disks

This full-featured payroll system calculates FICA, FUTA, Advance EIC, Federal and State Taxes in ANY STATE (including California's SDI). Handles hourly, salary, commissions, overtime, sick and vacation pay, 2nd and 3rd shift premiums, tips reporting, production and annual bonuses, fringe benefits, and voluntary deductions on weekly, monthly, etc. schedules. Easily interfaces to ANY accounting system. Lots of features and full range of reports. Prints checks and payslips for up to 2,000 employees. Fast, very slick screens, pop-up help. Includes a Configuration Program to customize many features. Data output can be used directly by dBASE III, File Express and PC-File+; can also be imported by Lotus 123. Setup takes some effort but it is time well spent. This top-notch system is very fast, versatile, and compares favorably to commercial programs costing \$1,000 or more. Requires a hard disk.

EXPRESSCHECK ver 3.07 (1922)

This is an absolutely superb checking account manager. The various screens look just like your paper checks, deposit slips and check registers, so the program is extremely easy to learn and use. Every check and deposit can be recorded to various budget codes which makes it easy to see the full details

of your spending. How much do you spend on food, tax deductible donations, car payments, gasoline, electricity, entertainment? With **EXPRESS-CHECK** you can find out in just a few seconds. Recurring payments can be entered with two keystrokes. Prints your checks on any kind of tractor feed forms. Prints reports that give you complete details on any or all of your transactions. Puts tax return information at your finger tips. This is shareware at its finest.

B&B SALELEAD (1923,1924) 2 disks

B&B SALELEAD is a very flexible database system designed to centralize and automate your marketing and sales lead data. It can be your Marketing Manager and can do all of your marketing mailings for you. It can keep track of all of your customer data now kept in separate files or logs. You can keep your potential and existing customer names and addresses in **B&B SALELEAD**, as well as time and dollars spent cultivating sales, even actual sales. **B&B SALELEAD** is designed to help you with: Standard "marketing oriented" reports to allow easy review of data; "Flexi-Report" and "Flexi-Sort" to allow you to write custom reports; Improved communications through mailings and on-line referencing. The program is fast, entirely menu-driven, easy to use, and a real asset to any sales organization in helping to improve sales.

AM-TAX 89 (1940)

AM-TAX will completely and accurately prepare and print your 1989 federal tax return consisting of Form 1040 and schedules A thru SE. The 1040 and all supporting schedules can be printed on most printers in a format approved by the IRS. **AM-TAX** will do most calculations for you and check to see that information you enter is consistent and valid. You can easily change any tax figure to instantly see the effect on your tax balance. Very easy to use with helpful menus and familiar screens that are like the IRS forms. Many excellent features like a pop-up calculator, support for 22 forms and schedules, press one key to view supporting schedules, and much more. This has been a proven package for the past four years, and the 1989 version has many new enhancements.

TICKLEX ver 5.2 (1926)

The most powerful tickler/calendar program available. Functions as a tickler, scheduler, and to-do list with the ability to handle simple "project management" tasks. **TICKLEX** has unique features. For example, it can find the day of the week for any date in the next half century, and it can set up to 20 alarms for the current day or any day in the future. Handles appointments, deadlines, reminders, etc. for multiple users in the same office, and can thereby act as a central scheduling tool. Requires 512K and a hard disk.

ASSET ORGANIZATION ver 1.2 (1927)

AO is a menu-driven program which will help you easily store and organize information you need about your personal assets. **AO** also helps you keep track of your various accounts (savings, checking, credit cards, social security, etc.). Produce various reports for insurance and tax purposes or for general information. **AO** can also depreciate and appreciate the value of your assets. 384K memory required, 2 floppies or hard disk recommended.

HBMS ver 4.01 (1929)

Home Budget Management System is a fast, flexible home finance program. This double-entry system has a top notch user interface and can handle 38 categories, 264 accounts (per category), and 12 checking accounts. One nice feature (missing from most checking programs) is that you can split a check over many accounts. You may want to use it as a reference on your entire financial position, or just use it as a check register.

CONTACT PLUS ver 2.1 (1930)

A terrific program for salesmen, managers, retailers, or anyone who needs to keep track of important contacts. It locates your contacts quickly by first name, key (last name + first name), or by company name. **CONTACT PLUS** allows you to import text files and has a mail/merge feature. You can customize forms using a word processor, and you can create rolodex cards, mailing labels, personalized form letters, custom reports in formats of your choosing. **CONTACT PLUS** even has an autofodial feature and can log incoming calls. Menu-driven with plenty of on-line help. This very professional package also includes a slick, on-line tutorial.

THE PERSONAL TELEMANGER (1931)

Designed for people doing telemarketing or sales in general. Once you enter prospect data, this system will efficiently manage all aspects of the sales process. Some of the features include: Track sales leads; Add, Change, Delete, and Inquire about any lead; Access only the leads in a particular state or those interested in a particular product; Checks your sales database every minute for calls you have scheduled and automatically prompts you when a call should be made... And much more. This is a fast and very competent menu-driven system with on-line help for ease of use.

PROJECT MANAGEMENT ver 3.1 (1932)

EASY PROJECT ver. 3.1 is an easy to learn, practical, and efficient method for planning, tracking, and controlling all types of projects. This excellent program is fully menu-driven and is feature-packed: User defined project phases

(20 maximum), Unlimited number of resources per project, User defined tasks (1000 per project), User defined subordinate tasks or items (100 per task), Fast data entry with multiple resource assignments per task, Automatic schedule generation, Gantt charts showing planned vs. actual dates with variable scales, Extensive reporting including work plans, status reports, and earned value accrual reporting, On-line context sensitive help screens, dBASE III file compatibility. Supports any monitor and most printers. Requires 380K.

PC-PROJECT ver 1.0 (1971)

PC-PROJECT is a complete critical-path project management application that runs under Microsoft Windows. Features include pull-down and Lotus 1-2-3 style menus, full mouse and keyboard interface, displays a project as a PERT (network) chart, a Gantt chart, a list of activities or a list of resources. The program automatically recalculates the critical path of the project using CPM or PERT algorithms, allocates costs to tasks on either a fixed cost basis or by assigning resources. Uses LIM expanded memory if available. Requires Microsoft Windows.

EXPRESSGRAPH ver 1.04 (1933)

A business graphics program that can display numbers in a variety of graphic formats. Create eye catching charts and graphs in 10 different styles of pie charts, bar charts, 3D bar charts, and line graphs. Text can be added in three different sizes. Data for the graph can be saved on disk and reloaded later for further changes or review. **EXPRESSGRAPH** can read .DIF files (which can be created with most popular database and spreadsheet programs) and files created with the File Express database program (see disk # 1002,1003). This excellent program is menu-driven and very easy to use. Requires CGA and printer capable of printing a high resolution graphics screen dump.

EASY PRESENTATION GRAPHICS ver 2.04 (2000,2001,2002) 3 disks

Transforms numerical spreadsheet data into colorful graphs and charts. Produces 12 basic graph types in maximum resolution printing, including pie, bar, line, doughnut, area, deviation, percentage, pictograph, and more. Imports WKS, WK1, DIF, SYLK, AND ASCII DATA. Supports over 200 printers, plotters, lasers, and contains an internal spreadsheet and pictograph symbol generator. This last feature will, for example, enable you to represent timber sales with custom tree symbols or crude oil sales with barrel symbols. This superior program is entirely menu-driven and very easy to use. The shareware version will not save a file and prints the author's banner on hard copy printout. Registration is stiff folks (\$295) but worth it if you want or need the best (it has features not found in the major commercial business graphic packages). Requires a hard disk and any graphics card.

PC-STOCK (1934)

PC-STOCK is a general purpose stock trend analysis program designed to help you maintain your stocks and bonds portfolio and assist you in buy/sell decisions. Data is presented in informative, graphic displays. Time series graphic plotting for Last, High, Volume, Composite, Avg High/Low, and On Balance Volume. Also has options to set moving average. Reports can be printed on graphics printers. The program is entirely menu-driven, very easy to use, and very informative for the occasional and professional user. Requires CGA.

STOKTRAX ver 3.0 (1935)

STOKTRAX is similar to PC-Stock. The main difference is in the way data is displayed. **STOKTRAX** plots a dot graph of the data, and all analyses can be shown simultaneously through the use of "overlays". Volume, Price, High/Low, etc. can be viewed individually or all at once. **STOKTRAX** also presents all data for a stock in numerical tables. Other features include: Automatic adjustment of prices resulting from splits; Save graphs to disk as binary files; Print graphs on graphic printer. Registered users receive programs that convert Dow Jones, HultOnLine and Compuserve data files to Stoktrax format. Fully menu-driven and easy to use. Our personal favorite. Requires CGA.

STOCK CHARTING & ANALYSIS ver. 1.34\$W (1976)

This menu-driven, easy-to-use stock program generates high/low/close/volume bar charts. On-screen size of the HLC bar chart and the volume, indicators, formulas chart are variable. Performs technical analysis using moving averages, trading bands, trendlines, or any combination thereof; chart price and volume formulas and moving averages of the formulas, including RSI, Stochastics, Positive Volume Indicator, On-Balance Volume, etc.; auto-screen macros allow easy playback of technical analysis routines; and much more. Requires 512K, CGA, EGA, or Hercules with CGA emulation (see our TSL Disk No. 433).

BUSINESS FORM LETTERS (1936)

An assortment of 100 common business form letters covering an extensive range of topics. Includes customer thank-you, job inquiry, request for quote, overdue accounts, incorrect service charge, credit denial, and much more. The letters are in a boiler-plate format. You can fill in the blanks and use any word processor to tailor them to your individual needs. Saves time and mental energy.

LEGAL FORM LETTERS (1937)

This disk includes a collection of 260 common legal form letters covering an extensive range of topics involving legal matters. Includes employment agreement, bid for purchase of real property, letter of credit, warranty deed, and much more. The letters are in a boiler-plate format. You can fill in the blanks and use any word processor to tailor them to your individual needs.

PURCHASE ORDER SYSTEM (1938)

PURCHASE ORDER SYSTEM easily creates and prints purchase orders and maintains vendor records. A list of vendors can be entered with their addresses and phone numbers. The list can be browsed, edited, printed, or deleted. The on-screen purchase order form has columns for quantity, description, price, etc. You can print outstanding purchase transactions by purchase order number, account, or vendor. When a purchase is received it can be cleared on the spot, and accidentally cleared transactions can be un-cleared.

CK ver.3.18 (1939)

CK is a versatile accounting system for tracking income and expenses. Enter money spent and received, category, purpose, recipient, date, check number, etc. CK prepares detailed reports for management, planning, budgeting, and tax purposes. Produces yearly itemized listing and bar chart of income and expenses, and more. Requires 2 floppy drives or a hard disk.

PDS*QUOTE ver.4.08 (1941)

PDS*QUOTE is a very good estimating program for preparing project estimates and price quotations. Provides fast, accurate estimates based on materials, supplies, labor rates, profit markups, etc. A quotation can be built by simply entering the part or process number and quantities for the various processes or items. The system will automatically look up the price and description, etc. for each item. After adding the label group, the system will look up the name of the group and the hourly rate. After building the quote, you can then print the quote with or without profit mark-ups.

ESTIBID (1942-1946) 5 disks

ESTIBID is an extensive bid estimating system for contractors. This powerful program maintains list, retail, and cost prices, and it indexes parts and materials on both name and a seven digit part number. Two labor rate factors are handled with hours to the 1/100th. Grants bids, and bid revisions can be easily produced together. Handles multiple bids, sub-jobs, sub-assemblies, related parts structures, multiple sizes of like material. Tracks actuals, percent over and under, and percent completed for up to 6 months. Convenient built-in scratch pad and calculator. Produces reports including summarization and build-ups. Also special functions to handle bidding on any parts involving sheets of material (metal, plywood, etc.). Requires a hard disk.

PC-ESTIMATOR ver. 2.71 (1959,1960) 2 disks

This excellent, menu-driven system is a powerful cost estimating tool for businesses involved in cost estimating and bidding activities. Indispensable for small to medium size contractors, architect/engineers, plant maintenance managers, public companies, city and government offices. This fully integrated system includes built-in, user-definable databases for cost code, labor wage rates, construction equipment rates, vendors, and more. Supports multiple bids at one time, unlimited number of cost items, different markups per estimate, and auto access to unit prices and rates. Produces over 20 reports, including "Bill of Material." Other features are pop-up calculator, time saving work assembly feature, lookup windows for on-screen data selection, and more. A very powerful, easy to use system. Requires 384K, 2 floppy drives or hard disk.

PC-ACCOUNTING (1947,1948) 2 disks

PC-ACCOUNTING I and II is a total business accounting system for both retail and wholesale sales organizations. This single-entry, menu-driven package features point of sale and inventory capabilities; prepares invoices, statements, etc.; and has a wealth of other features too numerous to mention here. This is a very strong system.

RENTALS ver.204 (1951)

RENTALS is a fast, powerful rental property management program. It provides the rental property owner with a simple but comprehensive means to record all transactions and to print or display reports for accounting and tax purposes. Reports may be produced for specific or all properties and units within any given interval. Chronological journals may be generated for any interval for specified properties and units. A general ledger may be created for specified properties and units for any interval. Up to 9604 units may be managed with this program. **RENTALS** is menu-driven, has complete on-line help, and is very easy to use. You do not need a formal knowledge of accounting. Charts of Accounts, Entry Methods, etc. are handled entirely by the computer. You can concentrate on making money rather than the details of bookkeeping and accounting. **LANDLORD** is being used extensively by professional property managers. Requires 420K, 2 floppy drives or a hard disk.

PROPMAN ver.2.4 (1977,1978,1979) 3 disks

PROPMAN is a menu-driven residential property-management program which will track up to 50 units. These may be 50 houses, one 50-unit building, or any combination thereof. Financial records are kept individually for each building. **PROPMAN** is an on-line accounting system - all data is updated throughout the system each time new information is entered - so displays and reports are always current. There are no transactions to post, no trial balances to run. **PROPMAN** maintains monthly and year-to-date data for each property. Historical data is kept for current and past tenants. Includes many convenience features that are difficult to accomplish with databases or spreadsheets, including on-line help, move-in and move-out prorates, mortgage-payment calculations, rent-change scheduling, printing of 3-Day and rent-change notices, etc. Includes an auto-run demo to help you learn the system. Requires 512K of RAM memory and a hard disk.

ACS IN-CONTROL ver. 2.7 (1952,1953) 2 disks

IN-CONTROL is a fantastic time, billing and activity tracking system that puts you in control of your prospects, customers, patients or clients. It combines unprecedented speed, power, and ease of use into one integrated package. The program can function in any one of 23 capacities for your particular business: Sales, Banking, Doctor, Dentist, Accountant, Attorney, Real Estate, Insurance, Contractor, Manufacturing, Architect, Collections, Secretarial, Advertising, and more. You simply select your business from the options menu and the program adjusts to your specialty. Features include: Appointments, commitments, callbacks, statements, revenues and expenses, collections, fast free-form data search, rolodex features, label management, graphics, reports, built-in word processor and intelligent phone dialer, built-in proposal and invoice generator, manages up to one billion records. **IN-CONTROL** is an exciting package that saves business people time and money. Requires 512K, 2 floppy drives or a hard disk.

FONE ver. 5.2 (1954)

Have you ever wondered "ahead of time" what it would cost to make a phone call? **FONE** provides you with the answer as well as "real time" phone/fax call pricing by showing accumulated charges on-screen during your call. **FONE** will save you money by telling you the best time to place your call at the lowest rate. Over 130 countries are available for international calls. If you have a modem, you can auto-dial from a customizable on-line directory. Other features include area code look-up, WATS service, and much more. This sophisticated, menu-driven program is elegant and very easy to use. This disk includes all three editions of **FONE**: Residential, Business, and International.

SPC-INVENTORY (1957)

This is an easy to use, stand alone business inventory program. Inventory, sales and purchases are sorted by a 12-digit numbering system. A supplier's file is also maintained in the same manner. Last cost purchased is retained and used to project costs when sales quantities exceed on-hand quantities. Sales taxes are automatically added to unit purchase costs, and the tax percentage can be changed. Three selling prices are provided for: one main controlling price in the inventory file, and two others by using percentage factors with the first. This allows for various price lists and a fast way to print a sales price list. Purchase, sales, and inventory reports can be printed, and multiple inventories can be easily maintained. This excellent program is entirely menu-driven, has unlimited record capacity, and boasts top notch data integrity. Requires 384K and a hard disk.

TINY MASTER II INVENTORY CONTROL ver 1.0 (1983)

TINY MASTER II is an automated, inventory management program for small to large businesses. Performs essential operations of inventory control, such as store, update, view, adjust, transaction and reverse transaction, browse, edit, search and partial key search, sort, inventory summary and reporting, etc. Handles unlimited inventory items. Includes a 30-day (recycle) transaction record card for each item with space for remarks. Input part numbers, descriptions, selling prices, unit costs, unit counts, cross-reference data, location codes, reorder and status info, and lots more. Performs multi-replacement part number cross-reference searches. Even includes min and max quantity warning signal (part number blinks). Requires 384K.

BILLPOWER ver 5.2 (1984)

BILLPOWER is a timekeeping, billing, and bookkeeping program designed for small firms. It incorporates time and billing functions and a general ledger into a single integrated program. **BILLPOWER** keeps track of work performed, disbursements, and receipts for up to three employees, and automatically produces a monthly bill for each case or project handled by the firm. It is a true real-time system that never purges any data unless you specifically tell it to. Can be used with the **TICKLEX** calendar program and **MOE**, the handy pop-up expense-worklog/calculator/scheduler/phonebook, shown in this catalog. Requires 512K and a hard disk.

BILLPOWER PLUS ver 5.2 (1985,1986) 2 disks

BILLPOWER PLUS is a unique, powerful timekeeping, billing, and bookkeeping program for small firms, designed to help attorneys, accountants, and other professionals keep precise records and bill regularly. Tracks time worked on professional matters and calculates amount owed by each client; tracks receipts and disbursements; performs simple bookkeeping functions; and automatically compiles service, disbursement, and receipt transactions for

each client into monthly bills. Represents an entirely new approach to various aspects of bookkeeping: Far more flexible than other programs which lock you into an electronic version of ancient manual accounting procedures; does not require monthly "postings" or year-end "close-outs"; never destroys old data from past months in the interest of consolidation; completely integrates its bookkeeping functions into the rest of the program; can SIMULTANEOUSLY update affected G/L accounts, as well as a client's balance and aged receivables, at the time a disbursement or receipt is entered; and much more. This "real-time" approach to bookkeeping, unprecedented in a time/billing program, saves you the time otherwise spent making duplicate G/L entries, posting transactions, and/or transferring files from one program to another. A single entry can handle all updating needs. No other program offers this much integration. Program handles any combination of the following: 15 timekeepers/employees (partners, secretaries, and others); 4,000 cases; 4,000 accounts; and 8,000 transaction entries per month (services, disbursements, etc). Requires 512K and a hard disk.

COST EFFECTIVE ver 1.11 (1987)

A menu-driven bill of materials program to help you manage your manufacturing costs. Tracks cost of manufactured products while accounting for fluctuations in cost of raw materials, parts, etc. Sample product files help get you started. Features on-screen help throughout program.

CASHTRAC ver. 6.8 (1958)

CASHTRAC is a menu-driven personal finance manager for home, club, and business use. Keeps records of 16 independent checking accounts, 255 user-selectable budget areas, and 255 different investment accounts. Features include: Unpaid bills scheduler; Tax record keeping; Pop-up 4-function calculator; Tracking up to 32,700 entries per file; Memory resident mode; Balancing each checking account; Detailed budget, tax, investment performance, and many other reports; Familiar checkbook format; Context-sensitive on-line help. Rated one of the 10 most useful shareware programs for 1987 by Personal Computing Magazine. Requires 2 floppy drives or a hard disk.

POLICY MAKER ver. 1.9 (1961)

POLICY MAKER is a new tool for managing finished goods inventories. Develop the best forecasts and inventory management policies for your business. Better forecasts mean reduced inventories and improved customer service. Provides eight of the best statistical forecast techniques available, including single exponential smoothing for trendless demand, Winter's exponential smoothing for seasonal demand, etc. Menu-driven, automatic selection of best techniques, forecasts hundreds of different items quickly and accurately, provides 12-month forecast, optimized stock levels and safety stock, summaries, etc.

PRO PC-ACCOUNTING SYSTEM ver 3.0 (1964)

PRO PC-ACCOUNTING SYSTEM is a fully integrated menu-driven accounting system which, unlike most other accounting programs, provides accounts receivable, accounts payable, and general ledger functions in a single self-installing module. Features include cross posting, on-screen help, account capacity limited only by hardware capacity, time and billing, inventory controls, invoicing, automatic monthly billing, automatic monthly payables posting, and check printing. Numerous reports are available, including trial balance, cash flow, expense analysis, ledger reports and journals, customer/vendor lists in mailing label format, etc. Requires 320K.

AMORTIZATION TABLE ver 2.4 (1965)

AMORTIZATION TABLE calculates monthly (or otherwise) payments, interest, and principal for each month for a loan whose term is from 1 month to 40 years. A summary screen which may be printed shows total principal, added costs, total interest, total combined principal and interest, final payment amount, interest rate, term, comments, regular payment amount, optional APR, name of company creating the schedule, and number of payments per year. You may enter your own payment, and the program will calculate the term. The schedule is then amortized until the balance is zero. You can also create an interest-only schedule which allows you to balloon a loan at any period. Pre-paid interest points and additional loan charges may also be entered.

LOAN ACCELERATOR ver 1.01 (1968)

LOAN ACCELERATOR is a loan acceleration program for borrowers which is very easy to use and features built-in help messages and lots of error checking. Once you see the financial rewards a few extra dollars can make on your mortgage or other loans, there will be no turning back to just making regular payments like the rest of the country does. The LOAN ACCELERATOR begins its calculations with the current balance, so it's always ready to re-accelerate the future of an ongoing loan anytime you see a change in your desire or ability to make extra payments. Now you can march through your loan at your own pace, not at the snail's pace assigned to you by the lender. Generates great hard-copy payment comparisons. LOAN ACCELERATOR received the Product of The Month Award by Home Mechanix Magazine (June 1988 issue).

CHARGE ACCOUNT MANAGER ver 1.1 (1966)

This is a full-featured, menu-driven management program for managing your charge accounts. It allows you to determine your charged expenses in a variety of ways, including by category. All forms of transactions can be entered, including charges, payments, and interest. You can correct any portion of any transaction; delete transactions singly or by group; generate reports which list transactions, charges, payments, interest, categories, account names, etc; and much more. An annual expenditure report, for example, provides a table of the total amounts charged per month for every category. It even includes interest and average monthly expenditure per category.

OFFICE PRO ver 1.0 (1975)

OFFICE PRO is a powerful new business order-entry program. Features pop-up windows; quickly locates customer information; automatic invoice preparation from customer data file; allows full descriptions for all stock items, including prices; unlimited record storage; automatic data save; includes appointment schedule, phone directory, memo writer; prints reports, shipping labels, and invoices; etc. OFFICE PRO has one limitation: Sales tax can't include fractions of a percent (6% is ok; 6.5% isn't). Requires 640K of RAM and a hard disk.

JOB COST ver 1.08 (1981)

Powerful, simple-to-use, job cost monitoring system. Sets up multiple jobs, each with a unique cost center; provides budget controls per cost center for labor, material, etc; edits/posts transaction cost items to each cost center; posts estimates of percent complete for budget items; sets up budgets for up to 99 change orders per job; and more. Provides cost variances, projected profit or loss at the detail budget level, cost center level, and total job. Updates overall job status as expenses are posted to inform you of funding balance, and available and projected profit/loss per original estimate and change orders. Provides variety of valuable printouts for clients, foreman, subcontractors, etc. Requires 512K and a printer capable of printing 132 characters per line in either compressed or normal type. 2 floppy drives or a hard disk are recommended.

CEDARMAN COST CONTROL SYSTEM ver 1.1 (1967)

~NEW

CCS is a cost control system for small service businesses. This powerful menu-driven tool will help you monitor and bill complex or simple projects. It is also useful for determining cost overheads, tax computations, mailing lists, inventory control and many other small business and in-house service facility needs. Eliminates the need to keep separate records for time sheets, billings, travel reports, etc. CCS tracks them all and gives you cost reports and then invoices the proper client. CCS is easy to use, very versatile, and offers extensive reporting features. Requires 2 floppy drives. A hard disk is recommended.

ROKMAR HOME/OFFICE ASSETS INVENTORY SYSTEM ver 1.0 (1982)

Easy-to-use inventory accounting system keeps track of home or office assets. Itemizes each item you own by model and serial numbers, location, purchase and replacement cost, etc. Allows easy updating, provides detailed inventory report of assets by type, location, or user-defined index. Even creates files that can be imported to spreadsheets or financial analysis programs. Provides needed information for capital budgeting, tax planning, and insurance coverage and claims reporting. Also provides useful guidelines and hints on proper inventorying procedures, and includes information on commonly overlooked items. Features pull-down menus, pop-up help windows, key-word search/browse function, and more.

DATA RETRIEVER ver 5.0 (1988)

DATA RETRIEVER, available since 1985 as commercial software, is now available as shareware. DATA RETRIEVER is the powerful telecommunications companion to the highly acclaimed Fund Master TC technical analysis and portfolio management system. DATA RETRIEVER functions as an independent program that will download price and dividend information on mutual funds, stocks, market indexes (Dow Jones Industrials, Standard & Poor's 500, etc.), and market indicators (advancing issues, declining issues, etc.). Obtain current price quotes and dividend and capital gain distributions on mutual funds after 6:30PM Eastern Time. Obtain historical price and dividend data. Automatically update an Advance/Decline Line. The data can be saved, stored, viewed, and exported to other analysis and spreadsheet programs. Financial data is retrieved from Warner Computer Systems. A discount coupon is provided on disk that reduces the Warner sign-up fee to a very reasonable \$24.

STOCK MARKET TIMER ver 2.0 (1989)

A stock market timing system to assist you in stock trading activities. Gives you the Buy/Sell signals you need to be successful in the market. Uses the weekly closing DJIA, weekly number of advancing/declining stocks on the NY Stock Exchange, and the S&P500 weekly closing figures. Buy/Sell recommendations are determined from weekly closing price movements collected from local or national newspapers in conjunction with system-generated Market direction indicators. All recommendations are based on 5, 15, and 40 week moving averages for indices and prices. Also offers general advice on selecting

stocks, and provides instructional guidance on the process of selecting and tracking stocks, making market decisions, etc.

MOE and NIFTY (8943,8944) 2disks

MOE ver 4.9 - This business-oriented pop-up program schedules events; sets up to 20 alarms per day; tracks/records time on various tasks with stopwatch; builds mini databases; views disk directories; copies, views, erases files; sends printer commands to change fonts, etc. Includes work/expense log, phone book, auto-dialer, calculator with tape, and more. Use as stand-alone program or as a team with TICKLEX (see TSL Disk #1926) and BILLPOWER (see TSL Disk #1984).

NIFTY ver 3.0 - This unique program may be used as a pop-up help system or a DOS menu. You design each menu screen yourself in nearly any fashion you wish. This easy-to-use program gives you such choices as on-screen instructions, credits, addresses, screen colors, etc. As a help system, NIFTY can provide on-line assistance on any subject you desire. The help system is memory resident. Requires 512K and a hard disk.

PAINLESS ACCOUNTING ver 4.0 (1991,1992,1993)

3 disks

PAINLESS ACCOUNTING is an extremely comprehensive menu-driven accounting system with appointment scheduler and extensive on-line help. Covers general ledger, accounts receivable, and accounts payable billing. The program earns its name "PAINLESS" by being VERY easy to learn and use. Prints a wide variety of reports. G/L reports include Total Balance, Income Statement, Balance Sheet, and Chart of Accounts Listing. Client A/R reports include client Statements, Aging Reports, Directory, Labels, and Historical Invoices. Vendor A/P reports include vendor Statements, Aging Reports, Directory, and Labels. Also included are Service and Message Reports. Requires 640K and a hard disk.

PAINLESS ACCOUNTING HOME VERSION ver H1.00 (8938) ~NEW

This dynamite program contains the major features of PAINLESS ACCOUNTING (Disk #1991-1993), but is perfectly scaled down to meet all of your home accounting needs. Includes general ledger, billing, budget, financial statements, and much more. Fully menu-driven, on-line help, lots of options, and great documentation make this program a joy to use. A truly exceptional home accounting system! Requires 384K and a hard disk.

FAST INVOICE WRITER and FAST STATEMENT WRITER (1994)

FAST INVOICE WRITER ver 2.6 - A menu-driven Invoice writer which creates, calculates, and prints invoices on blank 11-inch paper. Invoices are serial numbered. Serial numbers are automatically incremented by 1. Invoice copy number is printed as COPY 1 OF 2, COPY 2 OF 2, etc. Each invoice sheet holds 30 items. Invoices may be given any title you wish ("INVOICE," "PURCHASE ORDER," etc.). Your company letterhead may optionally be printed at the top of the invoice in a combination of expanded and condensed characters. Includes space for city and state sales taxes and a user-definable third tax (county tax, etc.). Other features include: Change horizontal line style; include shipping and handling charges; User-defined default comment line; Enter non-taxable services and taxable sales; Completely editable; On-line help; Prints #10 window envelopes and cut/paste labels; And more.

FAST STATEMENT WRITER ver 2.4 - A menu-driven statement writer which creates, calculates, and prints statements on blank 11-inch paper. Prints up to 36 lines per sheet, and a statement copy number is printed as COPY 1 OF 2, COPY 2 OF 2, etc. The remaining features are essentially the same as those of FAST INVOICE WRITER, except that statements aren't serialized.

RESUME and APPLY (1995)

RESUME BEST is a tutorial which will guide you through all the steps of preparing the most professional resume possible. The information presented here is an absolute MUST if you wish to make the best possible impression on a prospective employer. It is also invaluable if you're considering opening a resume service for others. RESUME BEST represents 5 years of extensive, professional resume experience, including the preparation of more than 5,000 resumes! Even includes important information on preparing for an interview. Covers such subjects as one-page versus two-page resumes; basic components; action verbs, style, format, etc; proper identification and wording of objective sections for "general" and "targeted" resumes; proper presentation of qualifications, education, training, experience, military experience, salary, civic activities, professional affiliations, personal and business-professional references, etc; how to prepare a cover sheet, cover letter, and interview thank-you letter; hints for proper mailing of your resume package; and much more.

APPLY is an applicant database program which helps you track and manage all pertinent information regarding applications you make, including jobs and grants you apply for, contests, etc. It stores important data and merges it with text files; prints letters, resumes, and envelopes; tracks previous experience; and more.

LINEAR OPTIMIZER ver 2.0 (1996)

Ever face the problem of having to decide the best way of cutting up that plywood you bought for the wood working project you've been planning? Or maybe you're a dressmaker, and you need to determine the best way of cutting up that special bolt of material you bought so as to minimize waste? If so, then **LINEAR OPTIMIZER** is the program you need. The problems just described are what **LINEAR OPTIMIZER** solves quickly. Puts an end to trial and error. Results in real time and material savings. Increases productivity and performance. This program is used in a wide range of material fabrication industries and in the home. Time savings, optimal material utilization, part layout and automatic inventory management are only some of the benefits quickly realized by using this tool. What once took hours now takes minutes. Generate your part layouts quicker than ever imagined. Choose one of several data entry screens to best suit your immediate needs; select direct data input or automatic data base reference; menu-driven; includes context-sensitive help; lets you know if you have enough material for the job, and if not, how much extra you'll need; and many more features than we can mention here. Easy to use. Includes excellent examples.

MANAGER'S TOOLBOX ver 1.0 (1997)

MANAGER'S TOOLBOX consists of valuable management problem-solving tools. The methods used are versatile in that they offer several ways of working the same problem, allowing you to solve for the exact information you need. Tools are offered in eight categories, including Inventory Analysis, Financial Analysis, Predicting Bankruptcy, Make or Buy Decision, Queuing Theory, Forecasting, Sampling for Defects, and Break Even Analysis. The technique of breakeven analysis determines the exact point where revenue equals cost. A variation of breakeven analysis called Cost-Volume-Profit analysis allows you to determine the level of sales required to realize a certain amount of profit. Inventory analysis helps you carefully balance the need to have inventory on hand with inventory carrying costs. Queuing, or Waiting Line, Theory involves the costs to the customer/business for having to wait and have resources idle, and the cost to provide extra facilities or labor. The remaining tools in the "toolbox" are equally important to your business. Plenty of on-line help makes navigating through this program a breeze.

EZ EVENTS TRACKER and EZ WORK LOAD SYSTEM (1999)

EZ EVENTS TRACKER ver. 1.2 - A menu-driven program that allows you to record, edit, track, and produce printed reports on upcoming and past events. Space is provided to record information on sponsor, nature of event, date, time entry for scheduling during a day, and staff. Also includes a space for notes. Very easy to use.

EZ WORK LOAD SYSTEM - A menu-driven program that records and tracks work load items. View, edit, and generate printed reports on work items established by item, in date, due date, subject, and staff member name. Allows easy updating and purging.

BASELINE FORECASTER (2003,2004) 2 disks

BASELINE FORECASTER assists you in your forecasting responsibilities, such as preparing an estimate of future developments which could impact your company or organization. A typical task might include the development of sales or budget projections, needed inventory levels, future price levels, etc. **BASELINE FORECASTER** aides you in developing such projections as well as any others that can be quantified into a data series. The four statistical models used in developing these projections include: the Absolute Change Model, the Percentage Change Model, the Regression Model (GLM, autoreg, Hildreth-Lu), and the ARIMA Model (complete Box-Jenkins specs). Also included is a forecasting technique called Historical Forecasting. You may test these models to determine which one provides the best forecast based on historical trends. A procedure is included for determining and selecting the best model for forecasting a hypothetical series and generation of a forecast. The program provides the information necessary for you to gain a practical understanding of how to invoke the models, as well as insight into the forecasting process. Excellent examples are provided on the use of the various modeling schemes.

MICRO MANAGER ver M1.0 (8900) ~NEW

This computer inventory manager keeps track of all your PCs, software, printers, monitors, boards, modems, etc. It's a must-have program for any business using computers. You'll know where every PC and related item is located, including warranty and service information, vendors, cost, serial numbers, related dates, and more. This extremely fast, simple-to-use program features: Help key and extensive on-line reference; Minimal key entry; Easy to expand by adding modules without changing files; Virtually no limit to number of inventory items; and more. Includes MANY options, even one for data compression to save disk space. Unregistered version will not print reports. Requires 512K and 2 floppy drives or a hard disk.

TRUEBUDGET ver 1.0 (8901) ~NEW

This is a full-featured, menu-driven 52-week zero-base budget program. It's unique among budget programs because it tells you the MINIMUM money needed weekly to avoid debt. A zero-base budget provides for expenses from a minimum reserve. Because it's "zero base," it DOES NOT need to know the person's income. Rather, it determines the amount the person must set aside each week to satisfy the budget. Because there's no need to know income to create a budget, **TRUEBUDGET** is particularly useful for creating

budgets for friends and acquaintances to help them plan spending. Likewise, it's well suited for those involved in social services work. TRUEBUDGET includes a "self-healing" sample budget for you to experiment with. Requires 320K and an IBM/Epson or compatible printer.

TELEMESSAGE ver 1.5 (8902) ~NEW

This pop-up telephone message system is designed for use on a Novell Network and other LANs (Local Area Networks). Used on a single machine, a receptionist can take phone messages for other office workers. Each person has an assigned message file, and their messages can be printed out. The program uses only 10K of RAM by swapping memory to hard disk or expanded memory if available. TELEMESSAGE will make office life just that much easier for everyone. Requires DOS 3.0 or above and a hard disk.

EMPLOYEE MANAGING SYSTEM ver 4.0 (8903) ~NEW

EMS is a highly accurate personality analysis system that is designed to reduce employee turnover and improve management/employee communications. The program analyzes a series of responses to descriptive statements to determine the necessary requirements to fill a job position. Based on the responses, EMS prints out a five-page report on the "work personality" of the individual. EMS reports on the two greatest influencing factors of the respondent's personality. It also describes management style, decision making style, stamina, and motivational and demotivational factors that would cause an employee to like or dislike a job. The program boasts a 90% to 95% rate of accuracy. EMS is also a valuable personal communications tool between friends, marriage mates and any other relationship where personality is a strong influencing factor.

FREIGHT+ ver 1.38 (8904,8905) 2 disks ~NEW

FREIGHT+ is the best UPS Computerized Parcel System and Shipping/Receiving Log available today! This top-rated commercial program sells for \$395.00, but here's your chance to try the fully functional version for less than \$7.00. Features include: Automatically enters shipments into a daily UPS manifest to be printed out and handed to the driver at the end of the day; On-line Calculator is able to save the product to the field which called it; Save transactions to disk and select from up to 60 previously closed-out periods to extract or modify information; Powerful and flexible report section; Modifiable Zone/Zip Code Tables; Shipping Tags and COD Tags can be generated individually or automatically when creating transactions; Shipping/Receiving Log for any carrier can be recalled for reports; Password Protection; Can integrate with the SBT Order entry system; On-line Help and fully Menu-driven for ease of use. Requires 380K, hard disk, DOS 3.0 or greater.

INVENTORY MASTER ver 1.0sw (8906) ~NEW

INVENTORY MASTER is a sophisticated program designed for small to mid-sized businesses to reduce the cost of purchasing inventory. It uses the powerful EOQ (Economic Order Quantity) concept - the most advanced scientific method available for controlling warehouse expense. The program's centerpiece is the "Inventory Order Report" which contains restocking instructions on all of your company's in-stock inventory items. For each item, the report tells you HOW MANY to buy and WHEN to buy it. The format of the report makes it easy to maintain an existing Max/Min system or to start a new one. Discount schedules for different vendors are stored just once, and thereafter the most advantageous quantity discount is chosen automatically. This powerful program is entirely menu-driven for ease of use.

THE INVOICER with ACCOUNTS RECEIVABLE (8907) ~NEW

This is a complete, menu-driven invoicing, billing and accounts receivable package for small businesses. The Invoicer gives you the option of printing invoices and statements on either blank paper or preprinted forms which you can order. The accounts receivable section of the program allows you to post entries to your accounts (charges, payments, finance charges, etc.), print statements, print past due notices, view the accounts, get aging reports, etc. You do not have to generate an invoice in order to post a transaction to an account. The program allows you to modify a posted transaction if you realize you made a mistake after you saved it to disk.

PERSONNEL MASTER ver 1.1 (8908) ~NEW

This sophisticated personnel management and human resources program is designed to be utilized by companies of any size. It provides management with information relating to pending employee reviews, attendance information, salary histories, employee emergency contact information, vacation and sick pay accrual, employee benefits administration, company salary budgeting, and over 30 reports. In addition, PERSONNEL MASTER provides EEOC-1 reporting and OSHA log reporting to meet the demands of federal and state labor and job safety agencies. This shareware release is entirely menu-driven and fully functional except that it is limited to the entry of 5 employees. Requires 512K, a hard disk, and a 132 column printer or 80 column printer set in condensed mode.

OVERLORD ver 1.11 (8909,8910) 2 disks ~NEW

OVERLORD is a powerful, multifunction program designed to help you organize and control your member records and accounts. It can be used for office or apartment buildings, condominiums, clubs, parking garages, churches, or other types of organizations that keep track of members or clients.

Handles up to 9 different organizations; Unit (like apartment) availability is checked, also the availability by date; Prepares and prints bills with an optional late charge feature, percentage or dollars; Prints status reports and directory listings with options to select the order of printing; Produces delinquency and YTD credited reports; A financial summary is offered showing the overall income and source by category; Absentee billing and mailings; Maintains a year-to-date credit history, even after an account is closed; Sends customized letters to clients; Current balance, lien or deposit amounts are imbedded within the text; Selective mailings to clients, based on contract dates, current balance, deposits or liens etc. Store 9 different letters with easy means of composing the text; Generate mailing labels or print addresses on envelopes; and much more. Requires a hard disk.

JOB ORIENTATION INVENTORY (8911) ~NEW

This menu-driven program is a test used to analyze what is important to you on your present job. It analyzes 10 areas of personal interest: Achievement, Responsibility and Control, Opportunity for Growth, Recognition from the Community and Friends, Job Status, Interpersonal Relationships, Monetary Reward, Job Security, Provision for Family, and Support for Hobbies or Avocational activities. Test results are displayed numerically and graphically. They can help you to take a self-inventory on your job and to make more accurate career decisions based on your priorities.

AMORT ver 1.07 (8912) ~NEW

This fast, simple, menu-driven program allows use of any interest rate and calculates mortgage loan amortization schedules with just a few entries. Select weekly, bi-weekly, monthly, quarterly, and annual payment frequencies. Just enter the number of payments to be made, and in an instant see total pay back, total interest paid, and individual payment amount. You can then display or print the payment schedule. Information is also available on sales agent, buyer, and property. Makes an ideal tool for accountants, real estate agents, and anyone planning to buy or sell property. Use AMORT to print schedules for yourself, friends, or prospective clients. Requires 512K.

FIXED ASSET TRACKER ver 3.1 (8913,8914) 2 disks ~NEW

This easy-to-use menu-driven system tracks and depreciates fixed business assets. Features of this superb program include: Automatic depreciation calculations, Multiple depreciation methods, Depreciation journal entries, and Supply and spare parts system. It even tracks maintenance records and product requests. Users of this program include McDonnell-Douglas Corp., Searle Pharmaceuticals, Carolina Telephone, and Barclays American Bank. Requires 512K, a hard disk, and DOS 3.1 or higher.

BILLER ver 1.3 (8915) ~NEW

BILLER is an easy-to-use, menu-driven billing system that will pay for itself many times over by saving you time, and will quickly become an indispensable part of your business. BILLER accepts direct amounts or hourly rates; prints bills on blank paper or on forms; handles 1,000 clients for each data file; exports summary data for mail merge operations; includes add, delete, edit, and sort functions; and much more. BILLER will not handle service charges. Requires a graphics monitor.

PC-BILLING (8916) ~NEW

This is a very basic, simple-to-use, menu-driven invoicing system for a small business that relies on billing clients to collect revenue. Performs the following: INVOICING - Enter who/what/why billing information and then print the invoice; MONITORING - If payments are not received in 30 days, past-due notices are automatically printed; after 60 days, delinquent notices are printed; and REPORTING - Reports on outstanding bills, and summarizes receipts, receivables, and bad debts. Invoice file can contain 200 outstanding invoices. Includes full editing functions and easy-to-follow demo files. Requires a printer that handles standard continuous feed paper.

FINANCE MANAGER II COMPLETE BUSINESS ACCOUNTING ver 1.3F (8917-8922) 6 disks ~NEW

All the power and sophistication of a professional accounting system in a full-featured, integrated, easy-to-use, menu-driven program that's tailored to the small to medium size business! No bookkeeping knowledge is needed. Has received very high marks from critics! This is as good as they get, folks! Includes GENERAL LEDGER (G/L), ACCOUNTS PAYABLE (A/P), ACCOUNTS RECEIVABLE (A/R), and PAYROLL modules. G/L features: double entry, simple inputs, pop-up windows, multiple years, mouse support, graphs, demo files, prints 9 different reports, and much more. Payroll handles all your payroll accounting needs. Supports hourly and salaried employees paid weekly, biweekly, semi-monthly, or monthly, and includes many options. It even allows manual override of deductions. Includes user-modifiable tax tables you can keep current, and prints 12 different reports. A/P and A/R accomplish all you'll need to easily manage cash flow. Prints a wealth of reports, including A/P and A/R journals, open invoice reports, balance forward statements, and much more. Requires 2 floppy drives, or 1 high-density floppy drive, or a hard disk.

CRISP ver 2.67 (8923) ~NEW

CRISP is a menu-driven bookkeeping system that can support 99 different databases. Great for managing multiple commercial or investment proper-

ties, or for maintaining separate accounting for multiple projects or companies. Each database has its own journal of receipts and disbursements of up to 30,000 entries, chart of accounts of up to 200 accounts, and a payer/payee list of up to 200 names (plus up to 32,000 special payer/payees). Display 3 bank account balances, create expense reports, print checks, reconcile bank statements for each property or project, and maintain an account list. Files of monthly account totals can be exported to Lotus 123. Documentation is sparse, but excellent examples make CRISP easy to learn.

PERSONAL ASSISTANT: FRIDAY ver 1.03 (8924) ~NEW

This highly useful program manages important information you need to run a successful business. It keeps vital information at your fingertips; dials your phone; creates, maintains and prints mailing labels, envelopes, phone books, appointment books; and more. You'll never again have trouble keeping track of meetings, phone numbers, birthdays, etc. FRIDAY is menu-driven, includes excellent on-line help, and is easy to learn and simple to use. Requires 512K, a hard disk, and an optional modem if you care to use it for phone dialing.

MIS MANAGER ver 4.0 (8925,8926) 2 disks ~NEW

This full-featured menu-driven program tracks computer hardware (purchased or leased), software, applications, hardware maintenance, and development requests; and represents a powerful tool for any data processing department. In spite of its power, though, MIS MANAGER is very easy to learn and use. It also includes a database for magazine reviews, tracks by department and budget codes, and even computes depreciation by two different methods. It will print over 100 different reports, including those very important audit trails, and create inventory labels. This program is currently in use by major businesses, hospitals, restaurants, government agencies, and schools. Requires 512K and a hard disk.

COMPUTER TRACKER ver 3.1 (8927,8928) 2 disks ~NEW

This full-featured, menu-driven computer hardware and software inventory tracking system is very easy to learn and use. It keeps track of hardware, software, applications, and even maintenance records. It even tracks product and application requests and product reviews, and provides automatic depreciation using multiple methods. Users of this excellent program include McDonnell-Douglas Corp., Searle Pharmaceuticals, Carolina Telephone, and Barclays American Bank. Requires 512K, a hard disk, and DOS 3.1 or above.

MANAGEMENT SEMINAR (8929) ~NEW

MANAGEMENT ver 8.90104 is a system of 11 comprehensive management courses written by a professional management seminar instructor. It covers the most important, problematic areas of supervision, helping to improve managerial effectiveness in many areas. Includes such topics as improving motivation, communications effectiveness, decision-making abilities, use of time, and planning abilities; building and maintaining positive attitudes; employee evaluation programs, and much more.

MICRO REGISTER ver 6.75W (8930) ~NEW

This menu-driven retail-management point-of-sale and invoicing program automates a retail or service related business. Features include: Prints price labels, customer invoices, and charge statements; Generates price quotes; Tracks inventory and customer account data; Computes commissions; Records income on daily, monthly, and year-to-date basis with password-protected printouts; Prints many reports (Inventory Item List, Item Below Reorder Level, etc.); and more. Shareware version holds 1,000 inventory items, 500 customers, and 50 salesmen. Very easy to learn & use! Requires 512K and a hard disk.

MI-LOG ver 2.1 (8931) ~NEW

MI-LOG is a simple-to-use computer usage program which creates a record of your computer's usage for business and tax purposes. MI-LOG automatically creates and keeps a record of the user, date, time, hours, reason, specific purpose, and cumulative totals of hours. Features password security protection and much more.

PC-SHIFT ver 1.0 (8932) ~NEW

This outstanding time-saving program is a full-featured employee scheduling system for any size business. PC-SHIFT will schedule employees based on the positions they hold and the locations they work at, and it allows easy updating of their schedules. You'll be able to create, edit, and delete job descriptions; Graphically view on-screens your employees' schedules, allowing you to easily see how their times interact with one another; Print various reports; and much more. There are no limits to the number of separate employee locations allowed. Excellent on-line help makes this menu-driven program a breeze to learn and use.

TASK MASTER ver 2.0 (8933) ~NEW

This very powerful, menu-driven project management tracking system easily keeps track of office tasks, projects, assignments, correspondence, and other work. Helps you organize and control some of the most important aspect of

your business! With its superb on-line help, TASK MASTER is very easy to learn and use. Allows you to create a file of projects, assignments, etc.; edit the file; search for specific records; browse the file; and print reports in various formats. Requires 384K, a hard disk, and any dot-matrix or laser printer.

POSTAL CONSULTANT ver 2.0 (8934) ~NEW

This amazingly handy program shows you nearly all you need to know about U.S. postal mailing rules. Just pick a topic from the menu on a wide range of subjects, including: 1st-class through 4th-class, priority, next-day, and special mail services; Size standards; Stamps; Money orders; Special delivery; Special handling; Certified mail. Certificate of mailing; Return receipt; Restricted delivery; Ordering stamps by mail; and State abbreviations. Did you know, for example, that if your letter is less than 1/4" thick, it must be at least 3-1/2" high by 5" wide? You can also maintain a mailing list and print mailing labels with this versatile program.

VEHICLE RECORD SYSTEM 20 ver 1.2 (8935) ~NEW

A time-saving menu-driven business-oriented system for tracking and analyzing fuel, maintenance, and accessory expenses for company vehicles. Determine average MPG, cost per mile, and more for any period of time. Tracks vehicles in groups of up to 20 with no limit to the number of groups. This system is currently used by many large and small companies. Prints reports. Requires 2 floppy drives or a hard disk.

SMARTCALC and ZCALC (8936) ~NEW

SMARTCALC ver 2.0 is an intelligent four-function business calculator which doubles as a state-of-the-art adding machine. This simple-to-use program features a display-only and print/display modes, automatic repeat, store and recall, "freeze display," on-line help, date/time stamped tapes, printed tape messages, tape entry count, double window display, and a stored memory display.

ZCALC ver 1.06 is a very complete consumer installment loan calculator which performs the same functions as the best programmable business calculators available from many calculator manufacturers. ZCALC even computes odd periods to first payment (a function sorely lacking in many similar programs), credit life, A&H premiums, and much more.

HOME MANAGEMENT-II ver 3.21 (8937) ~NEW

This menu-driven home money management program is very easy to learn and use, but is also sophisticated and powerful enough for small business finances. You'll be able to simply and easily automate your checking and record keeping chores, plan budgets, track your stock portfolio and analyze performance against the Dow, amortize loans, and much more. It even includes a simple word processor for addressing envelopes and filling in forms. Requires 384K.

PC QUOTE ver 1.0 (8939) ~NEW

This easy-to-use menu-driven quotation and invoice system allows you to enter customers and items into a database using on-line screens. Features include: Automatic customer and item index creation; Customer/Item search; Specify prices, quantity, and discounts; Customizable quotation/invoice templates; Complete editor and print functions and more. Requires 384K and a hard disk.

PHONEBOOK BOSS (8942) ~NEW

The PHONEBOOK BOSS is a menu-driven program that allows you to easily maintain both internal and external phonebooks for your company. Each external phonebook entry includes company name, contact name, comments, and phone number. Internal entries include name, department, and phone number extension. Entries can be added, modified, deleted, and searched by company name. Both phonebooks can be printed.

PROFESSIONS

GRADE GUIDE ver 3.0 (2901)

A full-featured, menu-driven teachers grading system for storing, retrieving, and analyzing student grades. Names are listed in grade book format. Grades are recorded as number scores, letter grades, or both. Other features include: Handles multiple classes; Letter and numeric grading; Grade weighting and averages calculations; Prints grade recording forms; etc. Provides statistical performance reports and produces graphs to display a bell curve. A great tool for teachers at all levels.

GRADESCAN ver 3.0 (2909) ~NEW

This is a feature-rich menu-driven grading program for teachers that's loaded with options. GRADESCAN includes all the usual features found in professional grading programs, including: Add and delete names; Enter and change grades and assignments; Assign grading weights to the various assignments and exams; Print a variety of reports; Examine student data; Average the grades of a single student or an entire class; and much more. GRADESCAN is so easy to learn and use, we don't believe you'll need to read the user's manual! It even includes a full set of sample data to "play" with. It will certainly

make your record keeping and grade computation much quicker and easier, giving you more time to devote to lesson planning, preparation of new instructional material and methods, counseling of students - and maybe even a little relaxation.

GRADING ASSISTANT ver 1.4 (2910) ~NEW

A super, full-featured, menu-driven program to help teachers record and maintain student grades throughout a grading period and produce student and class average reports. Features include: Define grade categories and grading average percent (weights) per category (e.g., 25% daily work, quizzes 15%, etc.); Computes letter and numerical grades; Prints a wide variety of reports; and much more. A superb system with many options! Requires 2 floppy drives or a hard disk and an Epson/compatible printer.

TEACHER POWER (2906)

CLASSROOM HELPER ver. 2.0 - Computerized grade book for teachers allows full control over how grades are calculated. Enter/edit assignments in four different modes, assign/reassign students to groups/classes with name changes allowed, and keep behavior records with scores of 0-9. Printouts include lists of all work and missing work, parent letters, class/group rankings, phone numbers/addresses, report cards, date, and time. Works directly with Epson/compatible or imagewriter printers, but may be programmed to use any other printer you provide correct printer code for.

WORD HUNT - HIGHLY recommended for parents and teachers! Creates challenging word-search puzzles from word lists. Each puzzle is a letter matrix of hidden words from your list. Words appear up, down, left, right, and diagonally. Up to 200 words and up to 25 letters/word. Used widely by schools to improve spelling and word recognition. Puzzles are easily tailored to any age level. Fun for all ages!

EXAM BANK ver 1.2 (2907)

EXAM BANK is a menu-driven, easy-to-use program for teachers which stores test questions (hundreds each of multiple choice, true false, short answer, essay, and crossmatch), along with course information and instructions for page and section headers. Allows easy, fast editing or deletion and replacement of questions. Selection of questions from the "bank" in any order is fast and easy for printing any quiz or exam. EXAM BANK formats and prints quizzes or exams, and prints a corresponding answer sheet for easy grading. Never again give the same examination twice. You can also prepare two tests using the same questions, but in different order, and then pass them out in check-board fashion so no student has the same test as his neighbors. Entry screens for questions and other data contain word processing features (insert/overwrite, word-wrap, and full cursor control key usage). Crossmatch questions are produced without hassle; correct matches are entered side-by-side, and the computer scrambles both columns into a different order and then prints a correct answer sheet. Requires 360K. EXAM BANK works with less memory, but number of questions per category must be reduced accordingly.

CLASSROOM SCHEDULER (2911,2912) 2 disks ~NEW

CAMS (Computer Assisted Master Scheduler) is a system designed to assist schedule builders in assigning instructors and rooms to classes. The program coordinates class time periods and available instructors and rooms. When scheduling is completed, CAMS prints a report that includes instructor, room, and class schedules. The program is menu-driven and useful for smaller schools. Requires 2 floppy drives or a hard disk.

LITIGEX ver 3.6 (2902)

A powerful research, document, and evidence organizer for attorneys. LITIGEX allows you to enter notes on evidence (the source, page, line numbers, summary information, etc.), research you're conducting, etc. Allows you to quickly find specific individual notes among hundreds or thousands. Create printouts of research data, sorted alphabetically by subject. Keep tabs on documents and other evidence (who sent it, who received it, its current location, etc). Prepare a chronological report of a sequence of events which may have been entered at random into the data base. Each database can hold up to 32,000 records, and several databases can be searched simultaneously for information. Requires 320K memory.

DOCKET MINDER ver 2.0 (2903)

Helps attorneys keep track of their dockets by allowing them to store, find and see information about docket entries. Information on client, matter, due date, attorney, and reference number is managed very effectively. The program is menu-driven, and plenty of on-line help makes usage easy for the computer novice. Written by an attorney with superior programming skills, **DOCKET MINDER** offers a unique combination of features and simplicity in carrying out its task.

REAL ESTATE SYSTEM (2904)

A program to assist a real estate office in storing and retrieving information about properties for sale, pending and closed sales, and details about your agents, agents' commissions, etc. Produces helpful reports. Designed for flexibility to meet the needs of different types of real estate businesses.

MEDICAL OFFICE MANAGER (2921,2922)

2 disks

~NEW

MED-#1 ver 1.04 is a superb, full-featured, menu-driven medical office management system that is easy to learn and use, with features unavailable in other medical systems. Patient ledgers are automatically updated at the time of transaction posting, and instant access to account and patient ledger information will help you collect at the time of office visit. MED-#1 even prints statements, claim forms, and reports on standard size paper, so no special printing forms are ever needed. However, custom statement forms and insurance HCFA-1500 are available if desired. Reporting includes daily charges and receipts recap, month-to-date summary, aged accounts receivables, and more. Many features and options are included. Requires 640K, a hard disk, and dot-matrix printer. The unregistered version is limited to 100 patients.

CHIROPRACTOR'S OFFICE MANAGER (2905)

CHIRO is a simple-to-use menu-driven patient database and claim form processing system for Chiropractors. Takes only minutes to learn. Tracks patients, including personal information, record of office visits, diagnosis history, treatments, charges, and current balance. Features on-line help and automatic file backup. Prints claim forms and maintains permanent patient records. Records can be searched, created, deleted, changed, etc, with all functions menu-selected. Alphabetical sort is automatic each time a new patient is added. Requires 512K and a hard disk.

DENTAL OFFICE MANAGER ver 1.02 (2908)

DENTAL OFFICE MANAGER allows you to collect and manage information for a moderately sized general/family dental practice. With this powerful menu-driven program you can establish accounts, schedule patient appointments, record patient transactions, prepare visit statements, prepare insurance claims, prepare monthly billing statements, generate practice reports and lists, and perform various maintenance tasks such as backing up important transaction information. Under the main menu are 7 sub-menus. They are: **ACCOUNT MENU** (establish new accounts, change account data, delete accounts, etc.), **PATIENT MENU** (add new patients, change existing patient info, delete patient record, print appointment labels, etc.), **BILLING MENU** (enter visit transaction; change transaction info; prepare walkout and insurance claim statements; update account balances, etc.), **REPORT MENU** (print reports for practice status by year, day, week, and month; aged accounts receivable; delinquent accounts; daily appointment calendar with financial info; etc.), **LIST MENU** (print lists of accounts, patients, appointments, ADA codes, etc.), **MAINTENANCE MENU** (rebuild data indexes, purge/retrieve old transactions, etc.), **UTILITY MENU** (set up monitor for mono or color, etc.). Requires 512K, 40 MB hard disk, and printer.

PACTAX ESTIMATOR ver 11.19 (1956)

This tax planning program is designed for accounting professionals. Projects 1989 federal tax liabilities for estimated tax purposes. Computes new 1989 Medicare tax, W-4 allowances, alternative minimum tax, allowable rental and passive losses, allowable IRA contribution, 5% surcharge. Prints W-4 and 1040ES overlays, warning if underpayment penalty, marginal and average tax rates. Written by a CPA for ease of use. Fully menu-driven. Requires 384K.

TEXAS PHARMACY MANAGEMENT SYSTEM ver 1.20 (2913,2914,2915) 3 disks ~NEW

This small pharmacy prescription management system is fully menu-driven and easy to use. It allows you to automate prescription record keeping. The program allows you to refill and void prescriptions by entering the prescription number rather than repeatedly reentering patient names. Prints a transaction of prescriptions issued each day. Allows you to store, retrieve and edit information about doctors and patients, to print an up to date list of all prescriptions issued to a patient, keep a running inventory of drug stocks, and print prescription labels in a variety of layouts. This comprehensive system requires 512K and a hard disk.

POLICE RECORD SYSTEM ver 1.1 (2916)

~NEW

PRS is a system designed to assist the typical police department to store, cross reference, and retrieve information about dispatch calls, warrants, arrests, criminal history, firearms and local residents. Records can be added, edited, and deleted. The following reports can be printed: Uniform Crime Report shows a summary of crimes committed in a particular month; Dispatch Call Analysis shows details of all dispatch calls for a particular month; Firearms License Report shows details of all firearms records; and Outstanding Warrants Report. The program is completely menu-driven. Requires a hard disk.

REAL ESTATE APPRAISER (2917)

~NEW

UNIFORM APPRAISAL REPORT PROCESSOR ver 3.6 generates and processes real estate appraisal reports, allowing entry of a wide range of information. You can enter: Location; Land use grid; Market value; Neighborhood rating; Site utilities; Room list; Interior finish; Heating and cooling; Kitchen equipment; Attic; Car storage; Improvement analysis; Comments and additional features; Area computation; Cost, market, and income approaches; Conditions or repairs; and more. It does most of the math for you, and includes a speed data-entry feature and on-line help.

This superb tool makes the process of sizing heating and cooling units for commercial and residential applications a cinch. Makes the difficult job of calculating a structure's heat loss or gain VERY easy. The program asks for the parameters necessary for the calculations, then performs all the math. Cooling needs are translated into tons and BTU's, and the CFM required for proper cooling or heating of the area analyzed is calculated. Help screens and other nice features make this program a pleasure to use.

AUTOMOTIVE ACCOUNTS RECEIVABLE ver 1.52 (2919) ~NEW

If you own a small automotive parts or repair business, then this accounts receivable and inventory program is for you. (It's also suitable for any small business with limited accounting needs and a manageable number of credit accounts.) Features include: Inventory control; Accounts receivable and invoicing; Monthly close out of posting and cash reports; Accounts receivable and cash invoice printouts; Checks & credits posting report; and more. Requires an Epson/compatible printer and a supply of ACCPAC-compatible Invoice and Statement forms.

ELECTRICS (2920) ~NEW

This invaluable, time-saving program quickly and easily performs important calculations for the electrical contractor. Calculations include: Device box fill; DC power, voltage, current, and resistance; Voltage drop for loads, voltages, and run lengths; Required wire size based on allowable voltage drops; Lighting calculations (zonal cavity method); and more. Also included is an equipment ground conductor table and a conduit selector. Menu-driven and very easy to use.

PC-FOOD ver 4.5 (2923) ~NEW

If you own or run a restaurant or business that prepares food, this program is for you! It calculates food cost, food-cost percentage, and gross profit of each item on a restaurant menu. Maintains required item selling price based on desired gross profit and item cost. No need to guess or hand-calculate cost when ingredient costs change. Just compare the invoice with the inventory food printout, edit the changed prices, and PC-FOOD instantly updates relevant item costs. Handles large or small restaurants. Capacity is 998 records each for inventory ingredients, batch recipes, and menu items. Includes many printing options and sample data.

SURVEY IT YOURSELF (2924) ~NEW

You can survey it yourself, quickly, easily, and inexpensively. Find lost corners and lines, calculate acreage, write land descriptions, establish test plots, subdivide property, layout building foundations and gaming fields, or even map a cave. Requires BASIC.

FIRE DEPT. CALCULATIONS ver 2.0 (2925) ~NEW

Quickly and easily calculates: ISO and NFPA water supply requirements; Capacity of cylindrical tanks; Friction loss; Maximum continuous flow capability using tankers; Desired engine pressure for hose lay; and much more. Prints reports. The author is an Institutional Fire Marshal in Norristown, PA. If you're kid wants to be a fireman, tell him he'll have to deal with this stuff. A cowboy's life is a lot simpler.

PROGRAMMING & LANGUAGES**A86 ASSEMBLER ver 3.21 (1403)**

A86 is the finest macro assembler available for the IBM and compatibles (8088, 8086, 80286 family). This assembler performs with blazing speed - 1000 lines per second on an 8MHz AT with a hard disk. It is also simple to use - you can feed it a program containing just machine instructions without the red tape necessary with other assemblers. Compiles directly to .COM files without going through a linker, or to .OBJ files. Some other features include: Automatically assembles multiple source files, capacity to handle very large projects, great language extension features, excellent error correction, and much more. PC-Resource Magazine gave A86 their top ("Superlative") rating and said it "is one of the best values currently available to assembly language programmers." (Also see D86 Debugger below).

D86 DEBUGGER ver 3.21 (1404)

The finest symbolic assembly language debugger available. Powerful full screen debugging. Works with A86 Assembler. Again the top rating from PC-Resource Magazine which called it a "state of the art companion to A86."

EXTENDED BATCH LANGUAGE ver 3.14A (1407)

EBL is a command programming language that can be used as a direct replacement or in conjunction with DOS batch files. Never before has batch language been so powerful. Compared with standard DOS batch files, EBL has superior control structures, string handling, and user interface. It also has tracing facilities and is easy to learn and use. Features include: Better control of messages to the screen; Accept responses from the user and create

responses to programs; String handling operations (substrng, length, etc.); Arithmetic expressions and assignments; Comparisons and program return codes; Search for files or tell if they exist; Mix DOS and EBL commands within the same control file; and much more. End users and programmers will find EBL a simple and effective language that provides capabilities never before possible. Also included on this disk is OPAL, another superior batch programming language.

SCREENPAINT ver 1.1 (1441)

SCREENPAINT allows you to design lightning-fast batch-file-based hard-disk menus, help facilities, pop-up windows, and prototype screens for application programs. Screens are quickly "painted" in a full-screen editing environment, complete with pull-down menus, help screens, automatic connecting lines, ten screen pages, and a full range of drawing and editing tools. Completed screens can then be displayed from a DOS batch file and "popped" directly to the video display, rather than scrolled using the very slow DOS ECHO command. The ScreenShow program allows screens to be displayed and key codes to be returned to the calling batch file where they may be tested. You have full control over the style of menu displays, and the menu screens are independent of your input. This allows you the flexibility to use any batch language from DOS to batch extenders like Beyond.Bat, Command Plus, and Extended Batch Language. A number of sample screen files and a working demonstration gives you a good idea of the superb menus this program is capable of producing with ease.

BASIC WINDOWING TOOLBOX (1408)

Provides BASIC programmers with windowing capabilities. The BASIC programs you create using B-WINDOW will be visually exciting and professional. Windows can be opened and closed over sections of the screen. Special windowing cursor control, string and character display, and border drawing are all included. Everything happens at lightning speed because B-Window is written in C-language and converted to assembler. From the makers of ImagePrint.

STRUCTURED BASIC (1411)

A preprocessor program for Microsoft BASIC. It takes a program containing special Structured BASIC statements and translates it into a program containing BASIC statements. This helps you write more concise, better structured BASIC programs because the preprocessor lets you take advantage of these features: Write free-form indented statements without line numbers; Write and maintain your programs in small modules; Organize your subroutines into procedures, each with its own alphanumeric name; Use structured programming statements similar to those found in programming languages like Pascal and C.

SWISS ARMY KNIFE ver 1.0 (1412)

A very useful toolkit for the BASIC programmer. The programs include ALIAS, BOXER, LIST, STRIP and XREF. These utilities provide program compaction, line optimization, alias substitution, formatted program listing, and cross-reference generation. These tools allow you to: Dramatically improve the performance of your programs; Write larger programs than are possible using BASIC alone; Program using meaningful variable names and sound programming style without being penalized by the BASIC interpreter; Print neatly formatted program listings including an optional cross-reference of critical program elements. The internals of these tools are of superior quality.

BASIC PROGRAMMER'S LIBRARY (1413)

ADVBA ver. 99 is the premier programming aid for BASIC. Designed for use with the IBM and QuickBASIC compilers, this advanced function library includes more than 75 useful routines. In addition, ADVBAS provides the basic programmer with: Abilities not otherwise available; Faster code; Smaller .EXE files; More free programming space. With its excellent documentation, ADVBAS is an absolute MUST-HAVE for the QuickBASIC programmer. (If you are deciding whether to purchase QuickBASIC or TurboBASIC, QuickBASIC with ADVBAS is the hands down winner).

BASIC AIDS (1414)

This disk includes two very useful aids for the BASIC programmer.

BASICAID offers the following features: Compress a BASIC program and remove remarks; Expand a program (separate multiple statements per BASIC line into one or more statements); Generate cross references on program variables and BASIC reserved words; Generate a cross reference showing all references to a specific line number that was referenced by a GOTO, GOSUB, ELSE, THEN, ERL, RESTORE OR RESUME statement. Helps you to find all variables, areas of code, etc. that are not referenced. Gives you an overview of program flow to find out how the program got to a specific line number.

DOCLIST is a BASIC program lister and documentor. If you have a compiled BASIC program and want to see how it was written, DOCLIST will process it into BASIC statement form. Options include specifying a range of line numbers to process, indenting FOR and WHILE, and printing or writing the new file to disk.

T-REF ver 5.05 (1415)

A powerful source lister and cross-reference list for Turbo Pascal versions 2.0 and 3.0. Features include: Full-screen driver; context-sensitive help; Line-by-line printout of lexical levels and block levels, active procedures or function of that line, and line numbers; Complete cross reference of all identifier's or a partial listing; Listing gives each identifier's name, type, code line declared on, all lines referencing the names, and the scope; Error analysis; Output to printer or file; and much more. Will help you to program faster and easier

TECHNOJOCKS TURBO TOOLKIT ver 5.0 (1416)

An excellent collection of procedures and functions for novice and expert Turbo Pascal ver. 4.0 and 5.0 programmers. The Toolkit is designed to provide easy-to-implement procedures that free the programmer from the more tedious and repetitive programming chores, such as windows, menus, user input, string formatting, directory listing, screen saving, etc. The Toolkit provides a variety of fully functional, ready-to-use "units". You do not need to understand the internal workings of any of the Toolkit units in order to use them. All you need to know is how to call the procedures and functions. A demo of each unit is included. This package is an outstanding programmer's aid. Requires Turbo Pascal 4.0 or 5.0.

MINIGEN (1417)

A Turbo Pascal screen code generator. With it you can paint data entry screens (constants areas and data fields), open and close windows with borders and cursor memory, perform controlled data entry, and create pull-down menus. MINIGEN is written in Turbo Pascal and will produce TP code for use in the programs you write. Knowledge of Turbo Pascal programming required.

FORGE ver 2.0 (1424)

FORM Generator is a TURBO Pascal and dBASE III programmer's aid. It allows the programmer to design data input forms or help screens, then generate TURBO Pascal or dBASE III source code for those forms. This source code can then be compiled and used as is for data entry, or it can be included as a procedure within a larger more comprehensive program. A working knowledge of Turbo Pascal and dBASE III languages is assumed.

MODULA-2 TUTORIAL ver 2.0 (1418,1419) 2 disks

Modula-2 is a very complete, high level language which was designed to make up for deficiencies in Pascal. This tutorial is extremely well written and will teach you the fundamentals of every phase of the language. Starts from square one for the novice. Programming exercises are featured at the end of each chapter so that you can immediately put each completed lesson to practical use.

MODULA-2 COMPILER v. 1.2 (1420,1421,1422) 3 disks

Modula-2 is a very complete high level language which was designed to make up for the deficiencies in Pascal. This system features a Modula-2 compiler with an integrated editor and "make" facility, a program linker, a makefile generator, and an execution profiler. The compiler generates code for the Intel 8086 "huge" or "large" memory model. In the "huge" memory model, each module has its own data and code segment, each of which can be up to 64K in size. In the "large" memory model, all the modules' static data is combined into a single data segment. Includes many library modules to help you get started: Keyboard, display, DOS file and directory handling, windows, pop up and pull down menus, and more. Requires 512K and 2 floppy drives; Hard disk recommended.

MODULA-2 PROGRAMMING TOOLS ver 1.2 (1439)

Contains library modules that provide new procedures to incorporate into your Modula-2 programs, and programs to speed up and ease the programming process. Includes: Programming environment; Date/Calendar system; Printer control; Screen and cursor control; File reading and writing of strings, numbers and Booleans; and much more.

C TUTORIAL ver 2.2 (1425,1426) 2 disks

This tutorial will teach you all you need to know for the majority of your programming in C language. Included is instruction to aid you in compiling your first program. Because Turbo C is not a beginners language, it is assumed that you have some experience with other programming languages. Requires a printer.

WINDOW BOSS for C ver. 11.15.89 (1427,1428) 2 disks

The **WINDOW BOSS for C** is one of the most powerful products available to enhance and accelerate the development of system and applications programs. The BOSS will let you create programs that have the same look and feel as top sellers like Lotus 1-2-3, dBASE III, etc. Pop-up windows, pull down menus, status lines, and context-sensitive on-line help functions can be easily implemented. Your applications can drag windows around the screen and automatically sense the video card installed. All of this without snow,

flicker, or delay! Includes specific routines for Microsoft, Turbo C, C!, Lattice, and Datalign C compilers. Full color support. Routines include scrolling, cursor controls, I/O, direct keyboard input, video page swapping, and much more. WINDOW BOSS beats the commercial competition.

The CXL LIBRARY ver. 5.1 (1434,1435) 2 disks

The **C PROGRAMMER'S EXTENDED FUNCTION LIBRARY** is a supplement to your compiler's run-time library and contains over 170 multi-purpose functions. The main feature is the windowing system, and there are supporting features as well. Routines are written in highly-optimized C code ensuring maximum speed and minimum program size. Features include: Multi-layered, overlapping windowing system; Pop-up, pull-down, and Lotus-style menus; Multi-field keyboard data entry; 43 and 50 line modes; EMS memory functions; Screen/window swapping to memory or disk; Date, time, printing, and sound functions; and much more. Use with Microsoft C/ QuickC, Turbo C, and Zortech C/C+.

SCREEN DESIGNER ver. 2.33 (1431)

SCREEN DESIGNER enables you to easily design screens for batch files, programs, and printed title pages. Includes a programmer's interface that allows you to draw the screen image you want, and then export it into your source code. This enables programmers to easily add great screens to their BASIC, C, dBASE, etc. programs. Special features include automatic box drawing, decorative box borders, automatic screen centering, box and line intersection mode, easy insertion of the IBM character set, on-line help, and much more. Works with any monitor. Requires 384K memory.

PC/370 ASSEMBLER (1429,1430) 2 disks

Allows you to assemble, link, and run IBM 370 assembly language programs on an IBM-PC/XT/AT. Now you won't have to wait for time on the mainframe because you can do your work right at your own desk. Suitable for beginning to advanced programmers. Includes assembler, linker, and machine code emulator with an excellent interactive debugger and erase facility. Features a macro preprocessor along with a set of I/O macros, source code editor, excellent example demo, very good documentation, and much more. This system is absolutely top notch.

OASIS ver. 4.1 (1432,1433) 2 disks

OASIS (OPEN ARCHITECTURE SCREEN INTERFACE SYSTEM) is the ultimate tool for Turbo Pascal application programmers. It allows you to design and even "test drive" complete user interfaces with menus, input checks, context-sensitive help and much more before you even write a single line of code. You can take advantage of powerful 4GL techniques without sacrificing any of the flexibility of Turbo Pascal. You can build professional programs with outstanding features in a fraction of the time it takes using conventional programming techniques. You can also add intelligent front ends to your existing programs. Shareware version is for Turbo Pascal 4.0. Requires 384K, DOS 3.0 and higher. Hard disk recommended.

IMAGEMAKER ver 2.0 (1440)

A tool from heaven for programmers to ease the problems of using animation sequences or small images in software! Very easy to use. Creates up to 18 images with a maximum pixel range of 60 pixels per X axis, 48 pixels per Y axis. Can be icons for a MAC-like interface, schematic symbols, or a series of animation sequences for your latest arcade game. Create images, save to disk, load to image buffer during runtime, and use "PutImage()" to display them on the screen. No messy conversion process. Alter the looks of your programs WITHOUT having to recompile your source program. Mechanics of creating images is similar in operation to using a high-quality paint program. Note: This is a demo version. As such, you cannot save the images you create unless you register the program. Normally we DO NOT include demos in our library. However, **IMAGEMAKER** is so impressive, and the registration fee is so small (\$25) for what is offered, we felt compelled to allow interested programmers a chance to see what this wonderful program can do. Those of you who have struggled long and hard to incorporate animated color graphic images into your programs know exactly what we mean! Requires EGA or VGA with 256K installed on the graphics card, and a Microsoft/compatible mouse.

TESSERACT ver 1.10 (1436)

TesSeRact is a library of routines for developing RAM-Resident ("Terminate But Stay Resident" (TSR)) programs. With TesSeRact, a programmer can write programs with RAM-Resident capability with little or no knowledge of TSR's or of the art of disassembling DOS. Features include easy use of hotkeys, simple Ram-Resident routines, co-resident functions, and cross-routine communication facilities. TesSeRact has been tested with Turbo C 1.5, Turbo Pascal 4.0, Microsoft C 5.0 and 5.1, Microsoft Macro Assembler 5.0 and 5.1, and OPTASM 1.0.

CTASK ver 1.1a (1437)

CTASK is a multitasking kernel for C. It includes a set of routines that allow your C program to execute functions in parallel without you having to build in sophisticated polling and switching schemes. CTASK handles switching of processor time with a priority-based preemptive scheduler, and provides a fairly complete set of routines for inter-task communication, event signaling, and task interlocking. Also included are a number of drivers for MS-DOS that build on the basic functions to allow you to include into your programs with

little programming effort serial I/O, printer buffering, and concurrent access to DOS functions. Requires Microsoft C 5.0 and later or Turbo C 1.0 and later.

TURBO ScrEdit ver 1.5 (1438)

TURBO ScrEdit is a full screen development system for Turbo Pascal and TURBO C. You can design screens using line and box drawing, copy or move lines or blocks of text, paint blocks of text, or type characters with full color control. Features extensive on-line help and comprehensive field validation language. Fields can be defined as display-only, required, optional, integer, decimal, alphanumeric, or alpha-only. Generates a skeleton file that can be compiled and run. Detect function and cursor keys, and almost any ALT or CTRL key combination. Video I/O is memory-mapped for snappy screens without flicker or snow. Includes a tutor, demo programs, and much more. Requires Turbo Pascal 3.0, 4.0, or 5.0, or Turbo C 1.5 or 2.0; PC or Ms Dos 2.0 thru 3.3.

DIGITIZED VOICE PROGRAMMER'S TOOLKIT ver 1.0 (1400,1401) 2 disks ~NEW

This programmer's voice digitizing program combines software plus hardware design for the creation of voice recording. Digitized recordings can be saved to disk and edited, and digitized voice playback can be incorporated into high-level language programs. Included are schematics and printed circuit board files for a small and inexpensive hardware device which is required. Other than that, digitized voice playback requires a 286 or 386 class computer and a hard disk.

PC PROGRAMMER'S REFERENCE (1402) ~NEW

This manual serves as a replacement for the various expensive references needed to program for the DOS environment, that stack of magazines threatening to take over your work area, and those odd tables and charts you can never find when you need them. The author has drawn from more than 50 sources to construct a comprehensive reference manual that covers DOS 2.0 thru 3.3 and includes the operating system's "undocumented" features. The manual can be printed, and the disk includes a program for reading the manual on-line and searching for text.

PERSONAL C COMPILER ver 1.2b (1405) ~NEW

PERSONAL C COMPILER (PCC) is a very fast, powerful, fully operational and tested C compiler for 8088/8086 microprocessors. It is fully compatible with code written for DeSmet Ver: 2.51. Code for earlier versions of DeSmet should work with minimal adjustment. Though not full of bells and whistles, PCC has a lot of power and makes fast, compact programs very quickly. Includes Compiler, Assembler, Linker, Debugger, Editor, Library utility, Standard library, and sample files. Creates 64K of code, 64K of data (which is bypassable), and 64K stack executables from Kernigan and Ritchie standard C language source. PCC supports overlays and includes an 8087 library, a library of supplemental screen I/O routines, and full documentation. Also features a special data type to break the 64K limit.

COBOL XREF ver 1.7 (1406) ~NEW

XREF is a PC level Cobol Cross Reference print utility. The program will quickly check the cross reference of variables and paragraph names, assuming all the Cobol syntax is O.K. Output can be directed to disk or printer. XREF is menu-driven and includes on-line help for ease of use. An AT class computer and hard disk are recommended.

FF FORTH (1447,1448) 2 disks ~NEW

This exceptional program is a powerful FORTH system based on F83, except that it uses sequential files and file handles like C and Pascal. **FF FORTH** is very fast to compile and run, and is highly interactive. Features include: A FAT system with many tools; A fast direct-threaded dictionary; Separated lists and heads for increased space; A prefix assembler for enhanced readability; An assembler that supports prefix and postfix assembly; Easy DOS access; A full handle and path based file system; A DOS memory-manager interface; and MUCH more! Requires a hard disk.

MEGADRAW ver 1.3 (1410) ~NEW

This is a fully menu-driven drawing program for programmers to quickly create icons and 12-frame animation sequences to be used within programs. Drawings are 24 x 24 pixels large. Includes full editing functions, and animation speed is variable. Self-standing Quickbasic code can be generated by MEGADRAW for use in programs. Also, drawings and animation sequences can be easily brought into any language (Pascal, C, Basic, and Assembly). Drawings and animations can be created for CGA or EGA. EGA is required to use MEGADRAW.

MOUSE TOOLS & SOUND TOOLS ver 1.0 (1446) ~NEW

These tools (with demos) make a Turbo Pascal programmer's job a lot easier. **MOUSE TOOLS** provides procedures for adding mouse support to your programs. Features include: Displays mouse cursor; Reads mouse and button positions; Displays various prompts with push buttons; and Selects filenames. Includes sample programs. **SOUND TOOLS** provides two ways to generate sounds in your programs (tables and interrupts). Requires Turbo Pascal 5.0.

POPTXT ver 2.1 (1442)

~NEW

A powerful easy-to-use help-screen generator for Turbo Pascal and Assembly Language programmers. Allows you to easily integrate help screens into programs. Features include: Help screen editor; 4 Turbo Pascal Units; Memory-resident version; Context-sensitive help; Window linking; Easy to use Menubar; and much more. Works best with Turbo Pascal 4.0, but can be used with almost any computer language that can interface with Assembly Language.

SCRNFORM ver VP 01.00 (1443) ~NEW

This powerful, easy-to-use interactive full screen editor makes it a snap to create and modify data entry screens, menus, and help screens. In just a few key strokes, your creations are saved for subsequent access by your application program. Fields and labels are created by positioning the cursor on the screen and then typing. No need to calculate the position (row, column) of each field on the screen, or for your application to manipulate the input explicitly, field by field, as many similar programs require. Requires DOS 2.2 or above.

TURBO BTREE ver 1.6 (1444) ~NEW

This is an excellent implementation of BTrees for Turbo Pascal 4.0, 5.0, & 5.5. Gives you the capability to develop Pascal applications for creating and manipulating high performance databases. Very powerful; very fast! Possibly the best product of its kind available. Provides as many general database capabilities as Borland's Turbo Pascal Database Toolbox, but has features Borland lacks, such as support of data types in indexes. Features include: Create data files and indexes for those files; Use any number of indexes for each data file; Use any number of data files; No need to set aside separate space for different files -- space utilization is maximized and performance is enhanced; and MUCH, MUCH MORE!!! Requires a hard disk and Turbo Pascal 4.0, 5.0, and 5.5.

PROGRAMMER'S EDITOR (840)

WED ver 4.02 is an easy-to-use full-featured text editor for programmers. Latest update provides very fast operation, including quick-up windows and menus. Advanced features include auto indenting, multi-file editing, user-specified macros, and more. When WED is run, all available memory is allocated as the text buffer, making WED operate with blazing speed. Operation is excellent with dBASE III. Features on-line help, split-screen viewing to see two file at once, supports upper ASCII characters, horizontal scrolling allows lines to be as much as 32,000 characters long, and much more.

WindE ver 2.08 (1445) ~NEW

WindE is a high productivity editor for programmers. Many such editors are available, but **WindE** is special because it was optimized for use with a mouse. Just point to a file name in the directory, click, and the file instantly opens for editing. And nearly every editing function works that quickly and easily, too. With a stroke of the mouse, a block of text is selected. Another click, and text can be searched for, deleted, copied, moved, and replaced without need for typing. Includes every editing function you'll ever need. Features include: Pop-up menus; Files open as windows; Opens any number of files (windows) simultaneously; All mouse functions are executable from the keyboard; Displays multiple windows; Bury the top window, exposing the window immediately below; Zoom window from current size to full screen and back again; Quit **WindE**, allowing **WindE** to start-up in the same state as when the session ended; Comprehensive help screens; and much more.

RELIGION

WORDWORKER ver 1.06 (1201,1202) 2 disks

A cross-reference program for the entire text of the King James Bible (New Testament). Features 15,000 cross references for almost 8,000 verses. Search Bible passages by phrase, word, or word combinations. Includes a complete editor to produce letters, sermons, etc. Can also be run memory-resident to be used with your word processor. Requires 2 floppy drives or a hard disk.

GODSPEED (1203)

The world's fastest Gospel on disk. It performs high-speed text searches of the gospels and displays the full text of each verse containing the desired word. The first verse is displayed within 3 seconds of entering the word. This version of **GODSPEED** includes MATTHEW, MARK, LUKE and JOHN (the entire King James Bible is available with registration). Menu-driven with excellent on-line help for ease of use.

KING JAMES BIBLE (1204-1211) 8 disks

This 8 disk set includes the entire text of the King James Version Old and New Testaments. Each Bible chapter is contained in a separate file and is written in plain ASCII (text) format. Traditional notation is maintained. Passages which are normally italicized are surrounded by brackets. Floppy and hard disk installation utilities are included. One big advantage to having the Bible on disk is that you can use a text search program to perform very fast text searches. This Bible set can be used on floppy disk as well as hard disk systems.

ON-LINE BIBLE ver 2.0 (1219-1226) 8 disks

ON-LINE BIBLE contains the entire text of the KJV version of the Old and New Testaments. The program allows extensive searches for a particular word, combination of words, and phrases. Selected text may be output to disk or to printer. This Bible set requires a hard disk. If you do have a hard disk, this is the Bible set to order.

BIBLE MEN ver 1.0 (1212)

"I was Paul's scribe who wrote Romans" . . . Who am I? If you're answer is Tertius, **BIBLE MEN** will record your score and go on to another "Who am I" question. This is a nice menu-driven Bible game with hundreds of questions drawn from the Old and New Testaments. Press one key to show the correct answer, another key to show the scriptural reference. Supports 1 to 8 players.

HERITAGE CHURCH SYSTEM ver 1.01 (1213)

The **HERITAGE CHURCH SYSTEM** automates the most mundane clerical tasks of the local church. It quickly and reliably records contributions and membership information, thus freeing church personnel to perform other duties. The program is fast and very easy to use with its context-sensitive help screens and menus. Maintains information on families and individual members as well as visitors. Reports can be printed or written to disk. Included are files to set up mailmerge with Microsoft Word and PC-Write (Disk #809,810,811).

THE GREAT EXCHANGE (1214) ~NEW

This is a computerized adaptation of an evangelism method authored by Reverend David Vallesky, who is now a professor at a Wisconsin Lutheran Seminary. The program is an interactive slide show with screens and text to explain the basic message of the Bible. It is quite interesting and has been very well received. Requires 640K and EGA.

DAILY BREAD ver 2.0 (1233) ~NEW

This wonderful Bible calendar program displays today's day and date, a Bible verse for the day, and a daily Bible reading from the King James version. It may be run memory-resident and popped up over other programs. Follow the readings for one year and you will cover the entire KJ Bible.

THE SERVANT ver 4.0 (1227-1231) 5 disks ~NEW

This is the most complete and detailed church management program we've seen! This full-featured system is menu-driven and easy to learn and use. Covers EVERY conceivable church need. It tracks member data (even matches members to available home study groups!), attendance, skills, sponsors, experience, visitor records, and more -- MUCH MORE! Features a complete "Needs" file, education system, day-care system, accounting system, and inventory system. It even prints mailing labels and produces over 300 different reports. Includes far too many features and options to list here. Requires 512K and a hard disk with 4.5 MB of available space.

SCRIPTURE MEMORY ver 2.0 (1232) ~NEW

This unique and interesting program will help you memorize King James Bible verses the easy, enjoyable way. Menu-driven and simple to use, **SCRIPTURE MEMORY** displays graphic charts of your progress, performs word and topic searches, produces printouts, and much more. The program features the "Navigator's Topical Memory System." It takes you step by step through the process of initial memorization and review. Requires CGA, EGA, or VGA.

MATH, SCIENCE & STATISTICS**UNITS (2300)**

An easy to use, menu-driven units conversion program. It includes a review of six common systems of units and provides a number of physical constants/relationships used in the sciences. Unit conversions for force, energy, mass, time, time rate of change, area, volume, length, and temperature. All calculations are performed using double precision arithmetic. The display uses scientific notation with the "D" format.

KWIKSTAT ver. 2.0 (2301,2302) 2 disks

KWIKSTAT is a powerful, menu-driven system for performing statistical analysis with emphasis on graphics. Builds data bases, or imports ASCII or dBASE III files. Excellent reporting system. Features histograms, 3-D bar charts, box and whisker plots, scatterplots, survival and comparative curves, all typical tests of ANOVA, linear regression, multiple comparisons, and t-tests. Also life tables and survival analysis. Requires graphics monitor. Hard disk is recommended.

SPPC (2305,2306,2307) 3 disks

SPPC (Statistical Package for the Personal Computer) is a fully interactive statistical program that enables you to enter, manage, and analyze both simple and complex sets of data. You may store very large data sets on a diskette or hard disk file and choose from a wide range of statistical procedures for data analysis, including: frequency distributions, calculate simple

descriptive statistics, conduct a wide range of parametric and non-parametric hypothesis tests, obtain numerous confidence intervals, conduct several types of simple and complex regression analyses, compute probabilities associated with a variety of continuous and discrete distributions, and much more. **SPPC** is very user friendly with its menu-driven user interface and an extensive set of on-line help screens.

STATISTICAL CONSULTANT (2303)

Designed to assist you in choosing an appropriate statistical test for a particular problem. You are asked a number of logical questions about your problem. You provide the answers (mostly yes/no), and the consultant determines the proper method for statistical analysis. The program assumes you have a heavy background in statistics.

SCICALC ver 2.0 (2304)

SCICALC is a collection of over 250 mathematical and physical tools in a calculator format. The program is completely menu-driven with pop-up windows, making it very easy to use. You simply choose a function and enter the values, and **SCICALC** will quickly give you accurate solutions. The functions are numerous and comprehensive, ranging from 103 different unit conversions to Fast Fourier Transform, Complex Number analysis, matrix algebra, and a wide variety of others. Requires CGA or EGA.

PERSONAL APT ver 1.2 (2318)

PERSONAL APT is a large subset of APT (Automatically Programmed Tools) - the oldest and most widely used NC/CNC programming language. **PERSONAL APT** provides 2 1/2 axis tool path control with a powerful set of math functions and geometric definitions that aid in the solution of complex problems encountered in Engineering, Drafting, and Design functions. Features include: Macro definitions and Looping capability; integrated full-screen editor; On-screen display of programmed tools paths in XY, YZ, ZX, isometric, and perspective views; Zoom and Pan capabilities; and much more. This is a great program for solving complex math and geometric problems even if you don't need an NC/CNC programming system. Requires 384K and a graphics monitor.

DPLOT ver. 1.0 (2320)

DPLOT is a menu driven, programmable plotting program that reads, manipulates, plots and prints ASCII data files with up to 16,384 X,Y data points. This is an effective tool for any application requiring visual representation of data. Features include: Plotting of unlimited size data files; Plots multiple files, multiple curves; Linear, log, and semi-log scaling; Manual- and auto-scaling; Manipulates data files, including blasing, scaling, transposing, rotating; Full programmability of plot appearance on screen and printer; and much more. Output to most graphic dot matrix printers. Requires CGA, EGA or VGA.

POLYMATH ver 4.0 (2319)

POLYMATH combines scientific/engineering plotting, a programming language, an editor, and a comprehensive documentation system into a flexible, easy-to-use interactive calculator-like environment. Perfect for developing scientific applications. The continuous display of a floating point and alphanumeric stack makes it ideal for tinkering with a new idea or algorithm. Also great for students and beginning programmers who need to try out new concepts. **POLYMATH** plots functions directly (w/autoscaling) or from a file; creates a plot from a menu, command, input file, or program; assigns functions to function keys; programs by extending the language with new functions; programs object-oriented data structures; choice of algebraic or reverse-polish notation; and much more. Includes an extensive on-screen tutorial. Supports all graphics cards.

MATH POWER (2322)

SCIENCE EQUATION SOLVER 1.0 - Sophisticated scientific calculator uses algebraic notation and 2X-precision floating point math. Includes trig, hyperbolic, exponential, log, roots, factorials, absolute value(x), convert radians-degrees & degrees-radians, permutations/combinations, advanced erf(x) and gamma(x), and more. Also user-defined functions with any number of arguments. Assign variables in one statement, then use in another. Numerical solutions of equations. An equation solver solves for any variable.

PLOT 2.1 - A quick, easy-to-use set of tools for technical plotting. Handles rectangular [Y=f(X)], polar, and vector plotting; then allows review of tabulation of all plotted points, except vector. Also provides integration capability to find the area under a curve, and plots two simultaneous equations. Enter equations in standard equation format. On-line master help file describes each program function in detail. Requires CGA and BASICA, GW-BASIC, or equivalent.

HEX/DECIMAL/BINARY CALCULATOR 1.0 - A 16-bit, hex, decimal, binary calculator for programmers. Includes on-screen help. Requires CGA, EGA or VGA.

PROTAB ver 1.1 (2308) ~NEW

This statistical calculator is an easy-to-use, interactive tool for fast quantitative analysis of small data sets. The statistics available include single and paired distribution, ANOVA, correlation and regression, and crosstab analysis. No

knowledge of programming is required. You need only a basic understanding of elementary statistics. Features include: Fully menu-driven, edit and sort data, up to 200 observations per data set, output analysis to screen or printer. A sample data file is included for instructional purposes.

XACT SERIES CALCULATORS ver 3.0 (2309) ~NEW

The XACT series consists of three programs which emulate the HP-11C Scientific, HP-12C Financial, and HP-16C Programmer's Calculators. Though capabilities are a bit less than in the registered versions, these programs are EXTREMELY powerful! The documentation on this disk assumes you are already familiar with the operation of the three HP calculators.

TECHNICAL

ELECTRO-HELPER (2321)

ELECTRON ver. 1.3 assists the electronics/electrical student, hobbyist, technician, electrician and engineer with an amazing variety of related tasks. The program performs calculations, provides tables and drawings, and even designs circuits. The following is only a partial list of **ELECTRON**'s features: D.C. Ohms Law, 555 monostable or astable multivibrator design, convert degrees F to C and C to F, parallel resistor calculations, display various motor schematics, design zener diode ckt. for power supplies, calculate dB gain/loss, wire size table, find conductor size of known amps, Xformer leads color coding, design constant voltage speaker ckt., 1 or 3 phase full-load motor currents, calculate true power, design balanced or unbalanced atten., resonant freq. calculations, pump horsepower requirements, and much more. Requires CGA.

MOTOROLA DISCRETE DATA DISK (2401)

This is a high-speed discrete device selection guide on disk, helping the student, hobbyist, technician, and engineer to select the best device for new designs and for better, more cost-effective substitutes for existing designs and repairs. Developed by Motorola, the program covers every discrete device in Motorola's inventory: 58 product categories, more than 7,000 devices, and over 20,000 cross references. Everything is covered, including transistors, diodes, optoelectronic devices, sensors, transient suppressors, etc. Full technical data on each device is provided, as well as cost information. Searches are made parametrically (by various device characteristics) or by part number. Progressive disclosure and intuitive operation make using the program fast and simple.

PC-CALIB ver 1.03 (2402)

PC-CALIB is a menu-driven calibration program for laboratory analytical instruments. It allows you to define your calibration procedure, after which you enter the measured values of your selected standards and develop the calibration curve using one of four equation types, and fitting a least squares 1st or 2nd order polynomial. Finally, you enter the measured values of your unknown samples and controls and evaluate their concentrations using the calibration curve. You can create an ASCII data file from your measured samples which can be exported to another program for further analysis. Important features include: 3 through 8 calibrators; 1, 2, or 3 replicates per calibrator; equation types are mv vs concentration, Log (mv) vs concentration, mv vs Log (concentration), Log (mv) vs, and Log (concentration); 1st or 2nd order of fitted polynomial; choice of 12 calibrator units; 0.00001 through 999999 calibrator values; auto-scaled graphical display of calibration curve; high and low, or none, out-of-range limits; up to 200 sample batches; up to 24 samples/batch; 1, 2, or 3 replicates/sample; up to 9 discrete controls; 25 character (max) batch ID code; 16 char. (max) sample ID code, and 1-9 control ID code; etc. Requires 512K, CGA or EGA.

ANYANGLE ver 1.0 (2400) ~NEW

An easy-to-use, feature-filled triangle solver for students, engineers, builders, machinists, surveyors, carpenters, etc. that requires no math knowledge. Solves any triangle given the minimum amount of data, and always knows when enough data exists to solve the angle. Includes many options. Allows easy tinkering with solved triangles for custom fit and design work. Analysis includes area, perimeter, altitude, coordinates of vertices, and data about the inscribed circle and circumcircle. Data can be saved and printed. Requires CGA.

COORDINATE GEOMETRY ver 1.22 (2403) ~NEW

This is an extremely powerful surveying/civil-engineering program for defining any shape (simple to complex) in terms of its geometry, and then computing solutions. It is a formal defined system of data entry which accepts input variables, then calculates resultants with 14-digit accuracy. All computations, input, and output are relative to a coordinate grid assumed by the user. This is a PC version of the mainframe COGO, except this program is far easier to use. Requires 640K, a graphics monitor, and 2 floppy drives or a hard disk.

HELPFUL ENGINEERING PACK ver 2.0 (2404) ~NEW

A powerful, menu-driven tool for engineers, designers, draftsmen, numerical-control programmers, etc. Features include: Solves numeric constant and variable expressions; Uses variable, numeric, and expression inputs to solve triangles, points, circles, areas, and polynomial fit; Statistics (Find mean,

deviation, variance, standard deviation, etc.); Computes deflection and stress in beams; Helical spring solver; and more. Requires 320K and CGA.

MEGACALC ver 1.01 (2405) ~NEW

This powerful full-featured menu-driven calculator has 9 memory stacks and over 120 functions, including math, trig, geometry, scientific, financial, and statistical. The program is well designed and extremely impressive, but doesn't include an instruction manual. Most of the functions are easy enough to use without it, though. A few, however, are complicated so you might not know how to use their full potential. The author hopes you'll be impressed enough to register **MEGACALC** for \$29.95, after which he'll send you the manual. We normally don't include software without documentation in our library, but we feel this is one program you should take a look at.

MUSIC

PIANOMAN (2202)

PIANOMAN is an enjoyable tool for the computer composer. This package includes powerful features for creating, editing, and playing music. You can create musical .EXE files for direct execution from DOS, or a number of other formats like Turbo Pascal. Compose intricate 1, 2 and 4 voice music by ear or by using on-screen sheet music. Easily control functions such as tempo, staccato, harmony, etc. Several very good examples of music are provided. Everything you need to compose sophisticated symphonies - you provide the "stereo system." Version 4.0 is a major new release.

PIANOMAN DOES BEETHOVENI (2200) ~NEW

This disk contains 5 keyboard works by Beethoven. They were expertly produced by Nancy Moran using the **PIANOMAN** software program (see Disk #2202). The music files run independently without need for special hardware or software except for your computer. They demonstrate the level of sophistication you can achieve using **PIANOMAN**, and technical notes on the use of that program and music theory are included. The files adjust their tempo to the speed of your computer.

1-2-3 BACHI (2201) ~NEW

More great **PIANOMAN** music from the talented Nancy Moran. This disk contains 12 works from Johann Sebastian Bach. See Disk #2200 for more information on this music series.

PIANOMAN GOES BAROQUE (2204) ~NEW

More great **PIANOMAN** music from the talented Nancy Moran. This disk contains 10 works from four lesser known composers of the Baroque period. See Disk #2200 for more information on this music series.

CHRISTMAS CONCERTS (2205) ~NEW

This disk contains two Christmas concerts. They were produced by Nancy Moran who put the music creation program **PIANOMAN** (Disk #2202) to its best use. There are 13 carols in each concert including a special holiday introductory sequence for each concert. There are a total of 24 different carols comprising 40 minutes of great holiday music. You can play the carols individually, or you can organize your own concerts by selecting the order in which the carols are played. The music is quite elaborate and ranges from two to five harmonic parts.

COMPOSE and COLLECT (2203)

SONGEDIT allows you to easily create musical compositions. The interactive editor is used to play your tunes and return to edit them. Other features include on-line help, list files, load, play, transcribe, and save musical compositions. You can link up to 6 songs together to create larger compositions. The program is based on the Basic programming "Play" statement. Songs can be saved as files to be played by **SONGEDIT** or as Basic files that can be used in your own Basic programs.

SONGBASE is a record collection database. Information is stored listing the artist, song title, album, year published, and personal comments. You can add records and search records by artist's name or song title. The program is menu-driven and includes a ready-made database of almost 700 titles.

GAMES

NINJA (201)

A great, commercial quality arcade game. You are the greatest Ninja warrior in the land. Your mission is to capture the seven precious idols which are scattered throughout the rooms of the fortress of death. You will battle karate and judo experts with knives and skills equal to yours. You can use the keyboard or joystick for various styles of kicking, punching, star and knife throwing, jumping, and sword fighting. Jump through trap doors to enter different game levels. No more games on this disk folks - **NINJA**'s full motion commercial quality graphics use all available space. Requires CGA or EGA.

NCR GOLF (202)

This is an excellent golf game. It is based on the Dayton, Ohio 18 hole South Course which was the site of the 1969 PGA championships. Includes green slopes, water, wind, sand, etc. You have the options of club selection, swing strength and direction. When you make it to the green of each hole, the screen zooms in on the green for putting. Color graphics are excellent. If you like golf, you'll really enjoy NCR GOLF. Requires CGA or EGA and a color monitor.

PC PRO-GOLF ver. 4.2 (263)

PC PRO-GOLF is a highly entertaining 18-hole golf game with very good graphics. Includes water hazards, sand bunkers, woods, buildings, roads, out-of-bounds, penalty strokes, score card, and more. Player selects clubs, direction and force of swing, and may save unfinished games. GOLF COURSE CONSTRUCTION SET is free to registered users. Requires CGA or EGA.

DIGITAL LEAGUE BASEBALL ver 1.1 (203)

This baseball simulation game goes beyond sound and statistics by displaying actual play with arcade graphics. As a manager you are armed with all past statistics, and you make all the offensive and defensive strategic decisions: Player lineups, when to steal, run, hit, pinch hit, bunt, walk, substitute players, tag up on fly balls, etc. Complete stats are always available. The game is in your hands and is played out with animated graphics and sound effects. Requires CGA or EGA.

3-D CHESS (205)

The best chess program we have ever tested. You can switch between the standard top down view and a 3-dimensional view which is truly spectacular. Complete on-line help is a real blessing because the options will dazzle you: View the board from the opposite end, ask the computer to take the next move for you, ask the computer to suggest a move, take back the last move. And much, much more. Play an opponent or against the computer with 13 levels of play (easy to Championship). Clocks, sound, en passant, and 50 famous master games to watch in demo mode. A must-have program for chess fans. Requires CGA, EGA or Hercules graphics card.

SIMBASE ver. 2.1 (206,207) 2 disks

SIMBASE (Baseball Simulation Program) simulates baseball games. It provides you with a detailed probabilistic model of the game, driven by actual player statistics. You can analyze the value of a particular player or a group of players over the course of one or more full seasons. You can review the pluses and minuses of different player lineups. SIMBASE provides a framework within which you can forecast the likely outcome for a full baseball season. You can use the program to help you assess current or historical win-loss records in the major leagues, or you can use it to help improve the prospects of your own local team. The program includes a database with statistics for all 26 major league teams. Requires 2 floppy drives or hard disk.

PC-RAILROAD (210)

The next best thing to a real model railroad. Put on your engineer's cap and navigate up to 5 trains on any one of 37 predesigned railroad routes. You control the speed, direction, and track switching. All seems simple at first. But the more trains you roll out, the more skill you will need to keep everything under control. Also included is the PC-Railroad Route Builder to custom design your own routes. Requires CGA or EGA.

FORD SIMULATOR (211)

Ford Motor Company introduces FORD SIMULATOR, an exciting, entertaining driving simulation program. Choose one of 16 different car models, select the course you wish to try your skills on, buckle up, and prepare for the drive of your life (simulated, that is)! Courses include touring, slalom, grand prix, and drag strip. Controlling your speed allows you to adjust the level of difficulty from easy to outrageous. Requires CGA or EGA.

FORD SIMULATOR II (280,281) 2 disks -NEW

Ford Motor Company's new driving simulator offers excitement galore! This 2nd-generation program from Ford includes a test track with 3 track options, a city challenge (3 locale options), and a back roads course (5, 10, & 15 miles). Try your luck on the test track and see if you can handle the tight turns and obstacles; negotiate the hair-raising freeway traffic in City Challenge; or go for a Sunday drive on Back Roads, but watch out for slow moving trucks, 'cause they're NOT watchin' out for you!! Features 3 difficulty levels per game, an electronic showroom, and a Ford Infocenter and buyer's guide. Operates from your keyboard, Microsoft/compatible mouse, or joystick. Requires 512K and CGA.

CRIME LAB (279) -NEW

This is a unique 'who done it' graphic game that requires you to solve murder mysteries. After you learn the basics of blood-typing, you're off to the lab to analyze blood samples. From the results you must determine who is the guilty party. This game is educational as well as fun. Requires CGA, EGA or VGA.

COMPUTER CARD GAMES (214)

This disk includes some of the best card games for the IBM: CONTRACT BRIDGE, DRAW POKER, CANASTA, and HEARTS. All games were written by the same author, and they have the same good look and feel. You select each game from a menu. On-line instructions provide information about the background, rules, and play options for each game.

WORTHY OPPONENT (247)

Four competitive games in one menu-driven integrated package: CORNERSTONE is an Othello game; SNAKE PIT is fast paced action where you must eat other snakes before they eat you; CANNONBALL RUN is a shoot 'em up game where you try to blast the cars of your opponent's train; and CHECKERS. Two players can compete against each other on one keyboard or by two computers connected by modem. Features include a talk window that allows players to converse while playing, context sensitive on-line help, a clock used for handicapping, and much more. Requires color monitor.

ARCADE GAMES #1 (216) Requires CGA

SPIDERS is a real nightmare. A mass of hairy spiders descend on webs from the top of your screen. Your poor little hero is on the bottom of the screen armed with his laser. You have to shoot down the spiders before they reach the floor. Laser fire must be accurate or else you'll run out of ammo and have to wait for a recharging unit to appear. If any spiders reach the floor, you must resort to stomping on them with your shoe. 10 levels of play from easy to incredibly difficult. A great, action-packed arcade game.

TANK WARS pits you against the computer or a human opponent. Your tanks face each other and are separated by a hill. The first one to get blasted loses. You have control over trajectory, tank movement, missile velocity, and force shields. In addition to the enemy tank, you must deal with wind factor and a hot air balloon that tries to drop bombs on you. 2 levels of play.

DISK CRASH challenges you to maneuver a floppy disk (not a real one) through a grid. You start at the bottom and attempt to reach the top. But you must avoid the magnets that are dropping all around. If you get hit 3 times, your disk will be magnetized and your mind will go blank.

ARCADE GAMES #2 (217) Requires CGA

STRIKER places you in control of a helicopter whose mission is to navigate various tunnels in order to complete five separate missions of skill. Various obstacles, including 5 different kinds of aliens, gun turrets and missiles, try to keep you from completing your mission. You have two means of defense (bombs and bullets) to shoot down the various aliens and obstacles for points. An indicator displays fuel supply. You must refuel from time to time to avoid crashing. Keyboard or joystick control. This is very challenging version of Chopflifer.

REFLEX POINT - Your mission is to destroy a base which has been set up by aliens who have invaded Earth. You will use motor cycles that are transformed into body armor, and jets that transform into robots. In reaching the base, you must avoid pot holes and alien laser fire. Good luck!

ARCADE GAMES #3 (218) Requires CGA

ROUND42 provides 42 challenging rounds of exciting arcade action. Astroblast your way through each level. But beware! Each round gets more difficult. Beautiful color graphics, great sound effects and music. The more you play, the more it becomes apparent that there are certain strategies you must employ in order to reach the 42nd round. This game is addictive.

WILLY THE WORM is a neat, multi-level jump and chase game. Included is a program that enables you to create your own games by easily designing custom screens.

SOPWITH is a nice flying ace game from the World War I era. You control your bi-plane to engage in exciting dog fights, fire machine guns, and drop bombs on targets.

ARCADE GAMES #4 (219) Requires CGA

3-D BALL is a three dimensional racketball game for 1 or 2 players. The 3-D effect is really excellent as the ball bounces off the walls, floor and ceiling.

ZAPSHOT is a shoot 'em up game against space aliens. Sort of like Centipede but has a flavor all its own. Six levels of play, keyboard or joystick.

BATALIA is a super hide and seek shoot out game for 2 players. You and your opponent do battle in various mazes. You try to shoot each other and keep from getting shot by hiding behind the maze walls.

ARCADE GAMES #5 (220) Requires CGA

ROCKETS - Engage your starfleet in a space battle with the alien ships. A heavy laser blast 'em up game.

SNEESNOO SNAKE - You're a herpatologist who must catch rare breeds of snakes in Amazonia. If you don't bag 'em, they'll bite you (five venomous bites and you're dead). Scores based on how many snakes you bag per minute.

XONIX - A great logic/reflexes game. You must enter and section off a rectangle as you avoid getting hit by bouncing balls. 9 skill levels. Very challenging to mental and physical reflexes.

NEMON - Move from room to room and capture the jewels from the catcombs. Avoid cave-ins, fireballs, etc. Blast the enemy with your magic beam. A great test of logic, reflexes, and memory. 9 skill levels.

SPACEWAR - Battle another player or the computer in space. Destroy enemy ships with photon torpedoes, phasers, etc. Defend your ship with a cloaking device, warp into hyperspace, etc. A lot of skill to master this one.

ARCADE GAMES #6 (212)

DR. SLEEPIT & the NIGHTMARE FACTORY - You must traverse 6 levels of the mad doctor's nightmare factory, destroy the nightmare capsules, and shut down his dream machine. While you're being chased by killer pillows, you must deal with acid pits, transformers, disappearing bridges, ladders, elevators, and more. Requires CGA or EGA.

CLONE INVADER is an excellent, new reproduction of the classic **SPACE INVADERS** arcade game. Supports CGA, EGA, and 256 color VGA mode. Uses keyboard or mouse.

ARCADE SPORTS GAMES (223) Requires CGA or EGA

PC-POOL is a fantastic pool game for 1 to 4 players. You have complete control over every aspect of the game - ball speed, english, direction, etc., etc. You can go back a turn, look ahead, and so much more that we'd need a couple of pages to describe all the options. The table and balls look totally realistic, and the sound effects are exactly like billiard balls striking each other. Play 8 Ball or Straight Pool. This is as close as you'll ever get to the real thing.

PC-BOWL is a bowling game for 1 to 4 players. You control the position of the bowler and the curve of the ball. Scores are displayed on-screen on a standard bowling score sheet.

ARCHERY is a bow and arrow game for 1 or 2 players. You release an arrow from varying distances at a moving target. There are 5 rounds with three arrows each. Scoring is based on accuracy.

MONO ARCADE GAMES (243)

Seven arcade games that work with monochrome monitors (with or without a graphics card).

HORSERACE - 1 to 10 players, keep odds on up to 100 horses, add/delete/buy/breed horses, borrow money, pay back loans. Bet to show, place, win. Watch 'em race.

BEAST - You're in a maze of movable blocks, and the nasties are out to get you. You have to squash them between the blocks. Very challenging multi-level game.

PACKGIRL is a MS. Pac Man clone. Choose level of play, including championship board.

SKIING - Test your skills down the slopes, maneuver between trees and traps.

FIRE FIGHTER - Fight forest fires by dropping water, building fire breaks, starting backfires. Three levels of difficulty. A real chess match against the flames.

BUGS - A Centipede clone. Lots of action as you shoot those little buggers.

DEPTHCHARGE - Drop depth charges on passing submarines. Test your accuracy.

FAVORITE GAMES (221) Requires CGA

BERT and the SNAKE is a clone of the commercial game Q-Bert. Bounce Bert up and down the 3-D blocks and avoid the snakes.

FROG is a clone of the commercial game FROGGER. You must get your frog across the river and avoid the floating logs, etc. Four skill levels and various speed options.

BOUNCING BABIES requires you to catch the babies that are being thrown from a burning building. Requires good reflexes.

3-DEMON is a 3-Dimensional maze game where your perspective is from inside the maze. You must descend through various mazes, run through the hallways, and avoid being eaten by the ghouls. A very good game.

PACKMAN is a clone of the commercial game Pac Man. Optional keyboard or joystick control. Multi-level play that gets more difficult the longer Packman survives.

PANGO requires that you clear bees from a field by squashing them with blocks. Includes 5 skill levels and optional joystick or keyboard control.

CLASSIC GAMES (222) Requires CGA

FLIGHTMARE is a 3-D battle game in which you shoot down enemy planes and bomb motorcycles. Provides you with side and top view perspectives.

FREESTYLE and **MASTER BLASTER** are two pinball games created with Software Arts Pinball Construction Set.

BRICK is an excellent version of the classic game of Breakout. You use your paddle to deflect a bouncing ball into a wall in order to break out all the bricks.

RATMAZE is a 3-D maze game in which you are a laboratory rat that must find the hole in the maze floor before the game clock runs out.

SPACE COMMANDER is a Centipede type shoot the aliens game. Includes 5 skill levels.

ASSORTED GAMES #1 (224) Requires CGA

PARATROOPER is a neat game in which you must shoot down helicopters, paratroopers and bombers. If four paratroopers land on either side of your gun, they will destroy you. Requires quick reflexes and makes you crazy. Great fun!

FITFALL has you falling through an endless pit that keeps changing shape. You have to respond quickly with the cursor keys to keep from getting crushed against the walls.

ARMCHAIR QUARTERBACK is a strategy game with nearly all the aspects of professional football. You select two teams from a roster of all NFL teams. Plays are chosen from a menu and results of each play are displayed.

FIRE FIGHTER requires that you fight forest fires by dropping water, building fire breaks, and starting backfires. Three levels of difficulty. This is a real chess match against the flames.

PCFUN includes three arcade games in one package: **FALLING STAR**, **KILLER BEES**, and **COSMIC CRISIS**.

ASSORTED GAMES #2 (262) Requires CGA or EGA

PEGOUT is a solitaire game played with pegs. You must make checker-like jumps to remove all pegs but one. The remaining peg must end up in a specified hole. The game is challenging and you can customize your own boards for variety. Supports CGA and EGA graphics.

SEAHUNT is a great sea battle game much like the commercial game "Battleship." You must sink the computer's navy before it sinks yours.

GAPPER tests your dexterity as you try to color all blue lines red by move your man Gapper around a grid. You are pursued by the deadly "Seeker" and the level of difficulty increases with each win.

ELEVATOR is fast paced action as you attempt to maneuver your man through progressive levels without getting crushed by frenzied elevators or running out of time.

SOPWITH2 is a second version of the classic WWI air battle game. You have full control over your biplane, machine gun and bombs.

PINBALL GAMES (225) Requires CGA or EGA

This disk includes 10 pinball games which can be played by 1 to 4 players. Just like the real thing (except there's no machine to tilt). These games were created using Software Arts Pinball Construction Set. Games include: **ITALIA**, **CENTER FIELDER**, **STAR GAZER**, **MYSTERY**, **NOID** (of Dominoes Pizza fame), **TIMEWARP**, **TOPGUN**, **CYCLOPS**, **HEART**, and **WIZZARD**.

BASSTOUR ver. 4.0 (258)

BASSTOUR is a great fishing tournament game that's jam packed with options. You have complete control over your trolling motor powered bass boat. It's fully rigged with a rod box that offers a choice of 6 rods, an LCD chart recorder, and a tackle box stocked to the hilt. Select from 6 lakes and set out to win the 3 day tournament by catching the heaviest five fish limit on each day. Includes terrific graphics (especially on EGA systems), sound effects, and a real test of your skill. Requires 512K and CGA, EGA, or Hercules monochrome graphics card.

STRATEGIC WAR GAMES (226)

WAR ON THE SEA is a high level strategic and tactical simulation of typical World War II naval campaigns. You select your navy from a large stockpile and the campaign you wish to battle in. Your navy is then deployed into different fleets that will be attached to the theaters that are involved in selected campaigns. Winning over the computer requires careful selection and application of resources. When your navy is ready for combat, a theater map displays the layout of the battle along with vital statistics. To win a battle, all enemy surface ships must be removed either by sinking or disabling them. You can choose from 7 naval campaigns. This is a first-class war strategy game with enough options to keep you up all night.

AFRICAN DESERT CAMPAIGN is another great war strategy game. Allied and German forces battle on the African Desert. Full screen map displays the terrain, army positions, etc. You select all of your moves from a menu. You can reinforce or separate your troops, view continually updated battle statistics, etc. Very challenging.

TANK requires that you do some careful calculating. Your base is under attack by three tanks. Your arsenal contains 21 missiles, and you must not allow enemy tanks to come within 100 feet of your base or can kiss it good-bye. "Radar" readings yield the enemy's distance, but you must calculate the angle of your shots. Every time you fire and miss, the tanks move in closer. Accuracy reports help you determine how to set up your next shot.

CLASSIC WAR GAMES (267)

FRIGATE is a strategic game which pits you and your ship against a Soviet fleet of vessels. The object of the game is to destroy as many Russian ships as possible while avoiding destruction. Your nuclear powered guided missile frigate has many advantages over its Russian counterparts, but you are outnumbered by a large margin. Your equipment includes radar, sonar, jamming equipment, anti-missile capabilities and three types of ordinance. Your ship's information and position are updated constantly while you give commands.

MAXIMUS is a combination wargame, trading game, and adventure game. As a power hungry Roman Questor, your objectives include seizing 20 cities, incorporating them into the Empire, and building monuments to the Emperor. Your options involve commerce, construction, war, and trade. Requires color monitor.

WHEEL OF MISFORTUNE & LAWN MOWER (227)

WHEEL OF MISFORTUNE is very much like the famous TV game show. Two to six players compete to solve a puzzle involving a word or a phrase from various categories. Features are familiar if you watch the show on TV. The one serious shortcoming is the absence of Vanna White. Maybe we'll see her in an updated version.

LAWN MOWER is a challenging game and will ring familiar if you ever cut lawns for pay when you were a kid (maybe you are a kid). You cut your neighbor's lawn by maneuvering a lawn mower with the cursor keys. You must avoid hitting trees, shrubs, swimming pool, etc. You must also steer clear of deadly gophers, holes, and a vicious dog. Hitting objects dulls the blade of your mower (or wrecks it entirely), eventually sending you to the shed for a new blade. 3 levels of play, 8 user-selectable speeds, 3 mowers per game. The faster you finish mowing, the more money you earn. This game is fun and really cute.

MAZE ver. 3.0 (278)

Are you ready to explore the unknown? You're about to be trapped in the center of a randomly generated maze, the size of which you have specified (from a 2 x 2 to an 80 x 80 maze). You are shown a realistic 3-D view of the room you are standing in. An interesting and different maze is produced for each new game. Features include: Allows 3-D view during maze exploration exactly like that encountered when exploring caves; As you move from room to room, the system reports whether you are further from or closer to the exit; Provides many options, including game clock, use of a compass, and ability to leave room markers; Maze can be printed or saved. (MAZE generates IBM graphics or common ASCII characters which any printer can print); Extensive help screens available from inside the program; Supports CGA, EGA, or VGA, but may be used with any monitor (mono or color) and with graphics or non-graphics systems.

ADVENTURE GAMES #1 (228)

SAM SPADE is a detective game in which you become Sam Spade, the cheap private detective. Your mission is to solve a case by visiting a number of places around town as shown by the map displayed on your screen. You are given a set amount of money and have a certain amount of time to solve the case.

CASTLE ADVENTURE is an interesting game in which you are in a deserted castle and must escape. There are 83 rooms and 13 treasures displayed on-screen. You move from room to room with the cursor keys, pick up treasure, enter two-letter commands, and avoid or attack malicious ogres.

THE PLEASURE DOME is an unusual adventure game in which you move about and cause things to happen by casting spells. Meaningless distractions are designed to throw you off course. Requires good reasoning skills and includes color and sound effects.

ADVENTURE GAMES #2 (246)

McMURPHY'S MANSION - An unknown uncle died and left you \$10,000,000. But your demented uncle McMURPHY felt you must prove that you're worthy of such a fortune. So he hid it somewhere in his Scottish mansion or on the grounds. Your search for riches begins with only one clue - a small brass key

EMPIRE is a simulation of a full-scale war between two emperors, the computer and you. Naturally, there is only room for one, so the object of the game is to destroy the other. Lots of strategy and a map that traces your moves.

ADVENTURE GAMES #3 (276)

SKULLDUGGERY is a classic text adventure, set on the southeast coast of 18th century England. William the Wildheart, who was heavily involved in the business of smuggling, was caught and turned-in by his family. This betrayal

led to his execution. William has returned as an angry ghost. He seeks revenge while protecting his hidden fortune from all intruders. You will attempt to find his treasure and avoid unmerciful torture for entering his domain.

WAR of the MAGES ver 3.2a is a configurable multi-player adventure game. The basic objective is to gain control over half of the cities in the game, at which point you will be declared the winner. Your most powerful tool in your quest for control is the Mage. Mages are magic-using creatures from another plane of existence. Each player group is controlled by a Mage, and all relevant information about the status of each Mage is displayed along with the information for that group. This game requires DOS 3.0 or above.

HOGBEAR (277)

The next time you are walking alone, hear laughter, and notice a nearby mansion, flee for your life. If the HOGBEAR lures you in, you'll have to face him, a vampire, blue devils, killer bees, an ogre, a bear, pecking falcons and other perils. If you are swift, wiser than most, and persistent, you might even overcome the snake and spider as you roam about the huge mansion. This text-graphics adventure game moves quickly when you learn the knack of searching and gathering the tools and weapons you need. Otherwise, you lurch about from room to room, stumbling toward certain doom in an obscure mansion filled with deadly surprises.

XORU ver 4.41 (209)

~NEW

XORU is a role-playing adventure game that unfolds in a variety of vivid scenarios, depicting lavishly arrayed dungeon chambers, evil drooling monsters, and mysterious treasures. You are transported to a distant land where you must use your inventiveness and skill to unravel devious puzzles guarded by ugly and ferocious beasts. Only by the grace of Fortune and your own ingenuity, exposing secrets that hold the land hostage, will your life be spared.

DRACULA IN LONDON ver 1.03 (271)

This terrific adventure game for 1 to 6 players brings the legendary vampire to your screen in living (or is that dead?) graphics. The scene is London in 1891. Each player assumes the role of a vampire hunter: Van Helsing, the renowned scientist; Mina Harker, the school mistress; Dr. Seward, the head of a lunatic asylum; and others. You must track down the bloodthirsty Dracula before he turns Mina Harker into a vampire. But beware of the creatures of the night. This exciting game is filled with twists and surprises, and the great graphics really spice up the action. Requires CGA or EGA.

BUTTON ADVENTURE GAMES (265)

RED PLANET: The Federation of Earth has sent you to Mars to secure the lost treasures of Aukbaa. You've achieved orbit but find your fuel is depleted. Can you acquire the treasures and return home safely?

NEBULA: You're a NASA explorer sent to investigate a newly discovered star system. Your mission is to collect specimens. Can you complete your assignment, or will you be engulfed by the unknown perils of the universe?

DARK CONTINENT: You've traveled to darkest Africa in search of King Solomon's diamond. But after 3 days your native bearers desert you, taking your money and supplies. Can you find the diamond, or will you be swallowed up by this vast continent?

GAMBLING GAMES (229) Requires CGA or EGA

DRAW POKER simulates the Nevada video draw poker machines. One deck of cards is used, shuffled and cut after each play. A Statistics command allows tracking of the game. A progressive "Jackpot" is incremented on each play and will be paid when the player bets 5 coins and receives a Royal Flush. Helpful prompts are displayed at the top of the screen, informing you of the results of the hand played and current losses and wins.

PROFESSIONAL BLACKJACK uses rules similar to Harrah's in Atlantic City. One to seven can play, and seating arrangements can be edited at any time. All the goodies, including insurance, card splitting, double down, etc.

HIROLLER puts you at a realistic Las Vegas craps table. You select your bet from a menu which includes Pass, Don't Pass, Big6/8, Proposition, Hardways. This is the next best thing to the real thing (which probably includes losing the rent money).

ROULETTE is a realistic simulation using U.S. regulations. You select from a menu options for chip value, bet placing, buying chips, etc. The roulette board is displayed on-screen, and you watch the ball spin as your money goes down the toilet.

BLACKJACK STRATEGY (208)

BLACKJACK STRATEGY is more than just a game. It teaches you all the skills needed to be a casino winner! As a game, the program includes players in up to 6 positions and in position combinations, 1 to 10 decks, adjustable playing speed, house rules to match different casinos, and more. As a tutor, learn basic strategy; practice strategy with prompts, tests, and score results; realistic layout aids in card counting; adjust speed as skills improve; and much more.

VEGAS PRO VIDEO POKER ver 1.0 (268)

VEGAS PRO VIDEO POKER plays like the video poker five-card draw machines in Las Vegas casinos. Game is never the same because cards fall differently each time. Allows you to test the draw for strategies in complex situations, adjust payoffs and table rules, slow down or speed up card dealing, and more. Plays on any monitor, although graphics on EGA and VGA are incredible.

POKER CHALLENGE (269)

POKER CHALLENGE includes two great games: 7-CARD STUD and TEXAS HOLD'EM. Excellent for beginners, but also includes tools for the most serious player. Play against 1 to 7 computer opponents in Stud, and 1 to 9 in Hold'em. The computer plays you in different styles which you can change, no two games are alike, and everything is changeable, including ante, betting limits, maximum raises, skill settings, etc. Includes hand/game analyzers and much more. Excellent graphics. No special monitor required.

BOARD GAMES #1 (230) Requires CGA

MONOPOLY is a very good computerized game and true to the Parker Brothers classic. Includes full screen board in color with all the options. Play it just like the original.

RISK provides all of the challenge and excitement of the original Parker Brothers game. It is a game of strategy where your goal is to take over the world with your army. But you must be careful to defend against the armies of your opponents. Full screen board and all the play options.

BOARD GAMES #2 (231) Requires CGA

Four classic board games for a rainy day in front of your computer. CHESS88 has been around for a few years and has proven its worth as one of the better non-commercial chess games. CHECKERS supports 2 players or play against the computer. Games can be saved and loaded. Standard checkers rules including kings. PC-GAMMON is a nice backgammon game. DOMINOES is written in BASIC.

BOARD GAMES #3 (245)

SEEKSINK is an entertaining naval battle game for one player against the computer or two players against each other. You command a fleet of five ships which you strategically place in the battle zone. When the battle begins, you must sink all of your opponent's ships before yours become Charlie Tuna's playground. Includes nice sound effects, variable player options, and runs on any monitor.

BYE BYE BORIS - You are Boris Smirnoff and your goal in life is to take a one way trip to America. You have to buy, borrow and barter for a passport, money, disguise, etc. before the KGB discovers you. Very entertaining board game. Requires color monitor.

CONCENTRATION is just like the famous T.V. show game and really tests your memory. Requires color monitor.

SCRABBLE is for 1 to 4 players. The dictionary of validated words can be added to as you play. Requires color monitor.

BOARD GAMES #4 (213) ~NEW

GALACTIC is an terrific outer space version of the game Risk. Two to seven players can battle for domination. Because you travel great distances, attacks can be made throughout several turns. This addictive game runs on any monitor, but it works best in color.

ED's CHESS is an excellent chess game. You play against the computer with various levels of difficulty based on how long the computer takes to make a move. Features include: Openings library, save/restore games, backup moves, and autoplay. A most interesting feature is the that the computer will display its thinking process. Works on any monitor.

ACQUIRE ver 1.1 is a game of high finance is played on a 12 by 10 grid by up to six players. The player's goal is to make the greatest amount of money by buying shares in the game's seven hotel chains, adding and merging hotels. Requires a color monitor.

BOARD GAMES #5 (215) ~NEW

TOMMY'S MONOPOLY is an excellent monopoly games that will work on any monitor. So if you don't have CGA, this version of the Parker Bros. classic is for you. Accommodates 2 to 8 players and you can play against the computer. Includes all the original board game's features. Play long or short game with or without time limits.

CHESS and CHECKERS includes nicely produced versions of both games. The chess game doesn't have all the advanced features of some of our other games, but its great for novice players. Requires CGA, EGA or VGA.

BRIDGEPAL (232)

BRIDGEPAL is a computer version of the card game of bridge. Here's your chance to learn, practice, or just enjoy the game of bridge without the need

for three other players. BRIDGEPAL is played just like bridge, except the computer shuffles and deals the cards, bids and plays three hands, and does the scoring. You will bid and play the South hand. If your team gets the bid, then you play both the North and South hands. Other features include: 1 or 2 players; Random hands (everyone different); Bidding help for beginners; Options to Replay, quit, and Auto Finish Best Hand option to increase offensive play.

DOTS and LABBITS & VOLDRONS (233)

DOTS displays a full page of dots. You play against the computer and connect the dots in an attempt to form a square. The first one to complete a square takes possession of it and is awarded one point. Most points wins.

LABBITS & VOLDRONS is an arcade game in which you must not allow the Labbits to escape from their cages and invade the food storage area. You must also protect the food storage from the invading Voldrons which are sometimes invisible. The game starts out simple but gets complicated real fast.

TRIVIA MACHINE (234)

A very good trivia game with 1500 multiple choice questions. Four categories including Sports & Recreation, Entertainment, Science & Nature and Mixed Bag. Scoring is based on 1 of 3 selected expertise levels and how well you perform against the game clock. Has sound effects and operates in graphics mode if you have CGA, but will work with monochrome. Great fun for you trivia buffs.

TUNE TRIVIA (235)

An entertaining musical trivia game featuring tunes and musical trivia questions for 1 to 6 players. Like "Name That Tune" you play against a twenty second countdown clock. More than 200 songs and various player options to alter player strategy. You can alter the songs and/or the trivia questions or enter your own. Great family fun for music buffs.

OPUS 1 BRAIN TEASERS (236)

If you are into trivia, here's another one to sink your teeth into. This is a trivia-type game which is played like charades by up to four players. Includes 26 different categories (Television & Film, Books & Plays, Body Talk, etc.). The program supplies clues for players to solve.

THE DUNGEONS OF MORIA ver 4.83 (237,238) 2 disks

This is a superb single player dungeons and dragons adventure game. You can choose from a number of races and classes when creating your character. You then 'run' that character over a period of days, weeks, even months; attempting to win the game by defeating the Balrog which lurks in the deeper levels. MORIA is a huge game packed with features and accompanied by a lot of documentation. If you're an adventure game fanatic, MORIA is guaranteed to satisfy. Requires 2 floppy drives or a hard disk, 640K memory.

HACK ver 3.51 (239)

A display oriented dungeons and dragons type game. It is rich in character and has many monsters and highly varied magic. You descend through the dungeon to find the Amulet of Yendor, then return to the surface. As you travel you will meet various creatures (most of them nasty), find objects (some having magical properties), and experience many hazards. A map is created as you go through the various levels. This top notch adventure game requires 320K, 2 floppies or hard disk.

WONDERFUL WORLD of EAMON (240)

EAMON is a classic fantasy role-playing game. Far away, at the dead center of the Milky Way, is the planet Eamon. It doesn't orbit any suns - all of the suns orbit it. This brings strange forces to bear in a world of shifting laws and time. Strange things happen there, and the citizens of Eamon must always be adaptable, for things are rarely what they seem. You are a citizen of this weird world, and anything can happen, anything at all. Included with this package is the EAMON DUNGEON DESIGNER which allows you to custom create your own adventures. Requires BASIC.

ADVENTURE GAME MAKER (241)

GENERIC ADVENTURE GAME SYSTEM (GAGS) allows you to easily design your own extensive adventure games. You do not need to know anything about programming. The system is very flexible in that your games can be modified and extended by simply editing a standard-format text file. Complete sample game included.

GAMESCAPE ver.1.0 (264)

Powerful "adventure engine" lets you create your own adventure games. Describe locations, rooms, objects, recognizable words, messages, and action. Includes music, sound, and graphic characters. Requires a word processor that can save in ASCII (plain text) or a text editor, and a little imagination.

Disk includes three great games: Ringwielder, Marooned Again, and Giant Space Slug.

CROSSWORD CREATOR ver 2.50 (242)

CROSSWORD CREATOR (CWC) enables you to layout a crossword puzzle on the computer's screen, define a short clue for each word in the puzzle, and save the puzzle to disk so it may be used again and again. Challenge friends to solve a puzzle you create yourself. CWC can save partial or complete puzzle solutions to disk so you can stop work at any time and pick up later where you left off. CWC doesn't force you to design "real" crosswords that intersect perfectly; you can make your puzzle look any way you want with up to 200 words and clues. Solve a pre-defined puzzle on your computer screen. CWC will check your solution against the correct solution on request and point out incorrect letters. Print your puzzle designs in the traditional format, complete with numbered boxes and an indexed clue list. Context-sensitive help screens make using CWC easy. Great for crossword buffs.

WORDFIND ver 3.1 (249)

WORDFIND is a great program to assist you in finding words for crossword and other types of word puzzles. A real frustration ender! If you know a few letters of a word and its length, WORDFIND will display all words having the same letters in the same positions. You then pick the word that satisfies the puzzle. For example, if all you know about a certain word is this: ?c?f?p??, WORDFIND gives you these possibilities in seconds: ECTOPIC, OCTOPOD, OCTOPUS, and OCTUPLE.

KINGDOM of KROZ (244)

A combination arcade, adventure, and strategy game - all in one unique package. You are an archaeologist searching for fabled treasure through 25 challenging and hazardous levels. Includes a huge library of sound effects, and 16 color graphics, and it will work on monochrome, non-graphic systems. Instructions are built-in, and no two games are ever alike. KROZ won "Best Game" in a national programming contest. Also on this disk is TREK TRIVIA - a game of 100 tough Star Trek trivia questions that will challenge even the best Trekkie.

MEGALOPOLY (248)

MEGALOPOLY is a fun and challenging investment strategy game that can be played on many levels. You just inherited one hundred thousand dollars. Your current employment enables you to save \$5,000 per year. Your challenge is to become financially independent within a twenty year period. Decisions to buy and sell assets are based on economic conditions, risk factors, and yield characteristics. Are you a wise investor who can reach his goal, or will you lose it all?

STOCK SHOCK ver. 3.0 (266)

STOCK SHOCK is a stock market simulation game, designed for those of you who think making money is fun. A very generous uncle has given you \$5000 to invest in the stock market. Your mission is to make more money than anyone else, or just plain make money if you're playing alone. Up to 12 players can buy and sell stocks and invest in companies. Features include: Load and save games; Graph of players' assets and market and stock price histories; "Daily News" feature reports on important market events; Menu-driven with on-line help. This great game includes action, suspense, and fun.

PC-JIGSAW PUZZLE ver 1.10 (272)

If you like picture puzzles, this disk is for you. **PC-JIGSAW** is an educational game of skill and intellect that features beautiful graphic images. It starts out by drawing an image on the screen and then it shuffles the pieces around. Every puzzle is different because images are never shuffled the same way. The object of the game is to assemble the pieces to match the original image on the screen. Features include: Select from 3 levels of difficulty (larger or smaller puzzle pieces); View completed image at any time; Final score based on how many pieces you swapped to solve the puzzle; Sound effects; Use keyboard or mouse; Supports any graphic monitor (especially beautiful on EGA or VGA color systems); Menu-driven with on-line help for ease of use.

MORAFF'S REVENGE ver 3.2 (273)

This is a role playing game in which you venture into a deep dungeon in search of adventure and treasure. Like life itself, this game has no single simple object. Survival is an objective, but not always. Often, you'll begin an expedition intent on reaching a certain level of the dungeon, then return to town. This would be the object for that expedition. Perhaps when you are level-drained by a wraith, you'll set out on a wraith-killing mission. That is an objective. Experience makes a character more powerful, bringing more spell points, more health points, and other good things. The quest for experience is a key part of this game. The most exciting goal is to find the fountain of youth on the 70'th level. This fountain will regenerate your character, allowing him to become more powerful than ever. Reaching the fountain is no easy task, though. Included are many options, such as: cast spells, use wand, take pills, fight, abandon treasure, view stats, get cure, throw cure, see map, and much more. As adventure games go, this one is quite good.

WORLD GENERATOR ver 1.2 (274)

This menu-driven utility generates solar systems for science fiction role playing games in which each player takes on the persona of a human or alien in a universe controlled by a referee. Like Dungeons and Dragons with spaceships! Not based on the rules of any one game. Cuts hours or days off of making such creations manually. Allows generation, storage, and editing of solar systems and planets; draws maps of planets; includes planetarium option; generates up to 100 solar systems with each allocated a star and up to seventeen planets, asteroid belts, dust clouds, or secondary stars; generates black holes; and more. Features on-line help, tutorial, and rolling demonstration which is a real treat to watch. Requires CGA and color monitor.

BIBLEQ ver 4.1 (1215)

A Bible quiz game with 1000 multiple choice questions drawn from the Old and New Testaments and Bible geography. One to three people can play and compete for best scores. Percentage of correct answers is reported.

PUGILISTIC WARS ver 1.5 (9218)

~NEW

This is a very nice menu-driven, none-graphic boxing simulation game that will work on color or monochrome monitors. After you select a weight class, you pick two professional boxers from a list. This list of boxers gives their rating so that you can properly match opponents (or, if you're in a bad mood, have one beat the hell out of the other). Before each new round, you select from a list of boxing strategies to assign to fighters in the next round. Several variables must be taken into account when choosing strategies. As each round progresses, the fighter's offensive and defensive moves are described with text, and damage inflicted and endurance levels are shown graphically. Very challenging. Requires 384K.

DOMINATE (282)

~NEW

DOMINATE is a computer wargame for one to ten human players and up to 30 computer players (neutrals). All game play occurs in reference to the map of the world of DOMINATE. On the map are 142 cities mixed amongst five types of terrain: woods, plains, hills, swamps, and broken. Each player controls a position that begins with one city and could end in world domination. In every round of play you build new troops and explore and conquer new territories in an attempt to build an empire of domination. Pit your strategic abilities against opponents or the computer. Requires CGA, EGA, or VGA.

TELE-CHESS ver 1.0 (283)

~NEW

TELE-CHESS is a live chess game played by 2 people via modem connection. When a move is made, it is displayed simultaneously on your screen and on the opponent's screen. TELE-CHESS features color or monochrome graphics, dual analog chess clocks, auto answer and dialing, mouse option, and easy to use menus. Games may be adjourned, saved to disk, and retrieved for continued play at a later on-line session. A "kibitz" mode allows conversation between players during a live game. TELE-CHESS also serves as an off-line chess study aid. It is designed for in-depth study of chess variations while eliminating the tedious work normally associated with such study. Requires a graphics card and a Hayes compatible modem.

JUST FOR LAUGHS (284)

~NEW

The novelty programs on this disk prove that computing isn't always serious business. Try these out on your friends, co-workers, or even your boss if job security isn't your top priority:

123 puts up a Lotus 123 look alike screen that insults you when you try to input anything.

MEMCHK makes your computer look like it's going through a normal memory check after reboot. But it never stops. Ever see a computer with 100 billion kilobytes of RAM?

FLIP turns the display upside down after a specified amount of time. When the recipient of this prank wonders what the heck happened, you might suggest as a solution that he turn his monitor upside down.

DECEIVE allows you to capture any screen and instantly display it while your running any program. Great for when the boss walks in and you're playing computer games.

EATERS is a screen blanker with a twist. Bugs scramble all over the screen and eat up anything that's displayed.

PANIC is to be used only on people with a strong heart. The user is informed that he has been selected for a prize - one hard disk format. This fake format looks real, including the hard disk access light and all.

WASH 'N TUNE cleans the "inside" of the monitor, drains water from the floppy disk drive, and tunes the computer's speaker (those out-of-tune speakers sound awful, don't they?).

AMAZON and AMY-500 (285)

~NEW

AMAZON - You're floating on a raft through the Amazon jungle. The journey is filled with danger. To survive (and get the highest score), you must correctly

spell the solutions to a variety of problems in the shortest time possible. This is a test of both your reflexes and typing ability. Recommended for pre-teens who wish to add a fun and exciting challenge to the usually dull routine of typing practice. Requires CGA.

AMY-500 - You're on a multi-lane race track competing against a field of pro drivers. You must out-class them to win the trophy. You can change speed and turn left and right to avoid other cars. But your reflexes had better be good! Plenty of arcade action for players 7 to 12. Requires CGA.

BATTLE GROUND ver 1.0 (286) ~NEW

It's the U.S. vs. Germany in this two-player, tactical, action-strategy, World War II ground combat game. The graphics are great! Various types of soldiers, air support, weapons, and terrain help you defeat your opponent's platoon. You can fire hand weapons, call air and artillery strikes, and throw hand grenades. Even includes 25 possible playing fields, and much more. Boredom will NEVER be a problem with this game! Requires CGA, EGA, or VGA.

CHARACTER ver 1.0 (287) ~NEW

This is a simple-to-use menu-driven program for drawing faces. Not only is it great fun for people of all ages, and generates loads of laughs; but it also demonstrates how tiny changes in facial features can dramatically alter a person's appearance. This is why, with so many people in the world, only identical twins look alike. We promise you'll be amazed by what you see! For this reason, **CHARACTER** also offers an educational benefit for children. **CHARACTER** begins with a basic face (you have several to choose from). You then begin to alter it in countless ways. You can change the age, weight, emotions (anger, disgust, fear, happiness, sadness, surprise), eye characteristics (size, shape, color, height on the face, separation, eye lids, wrinkles, bags, etc.), mouth characteristics (width, upper and lower lips, openness, color, etc.), and virtually every other facial aspect. This is somewhat similar to what a police artist does when creating a composite likeness. Most features are accessible through the keyboard, but a Microsoft/compatible mouse allows access to a few extra minor features. Requires 512K and a graphics monitor.

CRIBBAGE (288) ~NEW

CRIBBAGE PARTNER ver 2.0 - This realistic representation of the very popular game of Cribbage allows you to play against the computer and even replay hands. Graphics are great! Features include: Auto scoring; Demo mode; "Muggins" option; Scoring messages; Cribbage rules; and more. If you already know how to play Cribbage, this program's for you. And if you've never played before but wish to learn how, this is the place to start! Works with any monitor.

CRIB-MASTER ver 1.1 - Another outstanding Cribbage game simulation with good graphics and 4 skill levels. Covers all aspects of Cribbage. Works with any monitor.

EAT'EM II (289) ~NEW

You're inside a very extensive maze and must eat all the food there in order to advance to the next level. But beware! - You're being pursued, and your ability to escape the enemy depends on how good - AND HOW FAST! - you are at eating! The maze, by the way, is simply A-MAZE-ING! Can you figure out the "other" way to open the gates that block your way? Plenty of fast-paced arcade style action. Fun and exciting. Features 5 speed settings. Uses any monitor.

FACING THE EMPIRE ver 1.0 (290) ~NEW

In this exciting intergalactic conflict game, you must drive the Morte Star Empire out of the stellar periphery of the Lyran Federation. You must also protect the eight Lyran Star Bases from attack. But first you need to build strength and gather intelligence before you can go on the offensive. This great adventure game is loads of fun and offers lots of options.

RETURN TO KROZ (291) ~NEW

This is the sequel to the national contest-winning KINGDOM OF KROZ (Disk #244). It's pure dynamite! - A unique combination of arcade action, strategy and adventure unlike any other game you've played. Your task is to recover the crown of Kroz hidden in the deepest level. Some levels are puzzle oriented, which makes a great change of pace from the high action parts of the game. You'll find new terrains, traps, spells, hazards, 35 new creatures, 20 new levels to challenge your dexterity, and sound effects galore. You'll encounter moving walls, forbidden forests, active volcanos, a bottomless pit and much more, plus plenty of options. AND, no two games will be alike! Great fun, great challenge, great action -- GREAT GAME!!!

THE MILL and SOLICARD (292) ~NEW

THE MILL ver 1.00-\$, an ancient board game for 2 players, was very popular in the 14th century. The game is one of strategy and capture and is very interesting. Lots of fun! Also includes random number generators for dice rolling, wheel spinning, and more. Includes on-line help.
SOLICARD ver 1.00-\$ consists of 6 great solitaire card games, including Golf, Matrimony, Pyramid, Calculation, Canfield, and two forms of Klondike. Includes on-line help and game rules. The program won't let you cheat unless, that is, you ask permission!

PATIENCE ver 3.0 (293) ~NEW

This excellent collection of nine popular and addictive solitaire card games include ACCORDION, CANFIELD, STACKER, ELIMINATE, GOLF, KLONDIKE, VEGAS, NESTOR, and PYRAMID. Game selection is by menu, and each features a resettable best-scores table. Rules for each game are provided.

PASS-AROUND TRIVIA ver 3.02 (294) ~NEW

This challenging, family-oriented trivia board game is for 1 to 6 players. Popular categories include world, geography, sports, famous people, religion, and more. Features selectable difficulty levels. Lots of fun!!!

PINBALL ART (295) ~NEW

This disk is packed with a collection of five fast-paced high-quality arcade-style pinball games for 1 to 4 players. The graphics are great! Uses either keyboard or joystick. Games include CIRCUS, MONEYMAZE, PAR 3 GOLF, SPOOKY, and RUNWAY. Requires CGA or EGA.

PRAXIS I ver 11/88 (296) ~NEW

In the game of Chess, white has an incredible 20 possible openings. Of these, 15 are recognized, with each having MANY legitimate responses. And, of course, the responses to those responses are many! PRAXIS comes to your rescue to help make sense of all this by demonstrating many openings and their responses. PRAXIS isn't an "openings" tutorial, just an overview. But it really helps! Recommended for all of you who are beginning to learn Chess, and for those not-so-new Chess players, as well.

SUPER PRO WORD SEARCH PUZZLE MAKER ver 1.0 (297) ~NEW

This outstanding program creates word-search puzzles of the highest professional quality available. The program accomplishes this by rigidly following established professional rules used by those preparing such puzzles for newspapers and magazines. The rules followed include: Most words must overlap AND share letters; At least one word must appear in each of the four directions; Many words must be spelled backwards; Phrases and idioms must appear without spaces or hyphens; Words in the solution printout must be circled; etc. Your puzzles can be edited, saved to disk, and more. And, of course, your puzzles will be of such high quality that you'll be able to submit them to publishing companies for profit!

WORDS*WORDS ver 1.2 (200) ~NEW

This word game is challenging enough for adults. You're given a 5-letter puzzle word and must identify it in 18 guesses or less. For each correct guess you are told the number of letters common to the puzzle word. Solve the puzzle and a comment or quote is displayed based on the word. Uses a dictionary of more than 6,000 5-letter words.

WORDSTALK ver 1.00-\$ (298,299) 2 disks ~NEW

This unique word-game solver uses over 60,000 1- to 20-letter words to solve difficult cryptograms, anagrams, word jumbles, and pattern/form word searches used in local and national contests. It also has a game section that plays 4 levels of Hangman plus a child's version. This simple-to-use menu-driven program includes a random number generator for dice rolling and wheel spinning, on-line help, 71 sample cryptograms to practice with, and much more.

FALLTHRU ver 1.01 (9200) ~NEW

In this text-adventure game for 1 to 3 players, you become an adventurer in a strange land: Faland. You don't know how you got there, but your goal is to find your way home. Faland is very large, complex, sparsely inhabited, and made up of farmland, rangeland, deserts, badlands, mountains, forests, etc. Much is inhabited by wild animals, demons, warriors, and renegades. You need skill and experience to explore the settlements, caverns, catacombs, castles, ruins, and mines. You must learn to recognize friend and foe, earn a living, hunt, defend yourself, etc. You can gain information by talking to shop keepers, strangers, warriors, etc. Many riddles and puzzles must be solved before the way home is found. You'll find this to be a VERY challenging and entertaining game.

GUNN GAMES #1 (9201) ~NEW

OUTFOX - Try to "out fox" the fox in this entertaining arcade game version of "Fox and Hounds." Keep the fox at bay so he doesn't reach safety. Loads of fun!

MAXMAN - Similar to PAC-MAN, but with some very nice, innovative additions that make this arcade game even more enjoyable.

SUPER STARTREK - A super strategy arcade game that's similar to "STARTREK" but with some neat differences. If you like Star Trek, you'll love this one! NOTE: All three games require a graphics card and color monitor.

AXTRONS - Eliminate the competition by setting traps and directing combat based on opponent's energy level. ClixAxtrons are good trackers, though, so stay out of their way -- IF YOU CAN! Great arcade action.

TILMAZE - Get as many balls rolled into the center box as possible. It's not easy, because when you tilt the maze, all the balls start rolling in the SAME direction! Lots of fun.

GOPHER'S GARDEN - There's trouble in the garden! You're in the midst of a gopher invasion and they're tearing up the place. You must find those little pests and get rid of them before they eat all your flowers. It won't be easy, though, because you can't see 'em. All you see is the terrible damage they keep doing. But, you must be careful while trying to catch them because you can cause more damage than the gophers if you squash your own flowers! This is a terrific arcade-style game you're sure to enjoy. NOTE: All three games require a graphics card and color monitor.

PC-BINGO and UNO (9203)

~NEW

PC-BINGO ver 1.1 is just like the traditional game of Bingo. It is simple and fun to play, and features nice graphics. PCBINGO prints 2 to 8 Bingo cards per sheet, and includes a great winner verification system. Requires DOS 3.0 or above.

UNO ver 1.2 is a PC implementation of the traditional game of UNO. A well thought out display and good graphics makes UNO fun to play. You'll need to know the rules for UNO, though, because none are provided.

TOMMY'S TOYS #1 (9204)

~NEW

TOMMY'S SAUCER - Fly a sophisticated spacecraft to defend earth against alien invaders. The controls are awesome and so is the game! It's fast-paced arcade action all the way with exciting graphics and sound! Requires CGA or EGA.

TOMMY'S HIDDEN WORDS - Create your own hidden-word puzzles from a list of related words or phrases. Nine levels of play. Lots of options! Lots of fun!

TOMMY'S TOYS #2 (9205)

~NEW

TOMMY'S GORILLA BALLS - Ever had the feeling you were being pursued -- AND LIKED IT? Well, here's your chance. You're on a billiard table surrounded by a gang of gorilla balls. How long will you be able to keep away from them? Your life depends on it. Just remember, though, the table is S-H-R-I-N-K-I-N-G! Good luck. You'll need it! Nice arcade game.

TOMMY'S GIN RUMMY - Tommy's great PC implementation of this world famous game.

TOMMY'S TOYS #3 (9206)

~NEW

TOMMY'S METEORS - You'll have to think fast to dodge the falling meteors. Fast-paced arcade-style excitement!

TOMMY'S TWENTY-ONE - This superb Blackjack game pits your skills against the computer, which acts as dealer and banker. Also includes Flapjack, Macao, and Pontoon.

TOMMY'S SPACE PANELS - Is this a game or a puzzle? Actually, we're not sure what it is, but we know we like it! You're at the control panel of an alien space ship. You'd like to fly the darn thing, but all controls are written in 'Alien.' Can you figure out how to make it go? Very amusing, lots of fun!

TOMMY'S TRIVIA (9207)

~NEW

This is a trivia game for 1 or 2 aspiring earthling triviologists (players). The questions were carefully prepared by aliens from outer space and are presented in alternate-choice format. The questions are not divided into categories, however, since that would be too trivial; and besides, by the time everyone else in the galaxy receives our TV and radio transmissions, they're all mixed up together like this anyway! There are 6 ways to play. Whichever way you decide, though, you're guaranteed great fun! The questions are fairly sane and cover a broad range of topics.

TOMMY'S TOYS #4 (9208)

~NEW

TOMMY'S CROSSWORDS - This is a personal crossword puzzle management system that allows you to create and solve crossword puzzles. The program is great for solving puzzles in newspapers and magazines, or making them up yourself and giving them to friends to solve. Maximum puzzle size is 17 rows by 18 columns; minimum is 2 rows by 2 columns. Program includes many options, even a clue option.

TOMMY'S INSULTS - This is a collection of seemingly endless insults, the likes of which we've never seen before! You'll be amused and amazed by what the folks at Tommy's Toys have come up with. (Your friends will also be amazed when you begin to incorporate them into your speech and writing!) Don't worry, though, Tommy used a little good taste in putting these outrageous insults together!

EGA and VGA GAMES

(Require EGA or VGA graphics adapter and monitor)

EGA GOLF (250)

CADDYHACK is a beautiful EGA/VGA graphic golf game. The 18 hole course in Pompano Beach Florida is graced with high resolution palm trees and other terrific scenery. 1 or 2 players can compete on 3 levels of difficulty. A built-in caddy can automatically select clubs based on wind factor, difficulty level, and distance to the hole. You can also select clubs manually as well as power and direction of your shot. Wind and course grade are randomly generated for each hole. Distance from the hole is displayed after each shot, and an overhead view can be toggled at any time. This stunning golf game is the next best thing to being on the green.

EGA ARCADE GAMES #1 (251)

ALDO'S ADVENTURE - You maneuver ALDO through a maze of ladders, ramps, hazards, and treasures. There are many rounds which get progressively more difficult, and the graphics are professional quality. Requires PC/AT or PS2 (not models 25 and 30). Requires PC/AT or PS2 (not models 25 or 30).

BREAKOUT is an EGA version of the classic game of Breakout. Supports up to 350 players. Paddle a ball against a brick wall and attempt to break out all the bricks.

EGARoids is a starship verses the asteroids game. Very challenging.

EGA ARCADE GAMES #2 (252)

SNARFS - You must run through increasingly difficult levels of mazes and pick up treasure - all the while avoiding the Snarfs! They're vicious attackers, and a Snarf touch means lost points. You can shoot them, and you can seek medical treatment at a first aid station - if you can get to one. Sort of like DigDug.

EGA TREK (from the author of Mah Jongg) is a great EGA version of the classic Star Trek game - you are at the controls of a sophisticated starship.

EGA ARCADE GAMES #3 (275)

COLLIDE is a deep space survival game that puts you in a realistic inter-planetary world where you must evade and shoot to survive. You must complete 5 one-minute missions (if you can last that long) in an uncharted quadrant of space.

HOME RUN is a pinball-type baseball game for one or two players. You have control over batting and pitch selection (fast, slow, curve, etc.). When you get a hit you will see your man run to the appropriate base.

SPACE FLEES is a space arcade game where the object is to shoot as many space flees as possible. Flees will attack your ship and you must use your energy shield and laser weapon to defend yourself. Your dog will hate this game folks. These space flees look just like real fleas, replete with fluttering wings.

EGA BOARD GAMES #1 (253)

EGA RISK provides all of the challenge and excitement of the original Parker Brothers game of Risk. You attempt to take over the world with your army and outwit your opponents who have the same objective. Beautiful graphics.

MAH JONGG is the traditional Chinese board game (similar to Rummy), and this special EGA version is a truly elegant piece of programming. Enhancing the game's beauty are features like mouse support and tournament play.

EGA BOARD GAMES #2 (254)

Two classic board games which most of us have played - **OTHELLO** and Parker Brothers' game of **SORRY**. Both games feature sound effects and/or music, on-line instructions, and beautiful color graphics. Requires EGA and 384K of memory.

EGA ASSORTED GAMES #1 (255)

AIR TRAFFIC CONTROLLER puts you in charge of the air traffic at Chicago's Midway Airport. The control tower screen lights up and the planes begin to approach. You must deal with incoming and outgoing aircraft, aircraft type, wind velocity and direction, busy factor, visibility, etc. - all of the variables those poor devils in real control towers have to deal with. You must make your decisions against the clock as incoming planes appear on your radar screen. How well you perform will determine the safety of plane and passenger. This great game is packed with command options. It's so real that you may need a tranquilizer to calm yourself down. Requires a PC/AT.

SCRABBLE includes the colorful tiles and a large dictionary which is loaded into memory for fast program operation. A nice feature is that if a word is not found in the dictionary, you will be asked if it is a real word. If you answer 'yes', the word will automatically be added to an auxiliary dictionary. The dictionary can also be manually edited. SCRABBLE requires 640K memory.

EGA ASSORTED GAMES #2 (261)

EGAWHEEL ver. 10.25 is a version of the TV game show Wheel of Fortune. Includes 203 puzzles for 1-3 players, 5 rounds with increasing difficulty per game, and sound effects. Puzzles contain up to 40 characters, and clues up to 20 characters. A special program allows you to edit puzzles and add new ones.

SOLITAIRE offers 3 different card dealing methods to suit your style of play. Includes auto-play and several other nice features. Requires EGA and a mouse.

TRISKELION is similar to the "Hungarian Rings" puzzle. It requires the kind of logic needed to solve Rubik's Cube. Looks easy, but it's real tough to solve.

EGA ASSORTED GAMES #3 (9209) ~NEW

REFLEX ver 1.2.3 is an arcade game where you maneuver a worm through a maze of objects which include pigmen, palm trees, demons, sunny islands, crosses, and more. Some object must be avoided; passing through others produces varied effects. For example, passing through the Martini turns on the worms hunger mode and he can gobble up objects for fun and profit. Accumulated points earn you "Forcefields" which enable your worm to pass through deadly objects without ill effects. After 50 levels of play (if you make it that far) you are returned to Level 1, only faster. Requires EGA or VGA. Joystick is optional.

SOLITILE ver 1.4 is a game of solitaire, played with "tiles". It derives from similar games, such as Shanghai and Mahjongg. Solitile plays the same game, but adds new starting layouts (a whopping 65,535) and the ability for the player to create new layouts and/or modify the layouts provided. It also uses new, "westernized" pictures on the faces of the tiles. There are 36 different pictures and 144 tiles. The object of the game is to remove all of the tiles in matching pairs from the board. Colors can be customized, and games can be saved for later retrieval. SOLITILE is a beautiful, visually exciting game. Requires EGA or VGA.

EGA ASSORTED GAMES #4 (9210) ~NEW

MCPOPI ver 1.0 is a soft-core adult maze-adventure game. It is against TSL's policy to distribute porno software, but this program is non-graphic, pretty benign, and it's fun. You have been injected with a futuristic hormone that raises your sexual tension to new heights, and you must escape from Madam Ching's Palace of Pleasure (a nifty maze). You race against the clock because if you're tension raises too high you will die. The only way to keep alive while you attempt to escape is to pick up condom three packs and get nasty with girls. The game is challenging and a real laugh. Requires EGA or VGA card with 256K.

QUINTA ver 1.0 is similar to GoMoku, Go, and Parker Brother's board game Pente. Play against an opponent or the computer. Two players alternate placing their "stones" on the board. You win by placing 5 stones in a straight row (like Tic Tac Toe) or by capturing 5 of your opponents pairs of stones. This very addictive game requires defense as well as offense and can be played at two levels of difficulty. Requires EGA or VGA and a mouse.

VGA ARCADE GAMES #1 (9211) ~NEW

BANANOID is a beautiful, breakout-style game with an oversized (544 X 240) playing field. Wall-block-paddle-ball games have been around for quite a while, but VGA users will appreciate this one for the high resolution graphics as well as the challenge. Requires an AT-class computer, VGA, Microsoft/compatible mouse.

GRAVITY WARS is a menu-driven, 2-player space battle game (you can play against yourself or an opponent). Two spaceships (Enterprise and Klingon) attempt to shoot each other down by specifying angles and initial velocities for launched missiles. Missiles move under the influence of the gravitational fields of the various planets in the Gravity Wars universe. There are also black holes which cause missiles to act very erratic. You can move ships, planets, make new planets, alter planets, etc. Altogether it's quite challenging. Requires VGA.

VGA BOMB - Two players, each with an artillery position and 100 men., fire shells at each other. You input missile trajectory and speed, and various hilly scenery offers impediments to the missile reaching its target. Each scene's layout is determined by seven different random factors, including elevations, mountain shape and size, wind factor, artillery piece positioning, and other factors that guarantee a unique and unpredictable situation no matter how many times you play. The sooner you get a bulls-eye, the more points you get. Final statistics are displayed at the end of each game. Requires VGA.

BLUEBALLS - Hit all three blue balls on each level without running into the walls, your trail of red balls, or any other obstacle. Requires VGA.

EGA FOOTBALL ver 2.3 (257)

CUNNING FOOTBALL is a dynamic, interactive, menu-driven football game. You control the action by selecting from a wide variety of offensive and defensive plays. You then participate in each play by controlling the movement of key players, passing, handing off, tackling, etc. The play action looks like a real football game in every detail, including interceptions, penalties, and other subtleties of football. Complete reports of yardage, downs, play results, scores, etc. are provided. This game is fun, exciting, easy to use, and tests both your skill and strategy.

PALM READER ver.1.0 (259)

PALM READER displays a graphic palm and the lines on it. A multiple choice selection allows you to compare your "hand lines" with those on the screen. The results are analyzed and a personal report is produced in the areas of life, love, fortune, health, marriage, ability to succeed, luck and travel. Output can be directed to the screen or printer, and help is on-line. You'll have great fun using this program with friends and family. Requires EGA or VGA.

CAPTAIN COMIC ver. 3.0 (260)

PC Resource magazine calls this the most addictive games you'll ever play. You are **CAPTAIN COMIC**, a galactic hero whose mission is to recover 3 treasures from the alien planet Tambi. As you move through 8 different areas of the planet, you must gather tools to increase your fighting and defensive capabilities. You will navigate dangerous terrain, and avoid or destroy a hoard of deadly creatures. Great graphics and arcade action.

HI-RES VGA ARMY ver. 1.2 (270)

ARMY is a new strategy board game for 2 players. The battle field consists of various kinds of terrain, including plains, roads, forests, rivers, lake, rafts, and walls. Game pieces consist of a captain, artillery, cavalry, and infantry. The object is to defeat the opposing captain while protecting your captain from attack. Each play involves the roll of four dice and strategies similar to the game of Risk. This is a super high resolution game and is as pretty to look at as it is fun to play. Requires a VGA monitor and graphics card and a mouse.

MOSAIX ver. 1.0 (9219,9220) 2 disks ~NEW

MOSAIX is a fabulous EGA/VGA computerized jigsaw puzzle program. Unlike other PC based jigsaw puzzle programs, MOSAIX uses photographic quality color images rather than cartoon pictures. This disk includes 3 pictures for VGA or EGA jigsaw puzzles with three levels of difficulty. Also, your own puzzles can be created using a video image capture board or scanner. Since MOSAIX can import standard .PCX graphics files, puzzles may also be created using almost any PC paint program. If you do not have access to a scanner or digitizing equipment, the makers of MOSAIX provide a color image scanning service for your slides and photographs. Imagine the fun of converting photos of your family into super high resolution jigsaw puzzles. The program optionally uses a Microsoft, Logitech or Mouse Systems compatible mouse. Requires EGA or VGA and 384K.

HURKLE ver. 2.5 (9213) ~NEW

This VGA board game includes a lot of humor as well as challenge. The Hurkles live in Gridsville (the game is played on a grid) and are becoming extinct. The object of the game is to capture as many Hurkles as possible for transplantation to a friendlier location. Easier said than done! Hurkles are usually invisible and only make brief appearances. You can only capture the little buggers by destroying all the squares surrounding the invisible Hurkles without destroying the square on which the Hurkle is hiding. Features include: 10 rounds with ten different grid configurations; 3 levels of difficulty; Pop-up "save your job" screen if the boss walks in; and much more. Requires VGA monitor and video card.

EGA/VGA PINBALL (9214) ~NEW

MORAFF'S PINBALL ver 3.0 supports both EGA and VGA video modes and adds a few extra twists. The pinball machine contains 5 flippers, allows up to 13 simultaneous balls, and has many special "when-ill" items. It also has a built-in function to alter game speed for fast computers. This is about the best pinball game we've seen. The great 16 color 640X480 or 640X350 resolution adds real beauty to the unique features.

GUNN GAMES #3 (9215) ~NEW

CLEANUP - Clean up the gold stars without hitting a barrier or your own trail. It takes strategy and skill to avoid blocking your own path. This arcade game is lots of fun to play! The author says he'll send you another game disk if you can beat a certain score. That's quite a challenge!

DUELING DRAGONS - Wrap your dragon around the opposing dragon so it can't move long enough to be declared the winner. Loads of arcade fun for 1 to 2 players.

TRIAXIS - You're on an island composed of hexagonal bio-zones with different terrain. Survival depends on how well you use the environment and control population. This interesting and challenging game is for 1 to 6 players. NOTE: All three games require EGA or VGA.

GUNN GAMES #4 (9216) ~NEW

CIRCLINK - In this wild arcade game, you must move your marbles by rotating the links. The first one to get them to the bottom of the linked circles wins. For 1 to 4 players.

SPIDER WEB - A crazy, fun exercise in which you must spin a web and catch all the flies before they over-populate. Neat arcade game! NOTE: Both games require EGA or VGA.

HOWTWO - In this neat build-it arcade game, you must collect all the robot parts in the 10-story building and take them to the laboratory for assembly, without running out of batteries, to make the equipment (such as the elevator) work. Watch out, though. The berserk Stock Clerk Robot keeps taking parts to its attic stockroom. The elevator and lifts must also be repaired so they'll always go to the right floor. Good luck. You'll need it! This game is lots of fun to play.

SPINWALL - In this neat arcade maze game, there's a ghost who can walk through walls matching the colors of the magic keys you must try to collect. At first, all walls are solid. Pressing the "SPIN" key causes the corners of the walls to spin at random, opening different doorways. Each spin costs one of the gems you must collect. You maneuver through the maze of halls and rooms, trying to collect all six keys. This game is great fun!

RODRONES - This is an interesting, challenging game in which you must think in three dimensions to succeed! Can you? NOTE: All three games require EGA or VGA.

HOBBY, SPORTS & GAMBLING

LOTTERY SYSTEMS (2130)

LOTTO BUSTER ver 4.0 does for more than pick random numbers. Use this great system on any pick-6 or pick-7 lottery. Pick by lowest or highest hitting numbers weighted by when they hit, or use only the previous 10 weeks hits. Tracks up to 2 years of data.

LOTTO PROPHECY - another sophisticated system that can give you the edge you need

KPS LOTTO ver 2.50 (2131)

KPS LOTTO provides a simple way to keep track of various state LOTTO drawings and to compute valuable statistics from which to evaluate performance of past LOTTO drawings. This helps you pick numbers with the greatest potential in future drawings. It also provides you with a simple system for picking a group of boards. You can keep track of many tickets (5 boards to a ticket) and wheels (30 boards to a wheel) and easily compare them to recent numbers drawn. Includes California lottery information and detailed results, plus results from 20 other state lotteries. Features many options.

HANDWRITING ANALYST SAMPLER ver 2.1 (2132)

This menu-driven program lets you analyze anyone's signature based on a multitude of handwriting characteristics, and then produce a detailed personality report. The program was created by a team of talented pros, including Dorothy Hodos, who is past president of the American Handwriting Analysis Foundation, has studied with the most famous graphologists, and has practiced and taught graphology for 20 years. Among the many handwriting characteristics examined are size, connectedness, height, width, expansion, extension, upper- and lower-loop characteristics, and pressure, to name a few. You select from a list the description most closely matching the particular characteristic under evaluation. Detailed information about each choice is instantly available through on-line help, making it easy to select the right description. You can save the results of a writer for later retrieval, produce quick or detailed personality reports, and much more.

PC-FOTO ver 2.45 (2100)

Creates labels for picture, photo, slide, etc. libraries. Provides space on labels for a significant amount of information, including account or serial number, photographer's name, content description, location, and more. Prints up to nine sets of labels, four labels per set, in a variety of label sizes in order to accommodate different picture and slide size formats. Requires printer with adjustable-width sprocket feed.

FOR PHOTOGRAPHERS ver 1.40 (2108)

FOR PHOTOGRAPHERS is a menu-driven 3-level cataloging tool for both family and professional photographers. This easy-to-use program allows you to create a catalog and then locate a photograph or negative by any one of 21 characteristics. For example, you can get a list of all sunset pictures taken at the beach; or all photos of New York City. Entries can be made for individual pictures, allowing you to list unique data about each. The 3-level feature allows you to determine the amount of data you wish to store for each entry. The three levels are Basic, Photographer, and Professional. Each level provides progressively greater detailed information to be stored for each entry. Performs searches, edits, save, delete, update, etc.

COIN COLLECTOR (2107)

COINFILE ver. 3.0 is a coin collector's inventory management system. Includes unique features not found in other inventory systems. Each collection has two files: a data file and a want file. For Buffalo nickels, for example, there is a file with your data and a file with an image of what coins a full Buffalo nickel collection should contain. COINFILE prints a variety of reports, including a want list that compares what you have with what you need; an inventory help sheet; a listing of all coins of all collections with descriptions and updated prices; and stick-on labels for 2x2 coin holders. Maintains a record of each

coin's condition, purchase price and date, and current value. Three want files are already included. Requires CGA, a color monitor, DOS 3 or higher, and 2 floppy drives or a hard disk.

STAMP COLLECTOR ver 1.0 (2133)

~NEW

This special database program allows you to maintain the following information for each stamp in your stamp collection: Date acquired, issue month and year, country, market and issue values, quantity, condition, catalog number, and additional comments. Btrieve indexing is used for very rapid record retrieval.

FOR BASEBALL CARDS ver 1.40 (2109)

This unique database management system for baseball card collectors and investors makes keeping track of entire collections fun and easy. Tracks cards by identify and value, maintains a current want and trading list, identifies special cards in a variety of ways, and much more. Performs fast searches to locate players, teams, and card numbers. Takes the drudgery out of maintaining your valuable collection.

ORIGAMI (2101)

ORIGAMI teaches the ancient art of paper folding. This is computer-aided instruction at its best. Paper folds are presented with animated graphics. Just follow the step by step displays with your paper at hand. Included are instructions for creating paper sculptures of a rabbit, pig, jet, boxes, penguin, and much more. ORIGAMI is a delightful program for both children and adults. Requires CGA, EGA and BASIC.

PC-QUILT (2102)

This is a graphics quilt design program. It allows you to work with geometric quilt designs in such a way as to see exciting new designs by putting nine blocks together, alone or in combination with other blocks. You work with different grid types (three-patches, four-patches, etc.). You can paint these blocks and view different color possibilities in the finished quilt design. You can also flip and rotate the blocks which is very handy for asymmetric designs. You may also use and edit blocks from the on-disk library and add to the library. Designs can be sent to dot matrix printers. Requires CGA or EGA.

JOG LOG (2103)

A menu-driven program that maintains progress reports for runners and measures the aerobic benefit of each run. **JOG LOG** uses two basic methods to measure aerobic benefit. The aerobic log method records parameters relating to the time and distance of each run. The target heart rate method calculates a target heart rate (based on your age and conditioning) that you must reach and maintain for 20 to 30 minutes. The program enables you to search and compare the records of your runs by date and physical effort. Highly recommended for the jogger who wants to keep tabs on his/her progress.

RUNNER'S PERSONAL COACH (2104)

GRAPHIC COACH provides runners of all abilities an easy way to monitor their current training, compare current training to their past progress and plan their training to improve future fitness and race performance. Provides daily/monthly/annual calculations of training pace, elapsed time and distance. In addition, the program calculates and displays an optimum specific training schedule for next week's training, based on most recent 5K or 10K race elapsed time. The training schedule is based on calculated aerobic capacities and maximizes the training effect. Requires CGA or EGA.

BOWLING LEAGUE SECRETARY ver 2.2 (2105)

This program makes it easy to maintain all records associated with your bowling league for up to 32 teams and 8 bowlers per team. Handles up to a 50-week season. You specify league name and type, bowling establishment, team data, schedule and handicap basis. Automatically sorts position rounds. Produces/prints weekly standing, final standings for bowler and team, individual bowler and team record sheets, etc. Menu-driven with on-line help for ease of use.

RACEHORSE HANDICAPPER ver 3.0 (2106)

CAMBRIDGETHOROUGH BRED HANDICAPPER is a powerful, sophisticated tool for handicapping thoroughbred horses quickly and easily. It is designed to help you improve your performance at the track and make money in the process. The program is menu-driven with on-line help and very easy to use. All the information you need is available in the Racing Form. With a little practice, you'll be able to handicap a race in a few minutes and a whole card in less than an hour. Originally a commercial program marketed by a firm specializing in handicappers, it is now available to you as shareware.

PERFORMANCE CALCULATOR ver 3.0 (2110)

PERFORMANCE CALCULATOR is a menu-driven program for automobile enthusiasts which makes numerous calculations relating to the performance of any car. Engine calculations cover air flow, compression ratio, displacement, fuel flow, horsepower, and torque. The air flow calculation, for example, allows you to determine how much air a particular engine setup would

require, and is helpful in selecting induction system hardware. The fuel flow calculation shows the maximum rate of fuel consumption for your engine setup, and is helpful in assuring that the fuel lines, pumps, etc. you select will be adequate. Chassis calculations include bar rate, coolant, G-force, overall gear ratio, spring rate, and tire diameter. The overall gear ratio calculation does not merely multiply gear ratio by final drive ratio, but rather determines the overall gear ratio based on observed combinations of engine RPM's and road speeds. The dragstrip menu covers altitude compensation, elapsed time, and trap speed; and the speeds menu covers speeds in gears and top speed. The program also offers a handy metric- \rightarrow SAE converter, and all measurements may be entered in either SAE or metric throughout. Requires CGA, EGA, or VGA; however, performance graphs can only be viewed with EGA or VGA.

DOUBLE BOGIE KILLER and GOLF HANDICAP (2111)

DOUBLE BOGIE KILLER (DBK) - DBK is no ordinary golf stats program. It is a full-featured menu-driven golfer's database program. Here is what it can do with just 4 data items per hole: Round Summary - A hole by hole report of each round played, giving you the same information you would have if you could view all of your scorecards at one time; Course Summary - A course by course breakdown of each round. Does not show individual hole results but rather an overall performance. Includes the famous DBK Puff Staff and the Eagle Eye standing; Handicap Report - Keep that USGA handicap in shape and never be in doubt about where you stand; Efficiency Sheet - A percentage analysis showing sub-pars, pars and bogies, scrambled and lost pars and par 3 hit ability; Yardage Report - A course by course summary showing hole yardages, your club distances by hole type, total yards played, strength level and the DBK Rating. Easily deletes, combines, splits, and archives files, and much more. Includes extensive on-line help. This program is a must for any golfer who is even half serious about this wonderful sport.

GOLF HANDICAP - Designed to keep handicaps current with each round of play, this menu-driven program allows you to add new golfers; add scores; change, browse, mark, and unmark golfers' records; correct scores and course ratings; print records; delete a marked golf record; and more. As soon as a new score is entered and saved, a new handicap is computed and displayed. **GOLF HANDICAP** is also useful for golf league secretaries and others who require daily or weekly handicap updates to maintain a proper competitive environment.

PRO FOOTBALL LINEMAKER ver 1.0 (2112) ~NEW

Not quite as good as a crystal ball, but close! This easy-to-use, menu-driven football forecaster uses the results from past NFL games to calculate and predict the point spread of future games. It also predicts passing and rushing yardages between any two teams, as well as sacks, first downs, time of possession, lost fumbles, and more. Includes 1989 regular season database and 1988 statistics. Detailed analyses can be viewed on-screen or printed out. Requires 384K.

FISHBASE ver 2.1 (2113) ~NEW

This is a specialty database program for fishermen. Many fishermen keep a diary of their fishing trips and try to determine from the information some sort of pattern or reason for the success or failure of their trips. Tough to do! With **FISHBASE** your computer will accurately analyze the data and print detailed reports which provide answers to questions such as: What kind of lures accounted for the most fish; What color lures caught the biggest fish; What water temperature seemed to bring the most success; What week seemed to be the most likely time for bass to be spawning; Did the phase of the moon really have anything to do with the willingness of the fish to strike; and much more. This easy-to-use, menu-driven program helps you to make sense out of all the data so that future fishing trips will result in greater catches.

FISH-N-LOG ver 1.5 (2114) ~NEW

Want to catch more fish? Anglers who use past results to help predict what makes them fishes bite best will love **FISH-N-LOG**. Allows you to easily record important facts about your fishing trips by answering specific questions about location, bait, weather, water level, water conditions, feeding times, and much more. There's also space for descriptive narratives to help refresh your memory about previous fishing trips.

BALLISTIC ver 3.01 (2115) ~NEW

Attention shooters and reloaders! **BALLISTIC** generates ballistic tables to help you assess the performance of the small arms ammunition you produce. It calculates ballistic coefficient, remaining velocity, energy, momentum, drop, wind deflection, maximum height, time of flight at a given range, and the amount of recoil generated by a cartridge and gun. It also estimates minimum twist necessary for bullet stabilization, calculates point blank ranges, and produces trajectory tables for estimating "holdover". It does all this by comparing the bullet in question to actual compiled firing data. Requires DOS 3.0 or above and a graphics display. Does not support MCGA.

COMIC BOOK LIBRARIAN (2116) ~NEW

FOR COMIC BOOK COLLECTORS ver 1.40 - Catalogs your entire comic book library, then lets you locate books by any of 21 different criteria. A special three-level feature determines the amount of data you wish stored per book (similar to **FOR PHOTOGRAPHERS** - #2106). You'll be able to find books featuring certain characters, or illustrated by specific artists, and MUCH more! Maintains a COMPLETE record of your collection; and includes full edit,

search, delete, print facilities, and more. Features many options! The program is completely menu-driven and very easy to learn and use. Requires 2 floppy drives or a hard disk.

COMICS ver 1.1 - Another excellent, though smaller, comic book inventory program that has most features a collector would want in a library maintenance system. **COMICS** allows you to add, edit, and list records; Copy files; Perform searches; and a lot more. Fully menu-driven and VERY easy to use. **COMICS** even includes a sample data file. A color monitor is required.

HAM RADIO (2117)

~NEW

CODE MACHINE ver 1.1 - This Ham Radio program will key radio transmitters to provide Morse Code practice sessions for anyone wishing to learn code or enhance their speed. Transmits perfect code at speeds from 1 to 100 words per minute, and incorporates many special features.

PACKET-SHAREWARE - This is used by Ham Radio operators in packet radio networks in place of standard terminal programs. It is an advanced user interface program to control your packet station, offering easy multiple connect operation and simultaneous monitoring on separate screens. Features large capture/scroll buffers, multiple virtual channels, and much more. Works with AEA type PK-87, PK-88, and PK232 and compatible Terminal Node Controllers. Requires 320K and a serial port.

SAMFB MORSE CODE PROGRAM - Another excellent menu-driven program to help you learn to key and copy Morse code. Loaded with options and extras!

COMPUTER DARKROOM ver 1.0 (2118)

~NEW

COMPUTER DARKROOM (CD) eliminates the calculation of exposure times during photographic printing. Changing conditions (magnification, filter selection, etc.) require a new exposure time for the same result. CD calculates this time for f/2 to f/32. Covers black and white (B&W) and color printing from negatives, and color slide printing onto Ilford Cibachrome paper. Computes exposure time based on the speed of 17 popular B&W papers, on contrast grades of B&W papers and filter factors for variable contrast papers, on magnification ratio of B&W or color printing media, and on color correcting filter factors for color printing. Also provides a printout of specs for reproduction of the last printed slide or negative.

FOR RECORD COLLECTORS ver 3.40 (2119)

~NEW

This powerful, menu-driven database system for your LP, 45, CD, and cassette music collection allows you to record and retrieve information and even print a catalog. You'll be able to find songs by title, artist, label, producer, or any of 19 other criteria. You can even perform complex multiple cross references. This easy-to-learn and use program features a unique 3-tier programming method with capacity limited only by your available disk space. Requires 2 floppy drives or a hard disk.

HOUSEHOLD

POINT & SHOOT HOME MANAGER ver 2.0 (1802)

This comprehensive home management system is a collection of databases for complete home budgeting, tracking of home maintenance, home inventory and important record tracking, name and address tracking, and vehicle maintenance record keeping. Includes many additional convenience features like a full featured financial calculator, a full-screen text editor, printing envelopes and mailing labels, and much more. The program is entirely menu-driven with on-line help for ease of use. Requires 2 floppy drives or a hard disk.

HOME INVENTORY ver 2.0 (1805)

A menu-driven system designed to keep track of every thing you own - from Picasso's to plants. Objects can be identified by general category (appliances, furniture, etc.) and by specific item (overstuffed chairs, sofas, etc.). You can configure every aspect of the program. For example, you can personalize rooms, categories, owners of objects, etc. Track your possessions by type, room, owner, quantity, color, purchase date, and cost. Search feature allows you to quickly find information on any, all, or a range of objects. Prints reports. This program is written in Basic. It is very easy to use and is perfect for maintaining records for insurance purposes.

VEHICLE MANAGEMENT SYSTEM (1806)

VMSYS is a menu-driven program that will help you keep track of gas mileage and miles driven on a rolling 13 month history. Information is presented graphically, making it easy to spot engine trouble attributed to a loss in MPG. **VMSYS** also aids you in predicting when to do scheduled maintenance. A repair record may be maintained for up to 2 vehicles.

CARFILE will help you to keep track of business use of vehicles for tax purposes.

GARDENER'S ASSISTANT (1809)

Helps you plan your home garden in every detail. You select from menus what region of the country you live in, what you want to plant, and the number of people your garden will be feeding. The program will graphically layout your

garden and provide details about planting and harvesting dates, how much seed to buy, and how to plant the seeds. This is a great program for those with a green thumb. Requires CGA, EGA or VGA.

LANDSCAPE PLANT MANAGER ver 1.0 (1800) ~NEW

This menu-driven plant information system will help you select plants based on design criteria. It provides a speedy alternative to paging through nursery catalogs and plant manuals when trying to find plants for a particular landscape situation. Suitable for homeowners, landscape professionals, and horticulturists. LPM offers fast searches and detailed information on a large variety of plants, flowers and trees. Features include: Add, delete and modify information in the plant database; Search for plants by common or scientific name; Search for plants matching one or more design criteria for use in the landscape.

TAPE CASSETTE MASTER ver 5a (1810)

Catalogs your entire cassette tape library and prints catalogs, cassette labels and case inserts. Provides space for tape number, selection titles, and artists for up to ten selections per side.

VIDEO LIBRARIAN ver 2.1 (1812)

We receive 2 or 3 video library programs for review each month, and they're all pretty nice. But VIDEO LIBRARIAN (VLB) packs the most punch. This full featured, menu-driven database manager will catalog your video cassette library like no other. 14 database management functions are available from the data entry screen menu. 18 fields of information about each movie can be recorded, including: Movie title; Names of stars, co-stars, directors, cast members; Company; Comments; Start counter; Stop counter; Recording speed; MPAA rating; Category; Year; Tape#: Time. VLB is fast and can perform complex searches on up to eight fields and can print reports to the screen, printer, or disk file. VLB can hold up to 64,000 selections. It can quickly create fully functional sub-files of the main file and can also merge files. And if all of this isn't enough, VLB can even print labels for cassettes on regular or custom labels. Wow! Requires 320K.

FOR FILM AND VIDEO TAPES ver 1.40 (1801) ~NEW

This powerful full-featured menu-driven program allows you to create a catalog of your films and videos and then locate volumes and sequences by any of 21 different criteria. Features are similar to FOR PHOTOGRAPHERS (#2108). While our favorite is VIDEO LIBRARIAN (#1812), which requires 320K of memory, this easy-to-use program is an excellent choice if you have only 256K. Requires 2 floppy drives or a hard disk.

DISK JOCKEY (1808) ~NEW

This menu-driven cataloging system for compact discs and phono records allows you to enter data quickly and easily. Information is retrieved to your screen or to the printer by artist or song title. Record and song titles are displayed alphabetically by artist or by song title. Includes full editing features, 2-level browse, and much more. Shareware version is limited to 100 records/discs. Requires 640K and a hard disk.

HOME ENTERTAINMENT MANAGER (1827) ~NEW

This excellent menu-driven program will take nearly all the work out of organizing and maintaining your entire home entertainment library. You'll be able to simply and easily track all of your videos, records, cassettes, and compact discs; instantly sort listings in several ways; track by title, category, listing number, artist, etc.; add, delete, and edit data entries; display title lists; and much more. This very complete program will add a whole new dimension to the enjoyment you receive from your library!

PC-BARTENDER ver. 2.00 (1823)

PC-BARTENDER is like having a professional bartender in your own home. This full-featured program will show you how to mix almost any alcoholic (and non-alcoholic) beverage. Impress your guests with professionally mixed Brandy Alexanders, Pink Ladies, Flying Grasshoppers, Zombies, Black Russians, etc. PC-BARTENDER also keeps inventory, tells you what drinks you can mix with your on-hand stock, and teaches you about the ingredients of drinks. The menu-driven interface gives you easy access to hundreds of drinks, from old standbys to the exotic.

DO-IT-YOURSELF PROMO KIT (1814)

Greeting cards on disk that play music have a lot more impact than traditional paper cards. This is a neat, menu-driven program which enables you to easily create personalized greeting cards that play music. You use the built-in editor to type in the "to", "from", and personal message information. One keystroke then copies your greeting card to disk. Included in the package are interactive, musical birthday and Christmas cards. The birthday card plays "Happy Birthday." The Christmas card gives the recipient the option of choosing from a list of carols accompanied by a bouncing ball for sing-along. Cards can also be printed. Requires 2 disk drives, CGA or monochrome card.

GIFTS (1815)

If you ever had a problem deciding what gift to buy someone (who hasn't?), GIFTS can help. This database program will give you gift ideas. You select the gift category, price range, and the type of person you are buying for. Records which meet your criteria are then located. Each record provides gift title and description, approximate cost, supplier, and a comment. GIFTS is menu-driven for ease of use and can help prevent aimless wandering through department store aisles.

MOVIES ON-LINE ver. 1.4 (1807)

This is a user-friendly movie cataloging program designed for movie lovers and video buffs everywhere. There are thousands of movies to see in theaters or to rent for your VCR. But which one do you want to see tonight? Who starred in "Harry and the Hendersons?" Who directed "Making Mr. Right?" Is the MPAA Rating of "Outrageous Fortune" suitable for your pre-teen daughter? How did someone who's seen "Peggy Sue Got Married" rate it? What's "Roxanne about?" MOVIES ON-LINE is a perfect program to answer these and other questions about movies. Menu-driven and easy to use, it's a good tool for the casual user and for those who want to collect and maintain a movie data base of up to 5600 movies. Requires a color monitor.

AWARD WINNING FILMS of the SILVER SCREEN (1828) ~NEW

This unique offering is the ONLY Academy Awards data bank program available for the PC. The Shareware version, which covers 1927 through 1969 (1970-1988 is available for registered users), lists movies by year, award, multiple winners, and alphabetically. It also provides movie profiles, which include cast members, awards, credit, and more. Provides a wealth of movie information, and is especially useful in answering those obscure movie trivia questions you find in local and national contests - or for creating your own trivia questions.

HOME INSURANCE ver 3.40 (1829) ~NEW

This superb home inventory and insurance planning tool allows you to be PROPERLY insured by keeping track of what you own, its location, original costs, and replacement costs. The program is menu-driven and, with its great on-line help, is very easy to learn and use. Valuable reports can be printed and placed in safe keeping or, if you wish, given to your agent for his official records. This program even adjusts the value of your belongings by item groups to account for inflation and depreciation. As an added bonus, the program also incorporates a life insurance calculator, an insurance policy information database, and more! Requires 2 floppy drives or a hard disk.

UTILITY BILL ANALYZER (1830) ~NEW

The ELECTRIC and GAS ANALYZER ver 4.0 is a powerful and easy to use program that will record and maintain utility usage. A continuous record is kept of present and previous meter readings, the cost for each month's usage, and service period dates and costs. You can analyze cost and usage by month for each individual year, yearly by year, and by selected periods (ie, summer, winter, etc.). A cost estimator feature allows you to enter your present gas or electric meter reading and to approximate your future costs.

TRAVEL

PC-FLIGHT GUIDE ver 2.0 (1300-1304) 5 disks ~NEW

This airline database contains every flight (airline) between more than 200 cities in North America. It is more complete than systems used by ticketing and travel agencies. You can find the best connection between any two cities, next connection if you don't want to change planes, or if you change planes or airlines. See what flight, intermediate cities if you change planes or airlines. See what airlines fly by specific airlines is provided. Includes information on car rentals, passport requirements, hotels, resorts, etc. Updated current data for this program, and for \$120.00 registered users. Updated data every two months. Requires 640K, hard disk with 100K free space for 4.5 megabytes. AT class computer is recommended.

TRIP PLANNER (1305) ~NEW

VACATION PLANNER (VP) ver 3.3 helps you in planning vacation and business trips by car. It determines the shortest route to your destination even if deviations from the most direct route are needed. For example, you may want to visit friends, visit popular vacation spots, or just avoid known traffic problems. Additionally, VP produces a trip plan that gives you valuable directions including highway, time and distance information, and estimated expenses for gasoline, food, motels, and other expenses. VP can print this in a convenient format that eliminates the need to unfold large maps while driving. "Map Maker", a provided utility, allows you to customize the "Map" files furnished with VP to include your own areas of interest such as your home, Grandma's house, favorite vacation spots, or your own short cuts. No matter where you travel in the United States, this easy-to-use, menu-driven program is truly invaluable.

HEALTH and COOKING

THE SHOPPER'S ASSISTANT (1816)

Two easy-to-use programs to help you take the hassle out of grocery shopping.

GROCERY SHOPPING LIST allows you to create a custom tailored shopping list from a listing of common grocery store items. Print your shopping list and take it with you to the grocery store. No more wandering down the aisles with the nagging thought that you must have forgotten something.

COUPON FILER helps you keep track of your store coupons. Removes the guesswork from what coupons you have, what they're worth, when they expire.

COMPUTER CHEF ver 1.1 (1817,1818) 2 disks

COMPUTER CHEF is a menu-driven recipe program that is jam packed with mouth watering delights. From the opening menu you choose whether to search for a keyword, an ingredient, or a recipe title word. For example, if you search for the ingredient vanilla, you are presented with a choice of 50 recipes which contain this ingredient. Some of these are Branched Walnut Peaches, Strawberry Jewels, Secret Kiss Cookies, and Mexican Coffee Liquor Cookies. (You can get fat just reading the titles). Once you select a recipe, its ingredients, cooking details, and number of servings are presented on screen. A submenu then gives you the option of printing or writing the recipe to disk, or revising the recipe for different amounts. **NEW RECIPES CANNOT BE ADDED**, but there's enough here to keep you cooking for a long time. If you order this program and use it, please feel free to invite us to dinner.

PERSONAL RECIPE COOKBOOK ver 2.45 (1819)

This program is designed to organize a recipe file. Written in dBASE III and compiled with Clipper, it is a very fast and slick menu-driven system. Features include: Two pages available for each recipe; Add, delete, edit, and print recipes and recipe codes; Print recipes full size or as index cards to screen, file or printer; On-line help and conversion measures; and more. Includes 40 recipes. If you're looking for a program with a lot of existing recipes, **COMPUTER CHEF** (Disk # 1817,1818) is a good choice. If you want an easy to use, fast and flexible recipe file management program for your own personal recipes, this is it. Requires a hard disk.

EDNA'S COOKBOOK ver 1.24 (1824)

This excellent program will record, file, sort, list and print all your important recipes. The screen is conveniently divided into two sections - one for ingredients and one for directions. For each recipe you can assign a category (**DESSERTS**), a subcategory (**PUDDINGS**), a title (**GRANDMA'S CREAMY PUDDING**), and the recipe's source. Categories and subcategories are user-definable, and recipes can be displayed or printed by category, subcategory, or all at once. Finding your recipes is a breeze because the program automatically arranges them by category, subcategory and title. You can even password protect your secret recipes to keep them private. Requires 2 floppy drives or a hard disk.

COMPUTER BAKER (1825)

A menu-driven, simple-to-follow computer recipe book containing 99 recipes of good things to eat. Select from six categories, including snacks, fudge/candy, muffins/biscuits, cookies, cakes/frostings, and pies. Baked goods are fast and easy to prepare. Each recipe is made from scratch. Includes such wonders as cherry blinks, snicker doodles, panochee fudge, old fashioned peanut brittle, cinnamon coffee bars, ginger snaps, streusel coffee cake, and fruit cocktail eggnog pie. Yum, yum!

MEALMATE ver 3.5 (1821)

An excellent nutrition and meal planning aid for anyone on a carefully controlled diet. It was targeted for diabetics as a source of readily available complete nutritional information for glucose level control, but is of value to anyone who must or wishes to precisely control calories, proteins, carbohydrates, fats, and especially food exchanges. Presents nutritional information on many common foods. Can combine the information from meal plans or menus to check the total nutritional content of a planned diet. Makes it easier to plan more varied meals or to help in choosing substitutes for hard to find diet items. **MEALMATE** follows guidelines established by the American Diabetes Association, The American Medical Association, and Weight-Watchers International. Can print full page or index card reports. You can add to the on-disk food database which contains over 750 items. Menu-driven and very easy to use.

A>RECIPES ver 1.0 (1831) ~NEW

Here are 125 great recipes from the A>COOK commercial recipe program. There are delicious appetizers, soups, salads, pastas, breads and desserts. **A>RECIPES** is completely menu-driven and lets you find the recipes you want in seconds. You can then adjust serving sizes from 1 to 99, print recipes to take to the kitchen, and print a shopping list. With **A>RECIPES** you can use your personal computer to plan weekly meals, parties and special holiday dinners. Bon Appetit.

QUICK-N-EZ RECIPES & HERBS & SPICE (1832) ~NEW

QUICK-N-EZ RECIPES 2.71 b is an easy-to-use, menu-driven recipe program for those who want to prepare a great meal without spending all day doing it. All recipes take an hour or less to prepare, and there's over 150 to choose from. Includes American, Mexican, oriental, soups, salads, sauces, and more. Features on-line help, prints single recipes or all recipes to compile a cook book. Requires graphics monitor and Epson or IBM printer and compatibles.

HERBS AND SPICE is a neat, easy-to use, menu-driven program to help the "non-cook" or forgetful cook pick the right herb or spice for certain foods. Includes 47 spices in all - from allspice to thyme.

THE NUTRITIONIST ver 3.2.1 (1833,1834) 2 disks ~NEW

This powerful, comprehensive program makes healthy meal planning a real snap. From a large database of natural foods, easily create recipes, meals, and daily regimens. Perform a complete and informative analysis for nutritional content. A unique protein balancing feature automates what was once the very complex task of limiting protein intake to the necessary essential amino acids. An exercise function lets you know how many calories you expend during your daily activities. Has full printing functions. **THE NUTRITIONIST** is menu-driven, very easy to use, and extremely well designed. It is one of the best nutritional programs we have ever tested, and we highly recommend it to those who are interested in a healthy life style. Requires 384K, DOS 3.0 or above and any graphic monitor.

MEAL MASTER ver 1.4B (1835) ~NEW

This excellent program will hold up to 500 recipes, plan and schedule your meals, and printout a shopping list. The automatic meal scheduler is great. It randomly selects menus for breakfast, lunch and dinner for up to 14 days, and you have the option of customizing the menus. The shopping list printer makes a list based on the scheduled meals, and it too can be customized before you get a printout. Each recipe in the recipe database can have up to 12 ingredients and up to 9 lines of instructions. The program is fully menu-driven and very easy to use. Requires 512K and 2 floppy drives.

LIFE SIGNS (1822)

LIFE SIGNS is a collection of programs that help you maintain good health. Based on your lifestyle, family history, etc., these programs offer the following: Determine your life expectancy (ouch!); Measure your risk of heart attack; Analyze your stress level; Calculate your percentage of bodyfat and your ideal weight; Measure how many calories you burn. Also included in this package is an excellent biorhythm program. It will produce a chart for any range of time you specify. It will also report compatibility profiles for two individuals based on their biorhythms. **LIFE SIGNS** can help you to determine your present state of health as well as suggest corrective measures.

SLIMMER ver 2.0 (1826)

If you're like so many Americans who must watch their calories and cholesterol count, then **SLIMMER** is for you. Tracks weight, caloric intake, cholesterol level, etc. Includes a calorie counter, editor, plotting function, and more.

DIETAID ver 2.1 (1836) ~NEW

DIETAID is an excellent diet planner that compares planned menus to your prescribed diet. Features include: Stores a diet prescription and then examines it against proposed menus; Adds new foods and recipes; Gives diet suggestions based on age, weight, sex, and activity level; Plans meals in terms of proteins, fats, carbohydrates (PFCs) or exchange units (EUs), and calories; Prints diets, menus, and recipes; and much more. Includes many options.

ARTIFICIAL INTELLIGENCE

THE IMP SHELL (2500)

A powerful expert system development tool. It contains all the utilities needed to develop, test, and run new expert systems. **IMP** expert systems are rule-based, backwards-chaining systems and are very fast and not limited by an artificially small number of rules. The "shell" approach makes it easy to set up expert systems. Menu-driven with extensive help and on-line tutorial. Sample system is included. Requires 512K memory.

XXXPERT ver 2.4 (2501)

XXXPERT is an expert system development facility (artificial intelligence) which includes an editor, file manager and expert systems inference engine, packaged together in one integrated environment. Develop expert systems that use rules you write in English. Define expert knowledge just once then apply it repeatedly as a stand-alone expert system or integrate it with other software and files. No limit to the size and complexity of expert systems you can construct. **XXXPERT** is very fast and a "run-time" feature lets you build expert systems technology into your applications.

DECISION ANALYSIS SYSTEM ver 1.10 (2502)

DECISION ANALYSIS SYSTEM (DAS) will help you choose an appropriate course of action when faced with a problem. DAS uses two separate methods to help you make your decision. The Decision Matrix Method is designed to be used primarily with tangible and easily quantifiable data and will provide you with an unbiased ranking of alternatives considered. The Pairwise Comparison Method is designed to deal specifically with subjective assessments and evaluations of alternatives and criteria. DAS therefore provides both objective and subjective routines for systematically analyzing your alternatives. It produces bar graphs to help with interpretation. DAS is entirely menu-driven and uses the function keys to move you through the system in orderly fashion. Includes on-line help for all functions. DAS can help you to decide something as simple as which car to buy, or it can handle much more complex problems.

ASTROLOGY and ASTRONOMY

STARVIEW ver 1.0.09 (2601)

STARVIEW implements a graphic display of objects in the solar system. Observe these objects at any time or date you choose. The display and range of information is truly impressive. Control the setup of almost all the variables. Contains 9096 stars and non-stellar fixed objects, and you can add your own data to this list as well as to the list of comets, asteroids, planets, etc. Runs on CGA, EGA and Hercules graphics card.

DEEP SPACE (2602,2603) 2 disks

DEEP SPACE is an excellent star map plotter. It will plot accurate custom star maps, either flat or in 3-D, with the following options: For any part of the sky, to any scale; For any given day, time and latitude; With or without constellation lines drawn in; With or without labels; In your choice of projection system; To any brightness cutoff. The program will compute an ephemeris for any comet that is discovered, and plot an accurate finder chart. It will plot a planet finder chart for an entire year as seen from earth, and planet orbits as seen from space. Star maps can be printed. Requires 512K and CGA.

GEOCLOCK ver 3.0 (2604)

GEOCLOCK is a geological clock program that shows the current time (based on the system clock) with maps of the earth and the USA. The current sun position is displayed with a crossed circle, and the part of the earth in sunlight is highlighted. This display is automatically updated every 1 to 30 seconds depending on the speed of your system. Local sunrise, sunset, and the sun's azimuth and elevation are also displayed. A variety of map backgrounds and other options are available to registered users. Requires a graphics card.

PLANETS ver. 4.1 (2605)

PLANETS computes detailed information relating to the position, distance, magnitude, orbit view, skyview, etc for the major planets, four minor planets or Halley's comet on a specified date and time. Also, orbital data for any desired planet or comet can be entered and saved in a disk file. Skyview and orbital views can show forward or backward motion. The moons for each planet can be displayed. From the author of the great program Chemical (TSL Disk #347). This is an excellent program for astronomy buffs. Includes video drivers for EGA, CGA, Hercules and others. Requires graphics card.

EXPLORING THE COSMOS ver. 1.0a (2606)

This planetarium simulator features stars in simulated intensity; planets and stars in motion; user-selectable update period; solar system view with correct planet orientation and orbital motion; zoom feature; help screens; and much more. An excellent teaching tool for showing interaction of heavenly objects. The shareware version includes 200 stars; registered version includes 2,000 stars. Requires CGA, EGA, or VGA.

SILICON SKY ver 1.0 (2607)

SILICON SKY is a menu-driven astronomy program which displays a realistic representation of the celestial sphere (about 1,600 stars) as seen from any latitude on earth for a selected date, time, and direction of observation. Displays the location of the sun, moon, and planets; and shows the correct phase of the moon. More detailed technical data giving coordinates of solar system objects can be displayed through menu selection. Constellations are identified by boundary markings. Cricket sounds are even incorporated if you wish, which occur after sundown when the program is operated in the PLANETARIUM mode. Requires CGA or EGA.

ASTROLOGY ver 9.5 (2701)

ASTROL95 is an extensive astrology program that offers the following features: Calculate the zodiac sign positions of the ten planets, including the sun and moon, and the twelve house cusps for any date, time, and place; Display the chart output in graphic chartwheel format or in non-graphic format; Select the Placidus and Koch house systems; Select the Tropical and Sidereal zodiac; Display the aspects between the planets, ascendant, and midheaven; Display the midpoints between the planets, ascendant, and midheaven, as well as midpoint/planet conjunctions; Display supplemental calculations such as the Julian Day, sidereal time, lunar mean north node, and Part of

Fortune; Display for purposes of transits or chart synastry the aspects between the first chart calculated and an unlimited number of additional charts; Save calculated charts to file and review them; Display the mutual aspects and indexes of communication between any two saved charts to determine compatibility; Display mutual aspects between a saved chart and a calculated chart as a way of investigating the transits at any time; Conduct rapid searches for compatible matches between the charts in the database according to user-defined criteria of sex, age, and minimum required mutual communication index levels; Calculate a six-month list of transits by the outer planets, Mars through Pluto, to any saved chart; Print a hardcopy of birth data with corresponding record numbers for all individuals in the chart database; Delete selected saved charts from the chart database; Sort the saved chart names into alphabetical order. **ASTROL95** is entirely menu-driven with on-line help.

PROCON FORTUNE ver 2.0 (2702)

PROCON FORTUNE is an astrology and numerology program that provides a personality analysis and compatibility reading based on both Western and Eastern Astrology. Also uses your name and birthdate to provide a personality reading based on numerology.

THE ELECTRONIC ALMANAC (2700) ~NEW

This menu-driven powerhouse gives you access to hundreds of traditional almanac features with the press of a key. Once you enter the details date and place, **THE ELECTRONIC ALMANAC** uses the Moon and planets to put a wealth of information at your fingertips. You select a major category and the almanac will show you a series of optimum dates in easy-to-read calendar format. Find out the best times to start and end things in areas such as Farm and Garden, Legal, Personal Relationships, Medical, etc. Other features include: Today's astrology reading including astrological chart wheel; Action graphs covering the current hour, next 24 hours, 7 and 30 day forecasts; Astrological answers to questions; Oracles including I-Ching and Tarot Card readings; Lucky Lotto numbers for the day; Astronomy tables; Hunting and fishing tables; Metric conversion tables; and much more. Results are displayed on screen and can be printed out. This fascinating system is put out by Matrix Software which provides professional astrologers around the world with astrological systems and time-series software.

SPACE SHUTTLE MISSION TRACKER ver 8919 (2703) ~NEW

This is a real time orbital tracking and display program for use during Space Shuttle missions or for simulating a mission. It displays the approximate orbital position and track on a global map during a typical mission. **STSORBIT** attempts to duplicate the wall map in NASA's Mission Control Center in Houston. The program map shows most of the Earth's land boundaries and continental areas, and major oceans are easily recognizable. At any time, the display shows the Space Shuttle as a small symbol moving in orbit, the projected orbit for approximately the next three orbits, and the orbit track for the past orbit. Orbital parameters can be input for future missions. **STSORBIT** works best in color with EGA or VGA monitors, but will work with CGA.

GEOGRAPHY and MAPPING

WORLD ver 2.93 (2600)

A stunning, feature-packed world map program that is easy to use. Select from a menu a particular view of the world according to longitude/latitude, national capitals, world area, etc. **WORLD** draws the globe on your screen according to your specifications. Here's where the fun starts. You can use your cursor keys to position an on-screen arrow and zoom in on any part of the map to see increasingly detailed views (cities with their names become recognizable). Find cities, calculate distances, locate state and national capitals, track hurricanes, and much more. This is a superb educational tool. One of our most requested programs. Requires CGA or EGA.

MICRO WORLD DATA BANK II (2608-2612) 5 disks

World Data Bank II, which was designed for use on large mainframe computers, is a digital map data base of the entire world. It was produced by the CIA and distributed by the US Dept. of Commerce for \$660. **MICRO WORLD DATA BANK II** is the version of this program designed for use on personal computers. It generates a map of the world, or any portion of it, on your monitor, showing coastal boundaries, state and country borders, rivers, islands, and lakes. The maps are much more detailed than any other similar program we've seen, although it does not display names of cities, states, etc. as does **WORLD** (TSL Disk # 2600). If you have a hard disk, simple instructions enable you to create a 1.07 megabyte data file that offers you unprecedented boundary, river, etc. detail. Requires CGA or EGA.

STORM ver 4.01 (2704) ~NEW

STORM tracks hurricanes and will provide a warning if the storm is within 100 miles of a user specified city. Selected storms are displayed on a color map which plots the storm's advance and shows the name and position of any city you specify. An edit feature allows you to input data on a new storm and print out a list of the storm's location by date and time. Storms can be plotted on a map to your monitor or printed on Epson dot-matrix and compatible printers or HP Plotters. CGA monitors display maps in 4 colors, and EGA monitors display in 16 colors with 640x350 resolution. Requires CGA or EGA..

GENEALOGY

FAMILY TIES ver 1.17 (2802)

FAMILY TIES is one of the best genealogy program we ever tested. The Latter Day Saints (Mormons) agree because they approved it for the submission of data. This system has an excellent, flexible user interface which makes it easy to deal with an otherwise complicated subject. You have the option of making reports in LDS or standard formats.

BROTHER'S KEEPER ver 4.3 (2803,2804) 2 disks

BROTHER'S KEEPER is a full genealogy program which helps you organize your family tree information. You can record names, dates, and other information, and print descendant charts with relationships, ancestor charts, group sheets, tree charts, alphabetical lists, and customized reports. Notes can be attached to records, and you can locate people in the file by typing their name instead of having to remember an assigned number. Prints charts sideways on Epson-compatible graphics printers. Handles up to 15,000 names. Requires 384K of RAM.

FAMILY TREE ver 6.2 (2805) ~NEW

This easy to learn and use program creates unique family history books to share with friends and relatives. **FAMILY TREE** records, collates, and sorts information on over 32,000 family members with unlimited children, and allows you to include 9-page biographies. Features include: Four generation ancestor and descendant charts; A family time line; Missing information audits; and much more. You can easily customize books for each family member in a variety of formats: Entire family; Family subgroups; Based on a single individual; or sorted chronologically or alphabetically. A time line shows important dates in chronological order, and an index locates references to each person. Great for family reunions, holidays -- ANYTIME! (Wait a minute! 32,000 family members? Is this program for people or rabbits?)

CREATIVITY and INSPIRATION

CREATIVITY PACKAGE (3000,3001,3002) 3 disks

Helps you release and expand your creativity by providing you with unique and versatile tools. Includes an on-disk book, "Think Thunder and Unleash Your Creativity," which guides you through an understanding of what creativity is and how you can awaken and use your own innate talents. Phase two is called "Thunder Thought." This is computer-aided brainstorming at its best. It helps set in motion the first stages of the creativity process, helping you develop unique combinations of images and ideas. You then work with the computer in a fun and interesting way to develop meaning from these elements of creativity. The final component of this wonderful system, called "Versifier," combines words and phrases into simple poetic grammatical structure. You'll experience ideas emerging you never knew existed. And, no, a background in English grammar is not required to fully benefit from this well thought out system.

IDEA TREE ver 010102 (3003)

IDEA TREE is a unique thinking tool and information manager that gives you total control over the examination and expansion of your thoughts on any subject. Ideas are typed into a graphic display that allows you to see their relationships to each other as branches of a tree. Each idea can have sub-ideas (or branches), and a branch can be moved or copied from place to place, free to tree, and file to file. You can change the shape of the whole or any of the tree's parts as fast as you can think. **IDEA TREE's** uses for home and business are limited only by your imagination: Organize a wedding or party down to the last detail; Manage the design and construction of a new room on a house; Record business prospects by product breakdown with addresses, phone numbers, and commentary; Make an organization chart documented with job descriptions and personnel assignments; Create a fully detailed business function analysis; Etc. This powerful brainstorming tool includes printing functions.

WISDOM OF THE AGES ver 2.0 (1216-1218) 3 disks

This elegant program puts at your fingertips more than 6,500 quotations, thoughts, and proverbs from over 1,000 of humanity's greatest minds. **WISDOM OF THE AGES** covers 81 subjects with an average of 81 quotes per subject. Quotes are arranged chronologically by the source's date of birth. Sparkling gems and pearls of wisdom will help to illuminate your life and help you to inspire others. Select from the menus quotes on anger, love, patience, virtue, cunning, success, and much more. Easy to use with context-sensitive help screens and a superb user interface. Requires 2 floppy drives or a hard disk.

POETRY GENERATOR ver 1.0 (3004)

POETRY GENERATOR easily creates poetry with the aid of a 20,000 word vocabulary, thousands of pre-defined phrases, a number of different formats, etc. The program combines these various elements randomly to produce literally thousands of unique and original poems, each being 4 to 12 lines long.

The poems are sometimes brilliant and sometimes make no sense at all. But that's part of the fun of it; you never know when a true masterpiece will emerge. At the very least, the poems produced will give you food for thought, and will most certainly spark your own creativity. Requires a hard disk.

COMMERCIAL PROGRAMS

VPToolbox ver. 3.0 (CC-001)

Personal Publishing Magazine said, "VPToolbox is an endlessly useful program... It may well be the single most important Ventura Publisher utility program now available." If you use Ventura Publisher, you know that file management is a serious problem. VPToolbox is the solution. This indispensable program offers:

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STYLE SHEETS: View style sheets or print descriptions of every tag for permanent documentation. See all chapters using a selected style sheet. Copy and delete tags, compare style sheets, see actual tag usage and print samples, and more.

Publish Magazine gave VPToolbox a "BEST BUY" 5 Star Rating. This great program has saved our TSL DTP staff so much time and tears that we just had to offer it to all of our customers who use Ventura. Compatible with any version of Ventura. Retail price - \$99.00 Our price - \$67.00

BOOKS

EASY DOS IT! Price \$5.00

Let's face it folks! If you're new to computers, the DOS manual reads like a mystery novel. What you need is serious help - in easy-to-understand plain English. **EASY DOS IT!** is for any new user who wants computer power, doesn't want to learn computer technology, and "runs into DOS!" This book covers the essential DOS commands to get you up and running quickly and painlessly. Each chapter progressively explains what you need to know in simple language and with clear examples. In a single day - at your own pace - you can learn all the commands necessary to run a floppy disk computer. We have reviewed many books for the new user, and the **EASY DOS IT!** - **HARD DOS IT!** series are most guaranteed to put the new user quickly in control. They are used today in many educational institutions.

HARD DOS IT! Price \$5.00

If you want to get started using a hard disk the easy way, this book is for you. Before you botch up your hard disk by copying several hundred files into your root directory, get your hands on this second book from the **EASY WAY PRESS**. **HARD DOS IT!** will hand carry you through the essential commands necessary for hard disk use. It will quickly and simply unravel the mysteries of directories and subdirectories, batch files, back up, and more. If you're new to computing and have a hard disk, make **EASY DOS IT!** (above) your first personal tutor. Then continue your lessons with **HARD DOS IT!**

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PRODUCT

GRAPHIC IMPROVEMENTS MAKE LOTUS'S NEW DESKMATE SPREADSHEET EASIER THAN 1-2-3

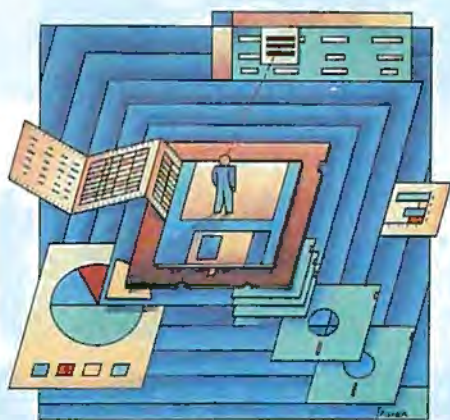
COMPUTE! CHOICE

LISA WRUBLE

As software companies compete for the top position in the spreadsheet market, their programs become more and more elaborate, adding features such as graphic interfaces, 3-D work sheets, and mouse support. Unfortunately, these updated spreadsheets also require ever more memory and system power. If hardware requirements don't take you out of the running for one of these new spreadsheets, the \$495-and-up cost might.

Lotus Development has a spreadsheet solution that doesn't require taking out a second mortgage on your

Lotus Spreadsheet for DeskMate



Lotus Spreadsheet for DeskMate • Tandy PC or PC Compatible • DOS • Disk Size 9.25" and 3.5"

home just to buy the software and a three-megabyte 386 machine to run it on. *Lotus Spreadsheet for DeskMate (Lotus/DM)* is a powerful, low-cost graphics-based spreadsheet. Retailing for only \$219.95, the program is based on *Lotus 1-2-3* version 2.01 and runs under the Tandy *DeskMate* graphical user interface. Best of all, it runs comfortably on an XT-class machine with only 512K of memory.

Lotus/DM retains the familiar feel of *Lotus 1-2-3* release 2.01, but it boasts a new look by taking advantage of *DeskMate*'s graphic display and adding pull-down

menus, mouse and joystick control, and color graphics. Although *Lotus/DM* doesn't support expanded memory, add-in programs, or macros, the *DeskMate* interface adds features unavailable in the more expensive versions of *1-2-3*.

For example, the *DeskMate Accessories* menu lets you access other programs without exiting *Lotus/DM*, and it lets you run *DeskMate* utilities such as the *Calendar* or *Calculator*. Also, the program supports the *Clipboard* for merging information into other *DeskMate* applications. And, unlike in *1-2-3*, you don't have to exit the program to run the *PrintGraph* and *Translate* utilities.

Since I'm accustomed to using

DM



1-2-3, the pull-down menus took some getting used to. In the end, though, the menus are definitely an advantage.

Lotus/DM's main menu has six items: File, Edit, Worksheet, Range, Graph, and Data. These are comparable to the ten "slash menu" items available in 1-2-3. The main-menu options in *Lotus/DM* are always visible, and you can make selections with a mouse, a joystick, or the function keys. Keyboard shortcuts for many menu options are available using *Lotus/DM's* Quick Keys feature. The program includes over 30 preprogrammed Quick Keys, which are similar to macros except that they can't be changed. These shortcuts are accessed by pressing a command key in conjunction with a second key.

For example, you can use a Quick Key to change the width of a column. Control-W displays a dialog box into which you enter the new column width. Without the Quick Key shortcut, you'd have to use the mouse to select the Worksheet menu and then the Column Width option, or you'd have to press F4, move the highlight bar to Column Width, and press Enter to bring up the dialog box. You'll find that Quick Keys can save

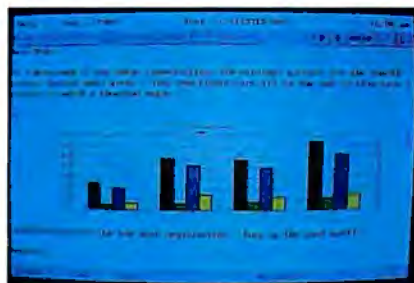
you many keystrokes or mouse actions. All of the keys are listed on a handy reference card. The flexibility of using either the keyboard commands, Quick Keys, or mouse actions is preferable to the keyboard-only control of 1-2-3.

The Quick Keys are as close to a macro capability as *Lotus/DM* gets. If you're an avid macro user, you should take this into account, as well as the few other features that didn't make it into this version. For example, you can't split the screen into two work sheets. Also, *Lotus/DM* won't let you set the printer paper to the top of the page or advance it one line or one page.

On the other hand, working with graphs is much easier in *Lotus/DM* than it is in 1-2-3. For example, to add titles and a description to a graph, you simply select the titles option from the Graph menu. With 1-2-3, you would have to select /Graph, then Option, and then Titles—three keystrokes—to perform the same action. The biggest *Lotus/DM* advantage is the ability to use the mouse to select graph ranges. Also, you can execute the Graph Name and Graph View commands using Quick Keys.

Graphs (but not work sheets) can be printed in landscape (sideways) mode, and the PrintGraph utility allows hatching and selecting different typefaces to enhance graphics. You can have titles in Gothic, Modern, and Roman typefaces, and these can be normal text, bold, underlined, or italic.

Because most of my spreadsheet work deals with databases, I rarely need to print my work sheet sideways. *Lotus/DM* doesn't support sideways printing, but there is a way to get around this limitation if your print jobs demand landscape format. You can copy a work sheet to the *DeskMate* Clipboard and paste it into another program that supports landscape printing, such as the Worksheet program included with *DeskMate*. This, however, is a lot of trouble to go through just to print a spreadsheet sideways. Unfortunately, although a *DeskMate* spreadsheet can be imported into *Lotus/DM*, a *Lotus/DM* spreadsheet can't be saved in a format



You can paste graphs or other information into *DeskMate's* word processor.

that can be loaded directly into the *DeskMate* Worksheet.

Lotus/DM loads and saves files with a .WK1 extension, so it can open files from *1-2-3* releases 2.01 and 2.2 and *Symphony* releases 1.1, 1.2, and 2. The translate utility will convert .WKS files from *Lotus 1-2-3* release 1A and the *DeskMate* spreadsheet to .WK1 format, but it won't convert .WK1 files to .WKS format.

A program as complex as a spreadsheet needs a good manual, no matter how intuitive the user interface. The user manual is clear enough so it can be learned quickly by someone new to spreadsheets. And with the quick-reference card, experienced users will be investigating advanced features in no time. *Lotus/DM's* manual is divided into three sections: setup, lessons, and reference.

The lessons section walks you through a spreadsheet (a sample income statement), showing you how to use graphs and set up a database. I found these tutorials very easy to understand. With this manual, even someone new to spreadsheets would have no trouble learning to use *Lotus/DM* or understanding the workings of spreadsheets in general. My only complaint with the manual is that it's too repetitive. When the third chapter on databases oversimplifies the same terminology that was already explained in the first tutorial, it's a bit irritating, even for beginners.

The reference section is a resource for the experienced spreadsheet user. It begins with a brief chapter covering the layout and options of the *DeskMate* interface and *Lotus/DM's* menus and dialog boxes. The remaining chapters cover specific commands individually.

The longest chapter covers the @ functions, *Lotus/DM's* preprogrammed math and database formulas. A separate section is devoted to each of the approximately 90 @ functions. Browsing through this well-written chapter, I reached a better understanding of the @ functions I've used for years.

The manual also includes several appendices, one of which contains a table of the *1-2-3* commands and the equivalent *Lotus/DM* commands. This table will be a big help for *1-2-3* users making the transition to *Lotus/DM*.

Beginning spreadsheet users will appreciate the five useful work sheet templates included with *Lotus/DM*. The Home-Buying Power Analysis helps you determine how expensive a house you can afford. Using the pre-

programmed formulas, you can change information such as loan interest rates to see how it affects your purchasing power.

The Business Days Calculator helps with project management by determining how many days to schedule a project from start to finish, and the Employee Payroll Summary calculates paycheck deductions. The Accounts Receivable Journal evaluates the age of an account. Each time information is added to the database, any unpaid balance is added to the total. Finally, the Lease/Purchase Cost Comparison helps determine whether it's more efficient to lease or buy an item. You can customize all of these templates to fit your own needs.

For the price, I couldn't ask for more in a spreadsheet program. *Lotus/DM* has many of the advantages of the big-name spreadsheets. The biggest advantage is the *DeskMate* interface. If you already use *DeskMate*, the common user interface and screen layout will make learning *Lotus/DM* easy, even if you've never used a spreadsheet before. For my needs, the extras that are missing, such as macros and add-in utilities,



The *DeskMate* interface makes performing even complex operations easy.

aren't worth the extra \$275. You should consider your own spreadsheet needs as a gauge to this program's worthiness. It may contain all the power you need, or you may need the muscle of a spreadsheet like *Lotus 1-2-3* release 3 or *Microsoft Excel*. For personal and small-business use, *Lotus Spreadsheet for DeskMate* packs a lot of power into an easy-to-learn graphics format at a reasonable price. And that makes it a worthy contender in the number-crunching ring.

Lotus Spreadsheet for DeskMate

IBM PC and compatibles with 512K, DOS 3.2 or higher, and *DeskMate* version 3.0 or above—\$219.95

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D A V I D D . T H O R N B U R G

Every astronaut who has peered at our beautiful planet from space has commented on the absence of visible borders. Seen from above, there is little to show where one country starts and another begins. One senses, from such a perspective, that whatever our backgrounds and beliefs, we are part of one humanity. Furthermore, we sense that our mutual cooperation is essential for our very survival.

Last year, prior to the opening of East German borders and other major events, a research project called Apple Global Education (AGE) was bringing students and teachers from over 22 countries into daily communication with each other through Macintosh computers connected to AppleLink. AppleLink is an Apple-proprietary network running through General Electric Information Service nodes and a mainframe computer system.

A brief scan of the daily message traffic shows the wide scope of this project, even though it is still evolving. Electronic pen pals communicate with each other while teachers collaborate on lessons. Communication takes place through text, scanned and mouse-drawn pictures, and *HyperCard* stacks.

Globally recognized events such as the California earthquake and the opening of the Berlin Wall were announced to the AGE world through first-hand accounts of children in or near the affected areas. This student's-eye view of history in the making has far greater impact than the summaries one finds in the daily papers.

I was struck by the similar concerns expressed by children worldwide. Global peace is very high on the list, and one senses that, through open communication, cross-cultural understanding and the development of international friendships, this is an attainable goal. In addition to topics of grand scope, students are also interested in more mundane subjects—for

example, how strict parents are in different countries.

Students are collecting information from their peers that will be assembled into newsletters and books for broader distribution. As of this writing, these projects included a collection of folk tales and legends and a collection of cookie recipes, among other things. In light of the distinctly nonacademic nature of some of the discourse on AGE, skeptics might wonder where the educational value lies in this activity.

The educational merits are boundless. For over 100 years we've viewed the formal educational process as an activity that takes place in the confines of a closed classroom. The isolation of the traditional schoolroom from the rest of humanity is so complete that most classrooms don't even have telephones. Teachers in this restrictive environment can become the only windows through which students learn about the world. This highly artificial situation denies the value of direct experience and is, at some level, as abusive as raising veal calves in a restricted pen where they can hardly move. To my knowledge, mental institutions and prisons

are the only other environments that are as restrictive in their access to the outer world.

Once students reach the outside world from within their own classroom, education changes. Students have greater opportunity to become self-directed learners—to realize that they can learn as much by asking as by answering questions. Teachers in this environment can become facilitators of the learning process, not just purveyors of knowledge that is spoon-fed to students. Also, because the wardens have been as imprisoned as the inmates, teachers are finding enormous benefit from the freedom to communicate with their peers across the world. One result of this is the obvious engagement one senses in the messages being sent. Whether the communication centers on a globally communicated problem or on any other topic, AGE participants are profoundly aware of their participation in a world beyond the confines of the classroom.

The real world contacted through the computer keyboard becomes an infinite field trip. Want to know the weather on Baffin Island? Send a message to the students there. Want to practice your French, German, Spanish, or another language? Use it to send messages to students living in countries where these languages are spoken. Curious about the Austrian perspective on the opening of the Berlin Wall? Ask a student living in Vienna.

AGE creator Dr. Martin Engel likens this project to the vast oceans in which the great whales sing to each other over great distances. He sees the global classroom as one continuous echo chamber binding all continents, where the songs of every student rebound to every other student.

If we, as adults, can learn from our children, there is no question that computer-based projects like this can bind humanity to its greatest challenge—the stewardship of this fragile blue ball that we earthlings call home. □

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MAIL-ORDER SMART

PHILIP CHIEN

BUYING BY MAIL OFFERS SEVERAL ADVANTAGES AND POSES SOME UNIQUE PROBLEMS. EDUCATE YOURSELF WITH THIS GUIDE AND BECOME

DO NOT BEND

Buying computer components by mail is pretty routine these days, but it's not foolproof. Even with the best mail-order companies, you can run up against unexpected problems. You can avoid a lot of headaches by making sure you place your orders properly. To help you with this, The Direct Marketing Association (a group of large mail-order firms) and the Federal Trade Commission have developed several tips and guidelines for consumers shopping by mail.

Happy Returns

Before you order, be sure you understand the company's return policy. Read the firm's ad carefully and make sure everything is spelled out in detail. Check the fine print; if you have questions, be sure to ask them. By law, a company must provide, upon request, a written statement about its warranty policies.

When you receive most equipment, it usually includes a warranty card which the manufacturer encourages you to fill in and return immediately. Don't do it! A filled-in warranty card technically makes your equipment used—and unreturnable. The only legitimate reason for requiring a warranty card is to register your unit for warranty repairs. Legally, a dated sales receipt with the product's name and serial number (if applicable) will serve as proof of purchase. So put that warranty card aside until after you have used your merchandise a couple of months and are sure it works right.

The Bottom Line

You should always check to see if warranties, shipping, handling, and insurance costs are included in the quoted price. Find out if the advertised price includes a rebate that you get as a refund or credit for a future purchase. If the company has an office in your state, you may have to pay sales tax, but out-of-state orders are usually tax-free.

Make sure that the advertised price is the current price. In principle, the company should sell you the product for the price listed in the ad; however, this isn't always possible in the computer industry. Three years ago, dynamic RAM prices were dropping on a weekly basis, and companies had to guess what price to place in ads that had to be submitted several months ahead of time. The situation then reversed, with high demand, tariffs, and embargoes on foreign chips all forcing chip prices up. Because of market forces, the price in an ad may have little in common with the actual selling price. You have to keep an eye on the market.

When a company quotes a price, it should honor that quote, even if the price changes after you've placed your order. Many companies play it safe by not placing a price in the ad; instead, they'll ask you to call for the latest prices. The figure "\$CALL" in an ad doesn't tell you anything until you pick up the phone. When you make the call, be sure that the price you're quoted on the phone is a fixed price, and not another "subject to change" price.

What's in Store

Quick mail-order service depends on the availability of products. Always check to see if what you want to order is in stock and how long it will take for your order to go out. A company that doesn't state a shipping date must ship your order within 30 days. Some companies play it safe by quoting a six- to eight-week shipment time, even if their orders normally go out sooner.

Be wary of a company that has shown a product prototype at trade shows but claims the new system is out of stock. Commonly, a company like this will be glad to take your money while giving you excuses about a shortage of raw components, labor problems, how a hurricane or earthquake stopped production, and so on. Meanwhile, the company keeps your money in its bank account. If you run into a problem like this, get a refund quick—before the company goes out of business. ▽

Timing Is Everything

If your prepaid order doesn't arrive when promised, you can cancel the order and get a full refund, according to the FTC. You should also be aware of partial shipments. If you order several components from a company and some of the parts are out of stock, the company may ship you only those parts it has on hand. Company policies on partial shipments vary. You may receive a refund check for the out-of-stock items, you may receive the out-of-stock items prepaid later, you may have to pay to cover shipping charges for the out-of-stock items, or you may have to re-order the items on a separate invoice. If you do get partial shipments that arrive separately, each may carry its own shipping and handling charges. That might make that \$2 adapter closer to \$10 when all of the shipping and handling charges are added.

On the Record

Always keep a record of your order, including the company's name, address, and phone number as well as information about the item purchased, when you placed the order, and the name of the salesperson to whom you spoke. Save your canceled check, a copy of your money order, or your credit card receipts. If you order by credit card, check your monthly statement and compare it with what you expected to pay. If the order doesn't arrive after a reasonable period of time (two weeks for a phone order, four weeks for a mail order) then give the company a call and find out the status of your order.

Don't Send Cash

Never send cash through the mail; always use a check or money order. Most mail-order companies accept credit cards; however, special credit rules may apply. Many companies give discounts for a check or money order over a credit card because they have to pay a fee for the convenience of offering credit purchases. If you pay with a personal check, you can expect a delay—some-

times as long as two weeks—while the company waits for your check to clear. If you can't wait that long, use a postal money order or certified check. If you don't want to shell out money in advance, you could purchase a product on C.O.D. (Collect On Delivery) terms. United Parcel Service charges only an extra \$1.90 as a C.O.D. charge; however, many mail-order companies will tack on more charges to cover extra paperwork and processing. Depending on the company's policy, it may require that you pay for the C.O.D. shipment with a certified check or cash if you don't have a credit record on file.

Damage Control

Whenever you order products by mail, you should check them for damage immediately upon receipt. First, check the cartons. If they're broken, crushed, or obviously distressed, either refuse the shipment as damaged or get the delivery person to sign a statement noting that you received the package damaged. If you accept a damaged carton, you may have problems getting parts repaired.

Before you open any components, check out the boxes carefully. Do they have the original factory seals in place, or are there a couple of layers of packing tape over the broken factory seals? The mail-order company may have opened the box to check it out for you, or the unit may be a return from another customer. It may even be a unit that was used in-house for several months and then cleaned up and packaged for sale as "new," or it could possibly be a unit from which a part was taken (such as a manual, ribbon, or warranty card) for another customer. Mail-order companies are under no legal obligation to state that you're buying used equipment, but if you do receive used equipment as new, then you should register a complaint.

Inspect your purchase as soon as possible. If something is damaged, missing, or wrong with your shipment, then call the company immediately. If you find out that a product is dead on ar-

The Refund Bill of Rights

Rules established by the Federal Trade Commission give you certain rights as a customer of mail-order businesses. The rules apply to any company that uses the U.S. Mail or deals in interstate commerce.

- If the company can't meet its promised shipping date, it must send you an *option notice*, which tells you a new shipping date and gives you the option of canceling your order with a full refund or agreeing to the new shipping date. Instructions on how to

cancel your order must be included with the notice, and the seller must provide you with a free reply (for example, a toll-free phone number or a postage-paid reply card or envelope).

If you agree to the new shipping date, but the seller can't meet it, the seller must send you a second option notice. Your order will be canceled automatically unless you sign your consent and return the second notice.

- If you cancel a prepaid order, the seller must mail you a refund within

seven business days. If you cancel a mail-order purchase charged on your credit card, the seller must credit your account within one billing cycle following receipt of your cancellation request.

- The above refund rules apply only to prepaid orders. They don't apply to C.O.D. phone orders or to credit card orders in which your account isn't charged until the order is shipped, or to telephone orders charged to a credit card account.



rival, the company may replace it. If, however, you keep your package sealed until much later, you may have to wait for the company to repair your damaged equipment. In the worse case, the item you bought may be out of warranty by the time you first use it.

Always keep your receipts and warranty statements. If you are required to give a copy of your receipt to prove a purchase, make a photocopy of the receipt and give that out. If you must return the damaged goods, ship them via a registered carrier or, if you ship it via U.S. Mail, get a receipt. Registered carriers can trace a lost package, but you need proof of shipment to track one down.

When returning merchandise for any reason, call the company ahead of time and get instructions. Typically, you'll have explain why you're returning the product. The company will probably give you an RMA (Return Materials Authorization) number that you must put on the package. The company may ask you to return the merchandise to a warehouse at a different address from the sales office, or it may give you a street address for UPS shipments. Don't forget to include a letter with the shipment explaining why you are returning the products, along with your return address and phone number.

You should try to ship merchandise in its original carton, because many companies won't honor warranty claims if the product is damaged in shipment because of a substandard container. Some shippers, including UPS, won't insure computers in anything other than original packaging unless you double-box your shipment. For large items like printers and computers, tie down any moving parts and insert disk drive protectors whenever possible.

Normally, a shipping company will include nominal insurance with its cost. Don't assume that an overnight carrier will automatically insure a package for its value simply because you are paying overnight door-to-door delivery charges—what you're paying for is convenience, not insurance. Most shipping companies charge about \$1 to insure \$100 of merchandise, but be sure to check with the shipper.

Lost in Space

If your order is lost in transit, then the party that shipped the product (the mail-order company for originals, you for returns) should contact the shipping company and request a trace. Most shippers don't consider a package lost until it's been missing for a week. The shipping company should attempt to produce a signature on a receipt that indicates that the package was safely received. If the package has been lost, the shipping company will pay an insurance claim or the automatic token insurance amount included in the shipping fee. With uninsured packages, the sender is usually responsible for replacing the package. Some companies will automatically replace lost packages as a courtesy even if they're uninsured, especially if they're relatively inexpensive items. But be aware that many companies won't replace uninsured lost packages.

Who Ya Gonna Call?

FRAGILE

If you have a problem with a mail-order firm, a phone call will usually clear things up. Write down the date you call and the name of the service representative you talk to. If necessary, send the company a polite letter explaining the problem. Include photocopies of your invoices, canceled check or credit card statement, and any other documentation that will help solve your problems. Keep a copy of the letter and all original receipts.

If you can't come to an understanding or agreement with the company, you can write to several organizations for assistance. These include The Direct Mail Marketing Association (Mail Order Action Line, 6 East 43rd Street, New York, New York 10017), your local postmaster (call your post office and ask for the appropriate *inspector in charge* for your region), state and local consumer-protection offices, and your local Better Business Bureau.

Shop Smart

Shopping by mail isn't a black art. The rules that govern how mail-order businesses function are for the protection of both the seller and the buyer and are not a matter of hearsay or rumor. But you can't protect yourself if you don't know the rules. Before you buy, make sure you know how to play the game. □

Philip Chien is a Titusville, Florida, computer writer with more than 12 years of experience with personal computers and mail-order shopping.

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PC PRIMER

H I N T S A N D T I P S F R O M O U R R E A D E R S

Earlier this year I found several video titler programs on local bulletin board systems, but they all required that my computer have a composite color output so I could connect it to a VCR. Everything I read indicated I would need about \$500 worth of additional hardware to do this with my system.

Since I wanted this ability just for fun, I put the project on the back burner until I saw an ad for a "Color Graphics RGB, Composite, Light Pen" card for \$49. It turns out some CGA graphics cards also have a composite video port. I ordered this card, installed it, and connected the composite output to my VCR. Voilà! Computer-generated color video titles could now be recorded through my VCR, and my monochrome and RGB outputs still worked, too.

A CGA card with a composite output port is a great way to do low-cost video tiling.
*Donald R. Gray
Hudson, OH*

Mouse Calls

DOS versions 3.2 and earlier have a potentially computer-crashing omission that you can fix yourself. IBM PCs and compatibles have, in low memory, what's called an interrupt vector table. It's just a list of where the code is for various memory-resident functions. It's a good system, without which the many terminate-and-stay-resident programs that PC owners love wouldn't function. If, for example, your program wants to see where the mouse is, it jumps to the code that locations 204-207 point to and does its thing.

The problem is that the early versions of DOS place a 0 in a slot in the interrupt vector table if there's no corresponding code (like a mouse driver) for an interrupt. If you're using an early version of DOS without a mouse driver installed and your program calls interrupt 33h (the mouse-handling in-

terrupt), the processor thinks that it's supposed to jump to the code at location 0. I don't know what's there at location 0, but I do know that jumping there locks up the computer. Later versions of DOS fill in all unused vector slots with the address of a dummy routine that does nothing but return. (It's just an IRET for you technical types.)

To fix the early versions of DOS and prevent a crash when a program tries to look for a nonexistent mouse, you can fill in the mouse vector slot



just as later versions of DOS do. You'll need to use DEBUG, a program included on your DOS disks. From the DOS prompt, type the following boldface text:

```
A>DEBUG PATCH.COM
File not found
-E 100 2B C0 8E C0 BE 06 04 B0
-E 108 CF 26 88 04 BE CC 00 26
-E 110 8B 04 26 8B 5C 02 0B C3
-E 118 3D 00 00 75 0C B8 06 04
-E 120 26 89 04 2B C0 26 89 44
-E 128 02 B8 00 4C CD 21 0C FF
-E 130 76 0A E8 5C FF 89 46 F6
-E 138 8B 46 08 3B 06 BB 0E 75
-E 140 05 B8 01 00 EB 02
-RCX
CX 0000
: 46
-W
Writing 0046 bytes
-Q
```

It would be a good idea to put the program PATCH.COM in the root directory of your boot disk and to add a line to your AUTOEXEC.BAT file that automatically runs it when booting. It isn't a memory-resident program, so it won't take up any RAM once you've run it.

*Richard C. Leinecker
Reidsville, NC*

Super Sorting

James A. McKnight's suggestion in the December "PC Primer" for sorting databases on one field has a minor glitch. His suggested technique, listing dates in the format 082487, 082488, and 082489, puts the entries for different years together in the list. If this were changed from a month-date-year sequence to year-month-date, the glitch wouldn't happen.

Placing the year first takes a little getting used to, but, doing it that way, 870824 would be followed by 870825, then 870826, and so on. Use two digits to represent the year for dates that fall within a single century.

If you're sorting dates covering less than 1000 but more than 100 years, use three digits for the year. For January 31, 1988, use 9880131; for January 31, 1688, use 6880131.

Of course, as we approach the year 2000, you might want to prepare for dates extending over millenia. In this case, use four digits: January 31, 1989 would be 19890131, while January 31, 2001 would be 20010131.

The YYMMDD format works for any list containing A.D. dates. If working with both A.D. and B.C. dates, use plus (+) and minus (-) signs to differentiate them.

*Leon F. McClellan
San Antonio, TX*

Do you have advice that makes a PC more productive? If so, we'd like to hear from you. Send your tip, no matter how brief, to COMPUTE! Feedback—PC Primer, P.O. Box 5406, Greensboro, North Carolina 27403. If we publish your suggestion, we'll send you a gift. □

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light. Under the third door, a bright yellow, almost white, light shows.

Luckily, these kids have a microcomputer at home, and they have learned to deduce the answers from information that they have gathered. They have developed a knack for problem solving, a skill that most educational software doesn't really address.

So where did our heroes learn this skill? They've been playing a game called *Super Solvers Midnight Rescue!* from The Learning Company.

Problem solving is one of the hardest skills to teach, and, arguably, it's best left to human instructors. However, *Super Solvers Midnight Rescue!* squelches that argument soundly.

Among its many strengths, the program has a wonderful plot that

will appeal to even the most reluctant readers. As the story goes, the town of Shady Glen has been plagued by a practical joker named Morty Maxwell (a.k.a. the Master of Mischief). The only people who can stop Morty are the children who make up the Super Solvers Club. Your kids become members when they boot the program.

Morty's latest trick threatens the very existence of Shady Glen's school. He has invented invisible paint, and he plans to erase the school with his dastardly creation. To help him in his evil quest, Morty has transformed five paintbrushes into robots, and he has hidden himself in one of them.

Guiding an engaging little character through the school halls, your chil-

our kids have a problem. They're standing in front of three closed doors. Behind one is a grouchy tiger with a particular yen for sugar-frosted children. Behind another is a hungry giant, and, fee-fi-fo-fum, he smells the blood of some little ones. Only one door opens to an escape into the world outside.

The kids know this much: The tiger lives on a warm, shadeless plain in Africa. The giant lives in a blazing hot forge. Outside, it's raining.

Under the first door, the kids see a flickering orange glow. Under the second door, they see a faint gray

G

children collect clues and evidence. Using this information, they figure out which robot is actually Morty. If they do this before midnight, they save the school from destruction. Assuming you can talk your kids into saving a school (wouldn't it be more fun to lose the school and get a few days off to play?), the plot overflows with motivation.

Your children gather clues by reading notes that Morty has deposited all over the school. They collect evidence by taking pictures of the robots. The robots, in turn, attack the character through collisions, water squirters, marbles, banana peels, and other dangerous obstacles. Snapping pictures is the character's best defense against the robots' attacks, but they have a limited amount of film. To get more film, the kids must find a film dispenser in the school. The number of pictures they can take depends on the number of questions they've answered correctly. The pictures show items on the robots, and the clues tell you what items Morty is carrying. Through a process of deduction, children discover which robot is Morty by which objects each robot is carrying.

Morty's notes are reading selections—diary entries, letters, newspaper accounts, posters, and passages from literature. The original pieces are



entertaining and amusing. They tell stories about Morty's exploits from his point of view and from his victims' points of view. The excerpts from children's literature are also good. They include some of my favorites, such as *Mary Poppins Opens the Door*, *The Travels of Doctor Doolittle*, and *The Mushroom Planet*. If this program can entice kids to read these books, that's another advantage.

Within these reading selections, the program includes definitions for hard words. Players activate the hard-words feature, and it tells them what some of the tougher words mean and how to pronounce them.

At the end of each reading, children answer a multiple-choice question. Each question is similar to the reading-comprehension questions on many standardized tests. Some ask the player to remember an object mentioned in the selection; others ask for the best story title. For each correct answer, children earn points—more points if they answer the ques-

tion on the first try. There's no penalty for paging back through the selection for the answer. If the players miss on the first try, the program gives them a second chance. If they miss on the second try, the program moves the clue to a new spot. Throughout the reading and testing process, the clock stops; speed reading isn't rewarded.

As in conventional reading-comprehension tests, some kids will figure out a way to get the answer without reading the whole selection. Also, some selections are repeated several times during the game. Some children will use this to their advantage. They'll remember the story, so they can skim through it until they get to the question. An even more subtle way to get around the reading is to figure out which answers might actually be clues. If only one answer is an item that one of the robots could be carrying, then it's the right answer.

At first, I thought this was a weakness. However, I talked to one of our educational-computing experts, Leslie Eiser, and she said that these kinds of strategies were other ways to



Photography is your best defense against Morty's mischievous robots.

solve a problem. The program teaches kids to find the answers in the best ways they can. There's nothing wrong with taking a creative, unconventional approach, as long as it works consistently.

While gathering clues in this game requires careful reading and analysis, gathering evidence requires quick reflexes. The clock ticks away toward midnight as the kids explore the school's hallways. Whenever a robot rolls up to do battle, the player must hit the space bar to take a picture. Your kids can also try to outrun the robot and duck upstairs or into a classroom. The arcade action adds variety to *Super Solvers Midnight Rescue!*, so the game feels more like a contest than a standardized test.

Players score points for taking pictures and for answering questions. When they solve the mystery, they get bonus points for the amount of film they have left, for how much time they have left, and for winning the game. Besides generating bonus points, correct solutions generate pure fury in Morty. The robot dissolves in a puff of smoke, and Morty appears red-faced and wild-haired. He leaps about and throws his fists into the air. When the bonus points rack up, his eyes bulge. Victory was never so sweet! As players earn more points, they advance their ranks in the Super Solvers Club. They don't lose points if they guess wrong, either. They simply try again.

There is one flaw in the arcade portion of the game: It's very difficult to outrun a robot. Make that nearly impossible. Certainly, the game has to offer some challenge in the action sequences, but it must be a surmount-



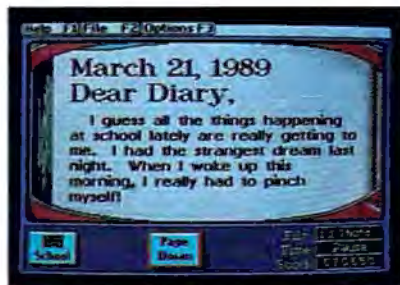
To find Morty, match the clues in your notebook with the items in the pictures.

able challenge. That's particularly important because *Super Solvers Midnight Rescue!* encourages players to save film by outrunning robots when they have enough clues. Because it's so hard to outrun the wily machines, and because you lose a shot each time

the robot beats you anyway, many kids will probably resort to shooting pictures of the robots regardless of how much information they've already collected. The game works at cross purposes here.

Otherwise, though, the game is everything you could hope for. Besides the wonderful plot and the ingenious skill-building exercises, the graphics are some of the best I've seen in any game (entertainment or educational). I played on a VGA system, so, of course, the display was beautiful. In CGA, the cyan color overwhelms the screen, making it harder to see what's going on. On the other hand, the EGA version is almost as good as the VGA, save some lack of vibrance.

Color aside, animation is the key to the program's visual success. The characters move smoothly, each with a different style. One robot strides along on buffing mops like John Wayne walking toward his horse. The main character has this wonderful



Reading passages include diary entries and excerpts from children's classics.

gait, strutting through the halls with a little skip in each step. After bumping into an obstacle, the figure slides across the floor, stars dancing around its head, and then jumps up with more determination than ever. These traits give the character a strong identity.

Interestingly enough, that identity doesn't include a gender or a race. This is the first time I've seen a character whom I could fit into my own image. The face is concealed by a large, floppy hat, and there is no other evidence that the little person is a boy or a girl; black, white, or native American.

Although the graphics are wonderful, the sound is far from exceptional. Music from *The Sorcerer's Apprentice* bleeps and bleeps through the opening screen—a touch of humor since Morty changes paintbrushes into helpers and the legendary apprentice changes brooms into helpers. The whole soundtrack is a collection of

beeps, just like you'd find in any other PC program. If you get tired of the symphony of mononoises, you can turn the sound off at the beginning of the game. You can also turn off just the music, leaving the sound effects to warn players of approaching robots.



Sometimes the magical robots get the upper hand and knock you off your feet.

Even though the sound is only average, everything else about *Super Solvers Midnight Rescue!* recommends that you buy a copy of the program. The manual, for example, is clearly written. Kids who are old enough to play the game are old enough to read the manual for themselves. A shorter version is also perfect for kids who are intimidated by long assignments. Let your children read the short one on their own; then read the longer one with them when they want to know more about the game. The authors have included great tips from Super Solvers Club members, and they have written very well about the process of deduction.

The interface is easy to use and very forgiving. Most kids will be able to figure it out by trial and error. Arrow keys move the character in the arcade sequences and highlight choices in the reading parts. The Return key activates the highlighted selection.

Super Solvers Midnight Rescue! should be highly praised by every educator or parent who runs into the program. It teaches the most important skills your kids will ever have to learn. Time and time again, children face those three doors—not just in classwork, but also on the playground, in the mall, and even at home. This program teaches them *how* to discover which door opens to safety and success.

Super Solvers Midnight Rescue!

IBM PC and compatibles with 512K—\$49.95

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DISCOVERIES

DAVID STANTON

A month ago, I argued that some of the current multimedia hype just might have some substance. This time, we'll look at a few ways that computers can mate with other technologies to produce some handy desktop video productions, teaching and learning aids, and just plain entertaining stuff.

First, though, let's agree on a definition of multimedia. For our purposes, we'll say that it's any project that combines a computer with any other technology. Of course, such projects could involve CD-ROM players and videodiscs, video overlay cards that mix computer graphics with videotaped images, expensive audio-digitizing equipment, and a bunch of other high-tech gadgets that neither you nor I have available at home. But forget all of that for now. Let the academicians bicker over their definitions. Let the computer companies, all of which have much more money than we do, create the sizzle. Our challenge here is to come up with the steak—or, at least, some solid, practical, homemade multimedia hamburger.

One more thing before we start. Don't expect anything stunning here. These are just a few simple ideas that a few teachers and parents have found effective.

Teachers love overhead projectors. Sometimes schools buy ready-made transparencies to teach specific concepts. Sometimes teachers write classroom notes on plastic film to avoid chalkboard problems. Businessmen often highlight their presentations with charts, graphs, and illustrations displayed on overhead projectors. Students are even beginning to do the same thing to enliven their oral presentations. That's not multimedia. However, when you create those overheads with your personal computer, it is.

Chances are that you already have what it takes. A lot of commonly owned software will do. *The Print*

Shop or *Print Magic* can handle uncomplicated art and large-sized text. For more elaborate graphics chores, virtually any paint program will work. *PFS:Graph*, *Alpha-Chart*, and similar programs make it easy to produce pie charts, bar charts, and line graphs. In a pinch, even word processors suffice for simple jobs.

Once you've designed each page, you can produce the final sheets in one of two ways: Print each sheet directly to transparency film using your printer or print on regular paper using black ink, and then photocopy the masters onto transparencies. (Be sure that you buy special plastic film intended for copiers. One adventurous educator I know tried a cheap substitute. The resulting melted plastic caused an awful mess.)

Incidentally, don't ignore the potential of screen dumps. They're great for creating all kinds of useful teaching and learning aids, and they're especially suitable for making overheads that teach about computer operating systems and software applications. For MS-DOS computers, you use the

ENTERTAINING IDEAS FOR INTEGRATED TECHNOLOGY

Graphics command in combination with the Print Screen key. Command-Shift-4 does it on a Macintosh, or for greater flexibility you can try *Camera* (available from user groups or bulletin boards). Commodore 64s/128s, Apple II's, and some other machines require special software to generate screen dumps.

You could also produce an auto-running desktop slide show. Last year, students and teachers in our district developed a simple but effective com-

puter-based slide show to dazzle parents on Meet Your Teacher Night. It drew a large and enthusiastic crowd, and although it did require a bit of extra hardware, it was quite simple and enjoyable.

For starters, we used an Apple IIGs, a videocamera, and Computer-Eyes GS (a video digitizer with software; also available for IBM PC compatibles and most other popular computers) to create digitized photographs of anyone patient enough to stand or sit perfectly still for the required 12-second scanning time. For those who were too busy to cooperate, we digitized candid photos with ThunderScan, a relatively inexpensive graphics scanner for Macs and Apples with ImageWriter printers. Both products produce standard Apple IIGs graphics files, and it was a simple matter to arrange them in an appropriate order on one 3½-inch disk. With that done, we booted ThunderView (a slide-show program available from Thunderware) and got things going.

Young children dragged their parents into the lab over and over again to see the show. Everyone had fun, and we all learned something about what computers can do.

Does a computer-produced T-shirt qualify as multimedia? And if it does, can writing on T-shirts be educational? The answers are *Yes*. Now home and school computerists can make computer-produced T-shirt transfers in much the same way as it's done at the local shopping mall. Just ask your computer dealer or mail-order supplier for the proper transfer paper or transfer ribbons. Then digitize the image you want, print it onto paper, and iron the resulting graphic onto a suitable shirt. Even if you don't have special equipment, you can create computer art and copy it to a T-shirt or jacket.

If you've tried other multimedia projects suitable for home and school use, why not let me know? Maybe I'll mention them in a future column. Meanwhile, don't sell your computer short. □

PRESCHOOL



PRECEPTS

GIVE YOUR KIDS A RUNNING START
WITH PRESCHOOL SOFTWARE

HEIDI E. H. AYCOCK

Ask preschool educators what young children need to learn, and the answers will almost invariably include social skills, comparative and discrimination skills, self-confidence, and self-expression. Ask how to teach these skills, and most answers will include free exploration, social interaction, and manipulation of concrete evidence. Combining those strategies with a computer isn't easy, but software designers are getting better at it.

Early childhood educators and preschool software designers work toward the same end. And often they come from the same beginning. Many preschool software designers studied early childhood education in college and graduate school. They have degrees, they have taught young kids, and they have young kids of their own. These designers have as much to say about what and how preschoolers should learn as the educators do.

To help your young children prepare for the

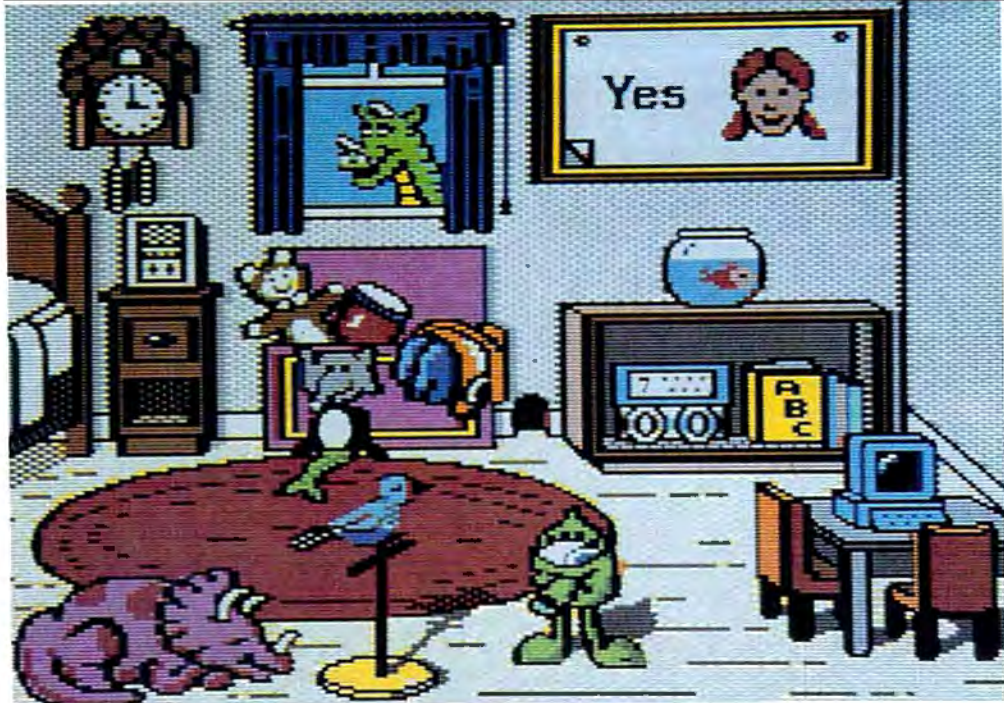
first day of school, take a tip from the experts. They can help you choose the most effective and well-designed programs. Consider the software that is available for preschoolers. By the standards of these experts, the best is the exploratory, open-ended, interactive exercise. The worst is the drill-and-practice session.

Free to Explore

Free exploration lets children discover knowledge for themselves. Educators agree that young children learn best by experimenting and experiencing the results of their adventures.

"We don't see children as empty vessels that we're trying to fill up with knowledge," says Warren Buckleitner, Educational Computer Consultant for the High/Scope Educational Research Foundation. "We believe that children discover, and, when they discover, the learning is real to them. Whenever you impose knowledge, you risk not allowing them to discover the concepts."

Carol Seefeldt, professor at the University of



The Playroom lets kids freely explore any number of objects that they see displayed on the screen.

Maryland's Institute for Child Studies, sees free exploration as a series of possibilities that children try out. She says this a main goal of preschool education. "I want them to be able to make choices and experience the consequences of those choices. I want the child to take initiative. I want the child to feel confident of herself as a person, to feel she can do things."

By creating infinite worlds of options and outcomes, the personal computer can be an effective environment for free exploration. "The sense of power and control that computers can offer is to be desired, and we need to look for ways to capitalize on those abilities," says Barbara Willer, Public Affairs Director for the National Association for the Education of Young Children.

Free exploration is a featured star in Brøderbund's newest preschool offering, *The Playroom*. The program teaches more traditional skills through several games, but children choose which game to play in whichever order they care to play them.

The interface is so simple and intuitive that anyone can figure it out. But even better, children don't need to figure it out before they can start roaming around the program. There are so many objects to play with, kids can just start clicking on whatever they see. Just about everything will respond. The program works with a mouse or the keyboard; either way, kids need to learn very few navigation rules before they can get around on their own.

"*The Playroom* was definitely created to enhance children's natural curiosity," says Janese Swanson, product manager for the program.

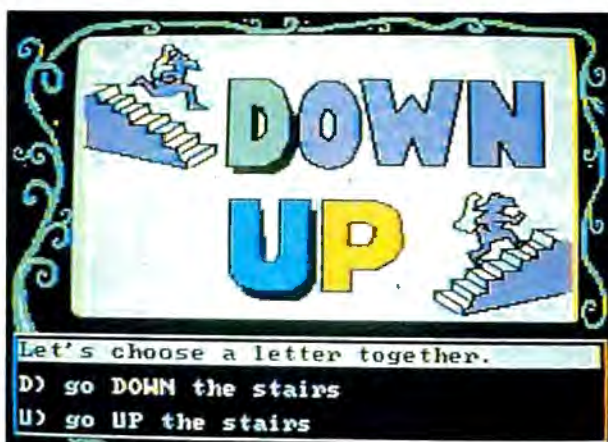
The games help children learn to count, to tell time, and to recognize letters. Besides teaching these traditional skills, some games let kids try different combinations of pictures to see which they like best.

The independence of programs like *The Playroom* is a valuable element of a child's learn-

Hallmarks of Good Preschool Programs

By now, you probably know more about preschool software than the clerk in the computer store does. Spend some time with trial copies in the store and see how the package measures up to what you know your children should be getting. Here are a few more tips on choosing the best programs for your children.

1. Avoid drill-and-practice programs for preschoolers. If a child can do it on paper as easily as on the computer, spend your money on paper. It's cheaper.
2. The program should be interactive. When the child leaves the computer, the program should stop running, waiting for the child to return.
3. Choose software that encourages discussion. Talking about a concept requires a better understanding than does using the concept.
4. Look for programs that use sound, music, colors, and familiar characters to motivate children.
5. Don't buy software that penalizes children for taking chances.
6. Buy software that lets children make choices, programs that give kids some control over their environment.
7. The program should give adults some control over the program, such as volume control and difficulty levels.
8. To encourage self-expression, look for open-ended programs such as word processors and graphics programs.
9. Look for childproof packages that allow young children to experiment with the keys without ruining the program.
10. Of course, look for something your children will enjoy. This means you must get to know your kids; you must find out what wins their attention and what bores them to tears.



Parents can let children choose their own direction during the telling of the *Flodd, The Bad Guy* tale.

ing process. However, all four education experts warned parents not to use the computer as a mechanical Mary Poppins. As Seefeldt points out, a computer can't think of a timely poem for children learning to tie their shoes.

Taking Risks

Self-confidence goes hand-in-hand with free exploration. It's the foundation of motivation. Without the belief that success is possible, many children wouldn't exert the effort required to move from a simple concept to a more complex one.

"No one likes to do stuff they're not good at, so one of the basic things we need to do for children is to make sure they feel good at learning," Willer says. "Otherwise, they look for other strategies for developing self-esteem."

Seefeldt explains that self-confidence and a feeling of some control is a basis for all other learning. "Learning is a risk, and if you don't feel confident, you won't take that risk." She adds that self-confidence in making choices is important when children have to say *No* to all kinds of harmful influences.

Self-confidence is something you can build in your children by the way you use the computer together. If you support your children as they experiment with new concepts, they'll learn that it's OK to take risks. Willer—and the organization she works with—encourages a flexible

Under One Roof

We've discussed only a few of the preschool programs available. High/Scope reports that 83 companies produce early-childhood software. There are many more gems than you've read about here.

Among High/Scope's other projects, the organization publishes the *High/Scope Survey of Early Childhood Software* (\$19.95). The 1989 survey featured reviews of 355 educational programs, so it's a rich source of information. High/Scope is a nonprofit organization, and all funding comes from grants and subscriptions.

If you'd like information on the survey, contact High/Scope Press at 600 North River Street, Ypsilanti, Michigan 48198; (313) 485-2000.

approach to evaluating a child's progress. Don't push your children to fit into an established learning plan. What a child can't grasp one week may be as easy as walking the next.

Me, You, Us

To encourage self-confidence and free exploration, you have to talk with your children, ask them questions, answer their queries. Your conversations will help develop social skills and effective communication. These skills are as important to a six-year-old first-grader as they are to a 46-year-old department head.

Seefeldt strongly urges parents and teachers to use poetry and songs to open up the world of language to children. To this end, you should look at the Reading Magic series from Tom Snyder Productions. This "lapware" is designed for parents and children to use together.

"What people generally mean by preschool software is software that kids can do by themselves even though they can't read yet," says Tom Snyder, who designed the Reading Magic series.

"Basically, the computer is a world where you try to create a bubble around yourself," Snyder says. "I'm really disappointed by the mentality where, because it's interactive, it's fine to have kids spending a lot of time in front of the terminal, because it's not interactive the old-fashioned way." He created programs which require the parent to be involved, to interact with the child in the old-fashioned way.

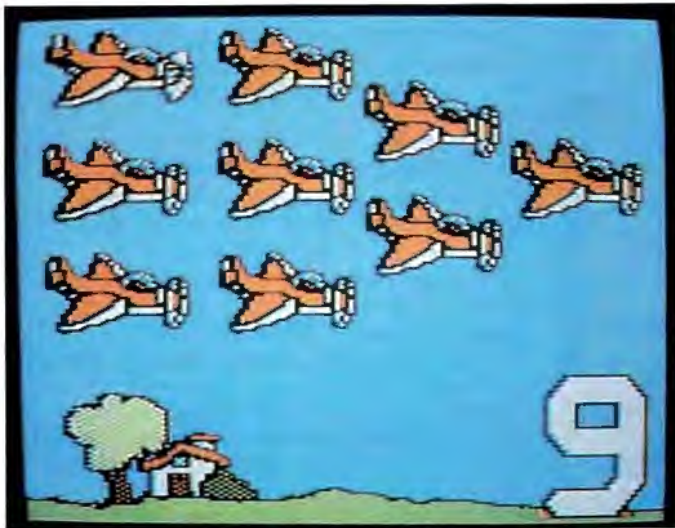
As for old-fashioned interaction between kids, *The Playroom* may prove that the computer can start discussions with the best of them. Brøderbund's Swanson and her team play-tested the program and found that it encouraged groups of children to work together. "We found four or five kids at the computer for 15 minutes, discussing together how to figure out the logic. We had to pry them off the computer. I was so pleased. I know the researchers will enjoy that one."

Hands On

Comparative and discriminatory skills are integral to reading and math. Before they can learn letters and numbers, children must learn what it means for one shape to be different from another. They must learn about bigger, smaller, more, less, and so on. They do this by playing around with objects, filling containers, and touching surfaces.

Beyond leading to traditional skills, comparative and discriminatory skills help children learn how to learn. "Being able to question, problem solving, and looking for relationships—those are skills that will apply regardless of the subject," says Willer. "They're learning processes that are used in all phases of life."

Teaching these processes is the main goal of the Stickybear series. Created by Richard Hester, this series teaches shape discrimination, opposites, letters, and numbers. By far the most traditional of the programs discussed here, the series relies on letting the children discover patterns and similarities. ▶



The colorful graphics in *Stickybear Numbers* make learning more fun and captivate a child's interest.

Besides teaching the concepts, Stickybear creates an atmosphere of fun around the learning process. "Nothing works at all if it doesn't entertain the children," says Hefter. "There is a tendency to overcomplicate the product in an effort to impress the parents."

Hefter advises parents to work with non-computer exercises, and he backs up that advice with suggestions and materials (like posters and stickers) in the Stickybear packages. "The computer shouldn't replace putting name tags on things around the house and working with clay," he says.

By encouraging concrete exploration in the real world as well as abstract investigation on the computer, Hefter brings up a universal theme. Children learn by grabbing hold of their lessons, twisting them, stretching them, weighing them.

"We know that young children learn by doing," says Don Bolce, director of information services for the National Headstart Association. "They learn by physical interaction in their environment."

Hefter, like others, advocates mixing concrete with abstract lessons. "I don't think you need to give up one kind of teaching to gain another," he says. He compares learning to count by using a computer with learning to make a sandwich by watching a parent slap two pieces of bread around a slice of turkey.

Swanson agrees that concrete evidence is essential to a preschooler's learning experience. But she suggests that you let children try different programs, see what interests them, see what they succeed at.

And Buckleitner says combining teaching styles is the best plan. "A computer really helps children think symbolically, so the key is to mix the concrete with the abstract." He does suggest that you immerse your children in a concept concretely before exposing them to the more abstract approach to the concept on the computer.

"The computer shouldn't replace anything," Buckleitner adds. "The children still should play with the things they used to play with. It's like another set of Legos, another set of puzzles, another set of paints."

Final Judgment

The programs we've discussed are simply examples of how software designers use what they know about the goals of preschool education. In the end, you'll have to consider each software purchase carefully, using what you've learned about the education process.

In the same breath as he praises computers, Buckleitner offers a cautionary note. "It's better to talk about the software running on the computer, not just to talk about the computer. It's like talking about a movie projector and not mentioning the name of the movie."

Think of the computer as your table and the software as a book or a puzzle you might use on the table. Make your judgments with that image in mind. Seefeldt suggests judging software with the same standards you use for books.

Most importantly, make sure that you're available to sit at that electronic desk with your preschooler. Your input and support are essential to your child's development. □

Heidi E. H. Aycock is an assistant editor for *COMPUTE!*. She didn't have a computer when she was in preschool, but she's making up for lost time.

Learn More

Learn more about early childhood development and preschool software by contacting these organizations for more information.

Brøderbund
17 Paul Dr.
San Rafael, CA 94903-2101
(415) 492-3200

High/Scope Educational Research Foundation
600 N. River St.
Ypsilanti, MI 48198
(313) 485-2000

National Association for the Education of Young Children
1834 Connecticut Ave. NW
Washington, DC 20009-5786
(800) 424-2460

The National Headstart Association
220 King St.
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Alexandria, VA 22314
(703) 739-0875

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HOMESCHOOL

H I N T S A N D T I P S F R O M O U R R E A D E R S

Outline processors are great writing tools, but they also make good quiz creators. You can build all kinds of tests with any outliner that collapses subheads under headings. For example, you can create practice drills for multiple-choice tests. Write the question as a main heading. Write the choices as a secondary heading, and write the correct choice as a tertiary heading. Collapse all of the headings before you let someone take the quiz.

For instance, you ask "Who wrote *Stranger in a Strange Land*?" Create a subheading under the question and offer three choices: Sting, Robert Heinlein, and Jeremiah. Create a third heading under that one and write the answer—Robert Heinlein. Go through the same process for each question, then collapse the secondary and tertiary headings into the main headings. Only the questions will be displayed onscreen. The student can look at the list of questions to prepare for the drill. To answer a question, the students first uncollapse the secondary heading to display the choices available. Then they uncollapse the level below that to see the correct answer.

If you need to memorize facts about a collection of concepts, try writing an outline with each main item as a main heading. For the secondary headings, write the facts that pertain to that main item. Again, collapse the subheadings into the main headings.

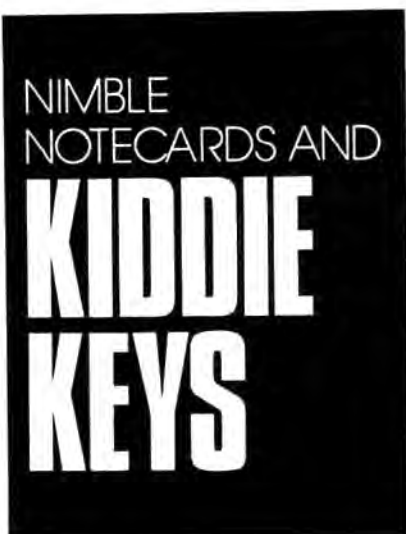
To learn facts about a legal case, use the name of the case as the main heading. List the facts as secondary headings. Collapse the notes into the facts and the facts into the name of the case, and make yourself a cup of coffee. When you return to the computer, you can try to recite the facts including notes, checking them against the subheadings.

Heidi E. H. Aycock
Chapel Hill, NC

New Use for Old Keys

After you've upgraded your computer's old XT keyboard to one of the sleeker, more functional enhanced keyboards, you may pack it away with the data cassette player. If you've got small children in the house eager to use Mom and Dad's computer, pull out that relic and create your own kid-friendly keyboard.

One idea is to place different-colored stickers on important command keys like Enter, space bar, and



Escape. A toddler will more readily identify a color than a word, and after a bit of practice will be able to locate important keys even without your color-coding them.

Sterling Clay
Pinellas Park, FL

No-Hassle Notecards

Into every student's life, a little term paper must fall. And with the term paper come notecards. If you have a word processor, you can create neat and tidy notecards, and, using the search function, you can rummage through your information as easily as if it were stored in a database.

To begin, create some cards that hold bibliographic information about each source. You should have one en-

try for each source. Give each source an identification number. Next, start your notecards. On the first line, type the subject that the note addresses and give the note an identification number. On the next line, type the note itself. It could be a direct quote or simply an observation based on the source you've used. After the note, type the identification number for the source the note came from.

There are two advantages to this system. First, you can easily search through your notes by just about any word that appears on the card. To find the quotation that called George Washington the father of our country, you simply search for the word *father*. You can also search by the source if you know the identification number.

The second advantage is that it will be easier to go through the documentation process in your term paper. As you use each notecard in your report, type the notecard's identification number in parentheses. When you've finished the report, go through and find each number, search for the notecard by that number, copy the bibliographic information, and paste it into your report. Make sure it's in the correct footnote format. For students using the new footnote style, in which you simply cite a source by an identification number, this method is ideal—you can skip this middle step. Simply use the source's identification number instead of the notecard's identification number as you write the report. For a bibliography, copy the source cards to the end of the report. Typing the sources in the format you'll use in your report to start with will make the process even easier.

Beth Hirschman
Morgantown, WV

Do you have advice that makes a better teacher out of your PC? If so, we'd like to hear from you. Send your tip, no matter how brief, to COMPUTE! Feedback—Homework, P.O. Box 5406, Greensboro, North Carolina 27403. If we publish your suggestion, we'll send you a gift. □



ENTERTAINMENT



COMPUTE! CHOICE

TOM NETSEL

TAKE TO THE SKIES IN THE RAF'S FINEST HOUR AND EARN A PLACE AMONG CHURCHILL'S FEW WHO WERE OWED SO MUCH BY SO MANY

The sky over England is black with German fighters, and RAF Pilot Officer Kincaid is almost out of firepower. He's fired nearly 300 rounds of .303-caliber ammunition through each of the eight machine guns mounted in the wings of his Spitfire Mk I, and he wishes he

had more lead to throw at the Huns.

The Junker Ju 87 Stuka dive bombers, escorted by Messerschmitt Bf 109s, had crossed the English Channel from occupied France and were attacking the RAF airfield at Melton. Despite Kincaid's lack of experience, he has done exceptionally well on this July day in 1940. Before his guns ran dry, he had shot down two Stukas and damaged a Bf 109.

Relive Kincaid's exploits in *Their Finest Hour: The Battle of Britain*, an outstanding air-combat simulation from Lucasfilm Games. It is in this game that Pilot Officer Kincaid and his wingman, Pilot Officer Epps, are sent up in their Spitfires to intercept the German planes. And it is here that Kincaid faces the might of the Luftwaffe with empty guns.

After breaking through the outer wave of defending Bf 109s, Kincaid and Epps pounce on the Stukas as they attack the airbase. The Ju 87 Stuka was a formidable weapon in the conquest of Europe, but it was less successful against British ground installations and shipping in the English Channel. Dropping from 10,000 feet in 70- and 80-degree dives, the Stukas were accurate bombers, and the scream of the sirens mounted on their landing gear added a psychological edge to their attacks.

The Stuka's steep dive, however, makes it impossible for fighter escorts to provide protection; the two-man bomber is particularly vulnerable as it pulls out of its dive. Kincaid follows

INMEMENT

one down; avoiding the fire from the Stuka's rear gunner, he catches the plane in his gunsight and squeezes off a burst of tracers. The bomber disappears in a cloud of flame and smoke. A parachute opens and a German flier drifts toward earth and a prisoner-of-war camp.

Struggling to regain altitude, Kincaid sees Epps on the tail of a Bf 109. Smoke and debris from the fighter fill the air as Epps fires. Another parachute appears as the pilot escapes the stricken aircraft. Trying to stay close to Epps, Kincaid spots more Stukas plummeting toward their targets. Escorting 109s try to divert the British fighters, offering themselves as targets as they dart between the Spitfires and the Stukas. In the confusion of aerial combat, Kincaid fires again and again at streaking targets but scores few hits.

Pushing his Spitfire into a steep dive, Kincaid watches the airspeed indicator approach 400 mph. Another Stuka drops its cluster of bombs on the airfield and pulls out of its dive, exposing the broad expanse of its wings, fuselage, and cockpit to Kincaid's guns. The bomber fills Kincaid's gunsight and he fires a long burst. Debris from the stricken aircraft explodes across the sky.

Circling to the south, Kincaid checks his altimeter. Too low. He lifts the Spitfire's nose to regain height.



You get a German's-eye view from the cockpit of a WWII Messerschmitt Bf 110.



Too much. The agile aircraft shudders and a stall warning flashes on his cockpit panel. Kincaid pushes his control stick forward, regains air speed, and recovers. He dips his left wing and turns, looking for more targets.

Almost immediately a metallic *chang, chang, chang* fills his cockpit as German machine-gun rounds smash into his plane. Kincaid throws the stick left and right in an effort to escape the deadly fire. An instant later a Bf 109 streaks by.

Kincaid and the German flier circle, twist, and dive, each trying to gain an advantage over the other. Kincaid takes more hits and scores several himself. He breaks into a shallow dive to pick up speed, then pulls back sharply on his stick, forcing his Spitfire into a loop. As the inverted horizon appears in the windscreen, Kincaid flips the plane in a 180-degree roll

and rights the Spitfire. He looks left, right, and to the rear, but the 109 is nowhere in site. A questionable tactic pays off, but he is far from safe.

Kincaid quickly checks his instrument panel. Glancing at his ammunition-round indicator, he sees he has but a few bullets left. He has ample fuel but his engine-damage and airframe-damage indicators are close to the danger zones.

Another 109 threatens, but Kincaid discourages it before his guns click empty. Epps is nowhere in sight, and Kincaid decides to seek a friendly airfield outside the combat zone. A quick check of a map reveals an airfield a few miles to the north, and Kincaid pushes his Spitfire in that direction.

Kincaid reaches the field, but he isn't alone. Several German planes are in pursuit. Kincaid cuts his throttle,

lowers flaps and landing gear, and dips toward the landing strip. Diving from the opposite end of the field, a 109 opens fire. White puffs of smoke erupt from the field as bullets race toward Kincaid's Spitfire.

Kincaid is about 50 feet above the landing strip when his plane takes hits. It survives the attack, but, as Kincaid watches the approaching fighter, he eases back on his joystick. Kincaid has survived his first combat mission only to fall victim to his lack of flying experience. Easing back on the joystick lifts the Spitfire's nose, causing the plane to stall. Before Kincaid can attempt a recovery, the Spitfire crashes in flames.

The monitor's screen goes black, and a scene depicting a burning RAF fighter appears. A message beneath the picture reads: "You smashed into the ground. The impact and the resulting explosion killed you. R.I.P." Below the picture, a score for the mission indicates that both Kincaid and Epps were killed in action.

Such are the perils of warfare in this action-packed game, but it indicates the depth of play and authenticity available in *Battle of Britain*. I created these and other RAF and German pilots and flew with them in combat, on missions taken from the pages of history. Epps had experience, and he seemed a good choice to accompany the rookie pilot I named Kincaid. A moment's inattention caused Kincaid's death, and even experienced pilots get shot down. These pilots now have *KIA* (Killed In Action) after their names on the game's roster.

Extra lives aren't granted in this game, but you don't have to make it too personal. After all, war isn't fun, but *Battle of Britain* is. You may fly a combat mission without designating a pilot and no score will be kept. You can create pilots and have them fly Spitfires or Hurricanes on a single mission or engage in the whole campaign. Combat scores are kept and pilots who are skillful and lucky win medals and earn promotions.

But flying an RAF Spitfire or Hurricane is just a tiny portion of what *Battle of Britain* has to offer. You can also fly on the German side. Sit in the cockpit of a Stuka dive bomber and line up a ship or British radar station in your bomb sight; then move to the rear gunner's position and defend against attacking RAF fighters.

The Luftwaffe used a variety of bombers in trying to defeat the RAF:

the Dornier Do 17, the Heinkel He 111, the Junkers Ju 88, and the Messerschmitt Bf 110 fighter-bomber. You can pilot any of these planes. Fly to a target as pilot and then move into the bombardier's position and guide your plane on its bomb run with your bombsight. Gunner positions can be placed on automatic to provide protection, or you can man them yourself. Each cockpit and gun station is different.

The plane I enjoy flying the most is the Bf 109. It's less durable than the RAF fighters, but it's pure joy to fly—it's like flying a sports car. I'll admit the 25-MHz 386 I used for this review made *Battle of Britain*'s animation as smooth as the purr of a Spitfire's Rolls Royce engine, but the game still looked good at 8 MHz when I eliminated some of the ground detail.

Battle of Britain creator, designer, and programmer Lawrence Holland



From the gunner's position, defend your bomber from attacking British aircraft.

and his associates are to be commended for their attention to detail, but they knew when to stop. *Battle of Britain* is not meant to be a flight simulator; it's an air-combat simulator. While the Spitfire's cockpit has 17 dials, controls, and gauges and the He 111's has 28, even a novice pilot can take off, land, and fight with minimum instruction.

Training flights let you practice shooting, bombing, and flying in relative safety, but the results don't count on your combat record. Fly a combat mission for that. Choose from any of the eight German or British aircraft; then select from eight historically based missions. Missions are different for each aircraft. For more variety, construct your own missions or fly a campaign.

You have the option of directing either an RAF or a Luftwaffe campaign. Select flight groups, plane types, and number of planes. Decide which formations they'll fly; assign flight plans; select pilots from your roster; attend briefings; select stand-

ard or unlimited ammo, fuel, and damage limitations; and then join the melee above the English Channel and coastal England.

Another outstanding feature of *Battle of Britain* is the replay camera. Turn it on as you commence an attack and the camera records the action from numerous viewpoints. One is from a chase plane directly behind your aircraft, another is from your cockpit, and yet another lets you view the battle from anywhere in the air, even as seen from a parachuting airman. During a bombing run you have more options. Watch from the ground or even from the bomb's point of view.

If this camera technique and this attention to detail seems familiar, you probably have seen *Battlehawks 1942*. The similarity is no coincidence. If you are a veteran of the Pacific campaign, you should feel right at home in these cockpits. Flight controls are very similar.

Battle of Britain can be controlled with the keyboard, mouse, or joystick. I flew for several days using the keyboard and I thought the game was great. Then I installed a joystick and flying became fantastic. I strongly recommend using a joystick with *Battle of Britain*. If you don't have one, beg, borrow, or buy a joystick for this game.

Battle of Britain is absolutely, positively my favorite computer game. I've never enjoyed a game as much or played one so often. It's superb right down to the manual, which is filled with historical facts. In addition to supplying game instructions, fighter tactics, and technical details of both German and British aircraft, the manual provides the historical background of how 500 British fighters held their own against more than 2000 German attackers and prevented the invasion. "Never was so much owed by so many to so few," Winston Churchill said of the RAF pilots. The manual also includes many anecdotes about the men who flew on both sides of the conflict. As one unidentified RAF pilot said after hearing Churchill's famous words, "He must have been thinking of our bar bills."

Their Finest Hour: The Battle of Britain
IBM PC and compatibles with 512K—
\$59.95

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Distributed by Electronic Arts
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GAMEPLAY

O R S O N S C O T T C A R D

The problem with success is that nobody ever knows what caused it. Failure—now, that's easy. Everybody knows what caused failure. It was the idiots in marketing, or those slow programmers who couldn't write bug-free code to save their lives, or the bad luck of coming out with a piece of software just as one of the big companies was flooding the marketplace with its inferior version of the same thing. Maybe you were "way ahead of your time" or "too sophisticated for the masses"—or else the other guy was "behind the times" or developed software that was "too childish."

The cause of failure is easy to identify. It's the other guy.

But success—that's tougher.

Naturally, of course, your first instinct is to point to yourself. If you're in marketing, then it was your packaging and your ads and your perfect timing with the Christmas market that made your game a hit. If you're a game designer, it was your concept and implementation. If you're a programmer, it's because they finally turned you loose and let you do the game *right*. If you're in management, it's because you backed the right ponies and really got behind them. In short, you're a genius.

The trouble is that if you're such a genius, you've got to do it again. And again. And again. There are ulcers as big as potholes down that road.

Even worse, though, is when you're looking at another company's success. You know *they're* not geniuses—they're just lucky. But you know that if you're going to survive, you have to come up with a competitive product. And so you start to imitate.

Artists *do* repeat themselves, sometimes on purpose, sometimes unconsciously. But even in repetition, they aren't *imitating*: there is always something fresh and inventive.

The good sequels are the ones that actually improve on the original,

the ones that show that the artist has grown from one year to the next. The bad sequels and imitations are the ones that change as little as possible, bringing nothing new to the project. The only creative drive is the faint shadow left over from the original project. Such sequels might earn money, but they rarely earn the love and admiration of the audience.

Which brings us to *Welltris*, the sequel to *Tetris*, a game so compulsive that I had to zero it out on my hard disk and give the original disk to my wife to hide from me so I could get some work done and wouldn't have to see those nasty little squares drifting down before my eyes during all my waking and sleeping hours.

Tetris meant life in hell for me—so naturally I couldn't wait to get my hands on *Welltris*. Heck, I even bought it myself instead of hoping that Spectrum HoloByte would send me a free review copy. (Besides, if it was sent by way of the COMPUTE! offices, I know for a fact that it'd be six months before anyone would "remember" to send it over to me! These folks know a great game when they see it!)

Here's the happy news: *Welltris* is better than *Tetris*. It's not an imitation, but a fresh invention.

The idea is so obvious it hurts: *Tetris* in three dimensions, so you're dropping the blocks down a well. But then you face the perpetual problem of representing three dimensions on a

two-dimensional screen. Something is always behind something else.

The solution? Don't make it *completely* 3-D after all. The blocks stay flat, just like always. Now, though, they're sliding down the four sides of a square well. You can move them all the way around the well as they fall and rotate them to orient the shape differently. Then, when the blocks hit the bottom, they slide across the floor until they hit the opposite wall or run into another block. Whenever you complete a row, either vertically or horizontally, the row disappears and the remaining blocks jump together to fill in the space.

Whenever you let a shape fall so that one or more cubes are forced to remain up along the side of the well, that wall flashes a bright color and you can't use that side for a while. The game is over when you've blocked up all four walls.

It's far freer and more varied than *Tetris*. The game designer, Russian computer wizard Alexey Pajitnov, has come up with a downright humane interface. You have two choices: You can use the arrow keys to go left or right on the horizontal faces and up or down on the vertical faces; or you can use just the left and right arrows to do continuous clockwise and counterclockwise movements all the way around the well. I prefer the latter—but you get your choice.

Challenging, intuitive, compulsive. A great game.

What will be Pajitnov's follow-up to *Welltris*? A sequel in which the shapes spray out of the middle and have to be hooked onto "floaters" drifting around the edges of the screen? Will it also be a hit?

The truth is that you can't keep competing with yourself. Sometime you're going to create a game that people don't like as well as the one before. All we can ask is that Pajitnov's next game be one that *he* is interested in, that *he* enjoys.

Maybe it will be a hit, maybe not. Either way, nobody will know why. That's just the way it is with art. □

GOOD SEQUELS
INVENT

FRESH
TWISTS

WING IT WITH THE LATEST CROP OF FLIGHT SIMULATORS

DENNY ATKIN

Flight simulation is one of the hottest categories of entertainment software, but while almost 2 million people have taken to the air on their home computers, some people remain firmly grounded. If you're one of those land huggers, you should take a look at the shiny new PC planes on the market. Designed for people who've never been behind a real control yoke, some of the newest games are much easier to master than their predecessors. And those dedicated pilots looking to log a few more hours of flight time can push the envelope with out-of-this-world game control and stunning graphics. So which one is for you? Let's test-fly some 1990 models and find out.

The New Old Standard

The flight-simulator craze started way back in 1980, when SubLOGIC released Bruce Artwick's *Flight Simulator* for the Apple II and TRS-80 Model I. The latest incarnation of that program, *Microsoft Flight Simulator 4.0*, still tops best-seller lists a decade later.

If you're interested in learning what it's like to fly a real airplane, *Flight Simulator 4.0* is the program to get. A complete set of cockpit instruments, navigational aids, and realistic handling

characteristics make this the most accurate simulation on the market.

Flight Simulator 4.0 starts you out in the cockpit of a Cessna Skylane RG II, a single-prop, high-wing private aircraft. The upper portion of the screen displays a view through the windshield, while the lower part contains the most complete instrument panel of any of the flight simulators examined here.

You get all of the standard instrumentation, such as an altimeter, airspeed gauge, and artificial horizon. You'll also find a complete set of IFR (Instrument Flight Rules) instruments for night or inclement-weather flying.

Real-life pilots will appreciate the high-tech Command Flight Path Display, a new navigation system which projects the proper flight path or instrument approach directly on your windshield. The scenery and approaches are authentic, down to the radio frequencies used by various airports. The program includes scenery for San Francisco, southern California, Chicago, Seattle, and New York; and add-on scenery disks cover most of the rest of the United States and even parts of Europe.

If all of this sounds a bit overwhelming, don't worry. You can fly around and sightsee without learning how to use most of the instruments. But if you're interested in learning more

TAKE OFF!







You can test-fly custom aircraft over Chicago in Microsoft Flight Simulator 4.0.



Even the highly rated MiG-29 Fulcrum is no match for your F-15 Strike Eagle II.

about what's involved in flying a real aircraft, the equipment's there. The comprehensive 200-page manual includes all the information you'll need to get up in the air—and more importantly, back on the ground.

There's a lot more to *Flight Simulator 4.0* than sightseeing in a Cessna, however. You can also try high-speed maneuvers in a Learjet, buzz a farm field in a crop-duster, or blast enemy bi-planes in the WWI Ace game. WWI Ace doesn't compare with the air-combat games surveyed here, but it's a great way to take out your frustrations after your sixth failed attempt at landing the Learjet.

Flight Simulator 4.0's glider mode lets you experiment with unpowered flight in a Schweizer 2-32 sailplane. Another enhancement adds plenty of air traffic around major airfields, including a 767 airliner. Thunderstorms and other weather patterns randomly appear, adding excitement to routine cross-country flights.

The most fascinating addition is the airplane-design facility. Select Experimental Aircraft from the Mode menu, and you're taken to another screen where you can select the specifications for your new aircraft. Change the type of propulsion (jet, propeller, or glider), wing size and aspect ratio, and a number of other factors as you create the ultimate flying machine. This is the most addictive feature of *Flight Simulator 4.0*. I keep coming back to make just one more improvement to my plane.

Flight Simulator 4.0 is one of the few entertainment programs that takes advantage of the high-resolution, 640 × 350 pixel mode of an EGA or VGA card. Graphics are exceptionally smooth, especially on a 286 or better.

When it comes to realism, variety, and programming finesse, you can't beat *Microsoft Flight Simulator 4.0*. If you're looking for fast-action air combat, though, keep looking.

Enhanced Eagle

MicroProse's *F-15 Strike Eagle II* sets a new standard for high-speed computer air combat. What it lacks in realism it makes up for in non-stop action.

Strike Eagle puts you in control of an Air Force F-15E Eagle, an air-superiority fighter with ground-attack capabilities. No sightseeing this time around. Your mission is to go deep into enemy territory to destroy air and ground targets. Enemy air forces are ready to see to it that you fail.

An F-15 is much easier to fly than a Cessna in many respects. You don't have to worry about stalling if you put the plane in too steep a climb—this baby has so much power that you can fly it ballistic (straight up). You won't have to concentrate too hard to keep your plane in the air, which is good, since you'll need to spend most of your effort avoiding or eliminating enemy threats.

You can select a pilot, skill level, and theater of combat. Fly missions in Libya, the Persian Gulf, the Middle East, or Vietnam. The type of air and ground opponents you'll encounter vary in each theater. *Strike Eagle* includes 22 different friendly and enemy combat aircraft. Be careful, though. You'll also encounter the occasional airliner deep in enemy territory, and you don't want to accidentally shoot down civilians.

In places where realism would have brought tedium or complexity, the *Strike Eagle* programmers opted for action. What's left is a fast-moving game that doesn't require a pilot's license to play. Beginning computer pilots will appreciate features such as an autopilot-landing mode.

Unfortunately, MicroProse plays loose with historical accuracy. For example, many of the missions end with you landing your F-15 on an aircraft carrier, but the Eagle wasn't designed as a carrier aircraft and only operates from land bases. Also, while the enemy aircraft you encounter in the Vietnam scenarios are accurate representations, it's worth noting that the United States didn't have F-15s in Vietnam. The first F-15 squadron wasn't activated until January 1976.



Pull away to avoid the blast after a low-altitude Maverick run in *A-10 Tank Killer*.

The graphics in *F-15* are very attractive, especially on a VGA system. The graduated shades of blue in the sky are absolutely mesmerizing. However, they have a sort of cartoony feel about them, and the intense hues detract from the game's realism. The sound is excellent, with digitized voices and support for Ad Lib and Tandy 1000 sound.

There are many fighter-jet simulations out there, but, for now, *F-15 Strike Eagle II* is top gun when it comes to fun.

Tanks a Lot

If you're one of those combat-simulator fanatics who's already shot down more planes than Pappy Boyington, transfer from your *F-15* squadron to Dynamix's *A-10 Tank Killer*. There's no high-altitude shoot-and-run flying for the *A-10* Thunderbolt II pilot. You fly low and slow in one of the meanest, most powerful aircraft in the sky.

Your job is to provide close air support for friendly ground troops. Your heavily armored aircraft has ten underwing pylons that will hold up to 16,000 pounds of bombs and air-to-ground missiles. As if that weren't enough, the *A-10* is also equipped with an Avenger 30-mm cannon, which can fire 4200 milk bottle-sized depleted-uranium shells per minute.

You can complete the eight missions in *A-10 Tank Killer* individually or as a campaign. Each mission has a different objective. In one mission you may have to destroy a specific ground target, such as a bridge or an enemy installation, while in another your target may be an enemy armor column that's threatening friendly troops. You'll fly most of your missions with one or more wingmen, which makes combat more exciting and realistic. It also makes navigation easier on some sorties—just follow the other guy.

In VGA mode, *A-10 Tank Killer* is one of the best-looking programs I've ever seen on a microcomputer. The television-quality digitized opening screens are fantastic, but the cockpit

view is what really impresses me. The instrument panel is an actual digitized *A-10* control panel, complete with working gauges. The view outside the windscreen is very well done, with 3-D terrain that uses multiple shades of green and avoids a multicolor, cartoony look. The outside views of the *A-10* and other vehicles have none of the sharp-edged polygons evident in other flight simulators.

What's more, screen updating is very smooth on a 12-MHz 286 with VGA. If you have a slower machine, you can reduce the amount of detail in the outside view to get faster updates. Sound support takes advantage of Ad Lib and Roland music cards.

A-10 Tank Killer does a great job of balancing realism with playability. Aircraft handling is very realistic, as are weapons capabilities and enemy characteristics. However, you don't have to spend a lot of time flying to the battle area, and novice pilots can skip the landing stage.

If you're looking for a realistic combat flight simulator and don't mind the lack of air-to-air action, grab *A-10*. It's the most exciting way to get into air combat short of enlisting.

Right Angels

If blasting bad guys isn't your forte, check out Accolade's *Blue Angels*. This simulation puts you in formation with the Navy's Blue Angels precision aerobatics team. Your goal isn't to knock other planes out of the sky, but to put on an exciting airshow.

Blue Angels is like no other flight simulator. You have to learn the Angels' maneuvers, and learn them exactly. When you're flying six feet away from another aircraft at near Mach 1, you can't afford to make mistakes.

The first thing you'll want to do is try the simulator option. (It's a flight-simulator simulator—got that?) This lets you watch and practice the Blue Angel's maneuvers on a wire-frame graphics simulator. The help window shows you

the exact keypresses you'll need to make to execute each maneuver. You can then practice the entire airshow using the onscreen simulator.

Once you've got the maneuvers down, it's time to try it in the real plane. You can fly as part of the diamond formation or as one of the solo pilots. Watch your instruments and your wind-screen carefully—you're maneuvering within a few feet of other aircraft at nearly supersonic speeds.

Flying in the airshow is challenging, but it can be frustrating if you haven't practiced enough. If you slip too far off the proper course for a maneuver, the evaluator calls "Break!" and grounds you, taking you back to the main menu. I'd rather continue flying and just receive a poor score than be bumped from flight.

Blue Angels captures the feeling of an airshow, but it scores poorly as a flight simulator. The planes don't handle anything like actual aircraft. For example, you can stop in midair and hover over the airfield in your F-18; Try that in real life. And no matter how slow you fly, you can't stall. In fact, you can't crash, period. Also, this is the only aircraft simulator surveyed here that doesn't support a joystick. So while *Blue Angels* looks like a jet-flight simulator, gameplay is purely arcade action.

If you've ever seen the real Blue Angels in flight, you know how awe-inspiring their shows are. Unfortunately, this game's graphics fail to capture that sight. It's a spectacle that doesn't come off well using only 16 colors and blocky polygon aircraft.

Still, if you don't mind the unrealistic flight characteristics, *Blue Angels* is a refreshing change from the shoot-and-bomb jet simulators that dominate software store shelves.

Alien Invasion

If you're looking for a *real* change, though, grab SubLOGIC's new *UFO*. Everything you've learned about flying Earth craft goes out the cargo door. This is no airplane; it's an antigravity, antilaminar flying saucer with an advanced gluon drive. You can do maneuvers that are impossible with Earth craft, including hovering, flying backward and sideways, and teleporting across the countryside. You can even leave the atmosphere and fly into orbit. While the control system takes a little getting used to, it's fairly easy to manipulate. *UFO's* handling is very realistic, at least as far as antigravity, antilaminar, advanced-gluon-drive flying-saucer simulations are concerned.

If you tire of sightseeing, you can play two games: *Energy Trader* and *Earth Craft Chase*. In *Energy Trader* your objective is to drain energy from Earth cities without being detected by their defense forces. In *Earth Craft Chase*, your goal is to find Earth aircraft, fly close to them, and scoop them up into your UFO for later examination by your gravitron device.

Graphics in the game mimic those in Microsoft's *Flight Simulator 4.0*. The program includes detailed scenery for Miami, Hawaii, San Francisco, and Washington, D.C., plus sparse scenery for hundreds of other cities across the nation. *UFO* is compatible with all SubLOGIC Scenery

Disks and is the fastest vehicle around for exploring them.

All in all, *UFO* is a fascinating change of pace from standard flight-simulator fare.

Happy Landings

There are a few other things you should consider when deciding which flight simulator to get. A fast XT- or an AT-class computer is the absolute minimum for a decent screen update speed. Also, a big part of the fun is enjoying the scenery. A good graphics card is a must for the serious flight-simulator buff. You can get by with an EGA card, but the new programs that take full advantage of VGA are fantastic. I would purchase a VGA 286 system just to play *A-10 Tank Killer*—it looks that good. □

Denny Atkin is an assistant editor for *COMPUTE!*, when we can keep his feet on the ground.

FROM THE COCKPIT

If you're interested in taking to the wild blue yonder in any of the aircraft discussed in this feature, the information below will help you get your wings.

A-10 Tank Killer

Amiga—\$49.95 (Coming soon)
IBM PC and compatibles with 512K; hard disk recommended—\$49.95
(Tandy TX, SL, and TL require 640K)
Dynamix
P.O. Box 11806
Eugene, OR 97440
(503) 343-0772

Blue Angels

Amiga—\$44.95
Apple IIgs—\$49.95 (Coming soon)
IBM PC and compatibles with 384K—\$49.95
Accolade
550 S. Winchester Blvd.
Suite 200
San Jose, CA 95128
(408) 985-1700

F-15 Strike Eagle II

IBM PC and compatibles with 512K—\$54.95
MicroProse
120 Lakefront Dr.
Hunt Valley, MD 21030
(301) 771-1151

Microsoft Flight Simulator 4.0

IBM PC and compatibles with 384K—\$59.95
Microsoft
16011 NE 36th Way
Redmond, WA 98073-9717
(800) 426-9400

UFO

IBM PC and compatibles with 512K—\$49.95
SubLOGIC
501 Kenyon Rd.
Champaign, IL 61820
(217) 359-8482

GAMESCOPE

H I N T S A N D T I P S F R O M O U R R E A D E R S

The streets in Access's *Mean Streets* are appropriately named. You'll need quick reflexes to make it through the arcade portions of this graphics adventure. When you get in a gunfight, stay down. If the bad guys are behind an obstacle, they won't be able to hit you. If they move forward, you can shoot them from the crouched position. The thugs always come out in twos, so when you're ready to advance, stand up, fire two shots, and duck until their shots pass over you. As soon as your shots hit the thugs, you'll have a few seconds to move forward. As soon as another thug appears, fire two more shots and duck again. Repeat this procedure until you've made it across the screen.

If you start running low on cash, remember the seven bounty-hunting pads. You'll have to fly the speeder manually to get to them—the coordinates are in the instruction booklet. The thugs at the pads are a little quicker, but if you master the fire-and-duck technique, you should have little trouble dispatching them.

*Bubba Hargis
Hattiesburg, MS*

Empire Expertise

Is there a more addictive war game than Interstel's *Empire*? I've never found one. What I have found are some tips and tricks that help ensure, if not victory, at least a noble defeat.

The first product of your first city should be an airplane. Once the plane has been produced, immediately shift to producing armies, using the plane to explore uncharted areas, discovering the cities your armies will conquer. I also begin building transport ships early: The more continents on which you establish a presence, the faster your industrial base grows and the better your chances of ultimate success.

After transports, I favor destroyers. They're fast and can open up a lot

of territory quickly. I divide the *Empire* screen into rough quadrants and, as quickly as possible, dispatch destroyers to explore each, in search of the enemy. I like to play the game with two enemies, both set at expert level. Finding them quickly is essential. Submarines are also effective; they're great for patrolling deep behind enemy lines in search of convoys. When you find enemy ports, move in bigger ships to establish blockades.

The big ships are crucial to victory. I like to have a battleship and an aircraft carrier in production by the 50th turn, if possible. I put as many



Planes can explore uncharted land and find hidden enemies in *Empire*.

cruisers into production as feasible. The battleships and cruisers provide bombardment before invasions. The carrier is even more valuable. Load it with planes and give each plane a patrol route. By arraying the patrols like the points of a star and placing the carrier in the middle of an ocean, you can protect vital sea lanes and detect enemy subs.

Don't neglect the defensive side of the game. A few planes, destroyers, and armies placed on patrol in the hinterlands can alert you to surprise attacks and infiltration.

You might also try designing your own maps. It's not difficult to produce relatively accurate recreations of World War II island-hopping campaigns.

*Michael Donovan
Tokyo, Japan*

Touchdown Tips

Here are some tips for *John Elway's Quarterback*, Melbourne House's football game that lets you control your own NFL team. First, some offensive hints:

- When playing the bomb, throw slightly to the left or right of your receivers to avoid an easy interception.
- When punting the ball, point slightly against the wind and the ball will go deeper.
- Experiment with the wishbone play, where you run with the ball on passing plays. It will confuse the defense and you can get some good yardage.

For a better defense, try these strategies:

- Don't let the name fool you—the Goal defense is almost always the best one to use on a first-down play.
- A very effective defensive play combination is Goal (on first down), Standard Run (second down), and Zone (third down).
- When your opponent is inside your 20-yard line, always use the Zone defense and move back 10 yards to stop any penetration.
- When blocking a field goal or an extra-point kick, wait until the kicker reaches the ball, and then jump straight up. You can block three out of ten kicks this way.

Finally, a few general hints:

- The computer player can outrun you, so use a zigzag pattern to avoid him or come at him from an angle to catch him.
- Take advantage of the clock, especially in the last three minutes of the game. Use pause to stop the clock if you need more time, or waste some time when choosing a play if you want to run the clock down.

*Sunil Patel
Clinton, OK*

If you have game tips and shortcuts of your own, we'd like to hear from you. Send your tip, no matter how brief, to COMPUTE! Feedback—GameScope, P.O. Box 5406, Greensboro, North Carolina 27403. If we publish your suggestion, we'll send you a gift. □

BALANCE ON A HIGH WIRE, CARRY YOUR WORK WITH YOU, RACE YOUR CYCLE, WRITE ON THE GO, SHOOT EVERYTHING, MAKE BANNERS, COMMAND YOUR TANK, AND MORE.

FIENDISH FREDDY'S BIG TOP O' FUN

Hurry, hurry, hurry! Boot right up and try your luck. *Fiendish Freddy's Big Top o' Fun* gives you the greatest show on earth on your own computer. In this game, your death-defying circus attractions include human cannonballs, trapeze swings, juggling acts, high dives, knife throwing, and tightrope walking.

This circus is in deep financial trouble. The next performance will be its last unless it raises badly needed funds. The better the performance is, the more money that's raised. Turn in a mediocre performance, and the circus will be foreclosed in favor of a profitable real estate development.

Circus feats are difficult to perform under any circumstances, but the financial institution has hedged its interest by hiring Fiendish Freddy the clown to sabotage your acts. This bozo has a bag of tricks that will make your performances even more challenging.

Your high diver, Horace, jumps from incredible heights into a shallow pool filled with water. As Horace falls, you make him strike different poses. The more poses you hit while making sure that Horace lands in the water, the more points you'll earn. Freddy uses a fan to blow Horace off course. This segment is fast and fun with a lot of details to manage.

If you've ever had ten things to do at once, you can relate to juggling. You control the movements of your juggler, who tries to keep as many items in the air as possible. His assis-

tant is a seal that throws him chain-saws, torches, anvils, and even babies to juggle. Periodically, Freddy distracts the seal with a fish and throws in a bomb. Drop the bomb or too many objects, and the juggler is history. This portion is challenging and variable.

Flying through the air with the greatest of ease is not simple. Your acrobat, Finola, jumps from trapeze to swinging trapeze. Timing is everything as you tell her when to let go. If Finola waits too long to jump, Freddy cuts down the trapeze.

In another sequence, your assistant bravely (foolishly, in my case)



Mindscape's *Fiendish Freddy's Big Top o' Fun* puts you on a high wire.

ties herself to a rotating wheel to which balloons are attached. By throwing knives, you attempt to pop the balloons that surround her. Again, timing is everything. Miscalculate, and your assistant gets the point.

The grand finale features Fernando, the human cannonball. While his assistant loads the cannon with a charge, you decide how far away to place the net and at what angle to fire the cannon. If you take too long to set up, Freddy plugs the end of the cannon and there are disastrous results. This is probably the easiest game to master. Consistency and remember-

ing the relative power of the various charges ensure success.

Fiendish Freddy's Big Top o' Fun has outstanding graphics and animation; in fact, these are some of the best-looking graphics I've seen in a home computer game. The controls are easy to learn and manipulate. The keyboard worked well, but I found events like diving and the high wire were easier with a joystick. Freddy makes the game exciting and unpredictable. In addition, the circus theme was carried out exceptionally well.

The game is challenging, and it's difficult to reach the monetary goal. If you fall short, you're treated to a sequence showing the demolition of the big top and the building of a new high-rise in its place. *Fiendish Freddy's Big Top o' Fun*, with its first-rate action, is nearly as fun as a day at the circus.

WAYNE N. KAWAMOTO

Amiga—\$49.95
Atari ST—\$49.95
IBM PC and compatibles—\$44.95

MINDSCAPE
3444 Dundee Rd.
Northbrook, IL 60062
(800) 221-9884

TANDY WP-2

They're called *notebook computers*, members of a laptop subgenus that do not compete with the capabilities of the desktop. Instead, they concentrate on word processing and telecommunications. These computers are convenient and fun to use, but a \$3,000 notebook computer is like a \$500 pen. It's feature overkill that will keep the

product out of the hands of the masses. Tandy's WP-2, then, is closer to a true notebook concept. It writes, it communicates, and, at \$349, its cost approaches the common sense of a real-life notebook.

It's slick black and resembles a half-size disembodied keyboard. Powered by four AA batteries, it claims 12-20 hours of operation per charge. It weighs less than two pounds



Tandy's sleek-looking WP-2 word processor is small and easy to carry.

without the encumbrances of a disk drive and battery pack. Software etched into ROM offers a stripped-down set of the most needed features.

The 1990's version of the list of the most needed features includes a spelling checker, a thesaurus, a calendar, and some phone functions. (Word count, a valuable function for the writer on the go, is absent.) All modules are anemic in relation to desktop software, controlled through a combination of two function keys and numeric commands.

To compare laptops with desktop anything, however, is unjust. Laptop compromises are legion, no matter what the machine or the price. The WP-2's list of compromises, starting with a screen that makes your LCD watch look like VGA, is pretty long. Its advantages, on the other hand, are easily stated. It's an easy-to-use data-collection device that allows you to carry a degree of PC functions in your pocket without unbalancing your wallet.

The machine is equipped with 24K of battery-backed memory, within which all functions are conducted. Conveniently, switching the machine off either manually or automatically doesn't trash data. An optional user-installable \$50 chip adds another 32K of storage, while slot cards for memory (and perhaps, in the future, software) exist.

The WP-2's keys, by function, do not include a numeric keypad, embedded or otherwise. The keys themselves are sparsely placed, rugged, and responsive. It does not include an internal modem, nor can one be installed.

Instead, a pocket modem slips into the serial port. Printer and cassette-recorder connections have also been included. An external, non-DOS disk drive accessory offers extra storage space.

The compromise of a poor screen is an acceptable tradeoff, but favoring a cassette-based storage system over a modem or a LapLink-style file-transfer system is simply unacceptable. A snazzy file-transfer ability, even if it had made the WP-2 a bit heavier, a bit more expensive, or a bit harder to use, would have given the machine a welcome boost. Many users would add extra weight for the privilege of convenient interchangeability.

The WP-2 produces ASCII files, and so, theoretically, you can use it as a remote arm of any personal computer. But until file transfer is made as transparent as word processing, that capability may not be enough. Still, there is something oddly futuristic about the WP-2. You can expect, in the not-too-distant future, to see people hauling around machines of the exact same design, but with cellular and FAX capabilities.

But I'm getting ahead of myself. Simply put, the WP-2 offers a laptop solution that won't send you to the poorhouse. It compromises features to meet that goal, as you would expect. In the ultralight world of notebook computing, it's a spiral steno pad—serviceable, inexpensive, and useful. In short, you can use this little Tandy for a long while and not feel cheated after new and more powerful equipment comes along.

CHARLES BERMANT

WP-2—\$349

RADIO SHACK/TANDY
1700 One Tandy Center
Fort Worth, TX 76102
(817) 390-3487

THE CYCLES

FAST LOOKS

For speed freaks who have grown bored with the latest in four-wheel computer racing fun, Accolade's *The Cycles* brings international Grand Prix motorcycle racing onto your desktop. Like the company's well-received *Grand Prix Circuit*, this asphalt artery-clencher takes you on a whirlwind tour of 15 tracks in as many countries, where you compete against other drivers for points and, finally, the title of

World Driving Champion.

If you're familiar with *Grand Prix Circuit*, there is little new in this game. You can choose from three motorcycles (125cc, 250cc, and 500cc), practice a course before you race, and set the difficulty level at any one of five points from Beginner to Pro.

You control steering, shifting, braking, and accelerating from either the keyboard or a joystick. I found sticking to the road a lot tougher in this game than in its four-wheel cousin. The view is from over the handlebars, which gives a realistic picture of the track as it slides under your boots at 100+ miles per hour.

The Cycles supports Ad Lib and Tandy DAC sound during its opening credits but relies on the PC beep-and-boop during race time. You won't sound as bad as Marlon Brando did in *The Wild One*, but you may equal Michael J. Pollard in *Little Fauss and Big Halsy*.

Motorcycle-racing fans will appreciate this nod toward their sport, and racing-simulation buffs may find it a worthy addition to their trophy case—all the fun, half the wheels.

PETER SCISCO

Commodore 64/128—\$29.95
IBM PC and compatibles—\$39.95

ACCOLADE
550 S. Winchester Blvd.
Suite 200
San Jose, CA 95128
(408) 985-1700

LASER PC3

The drive toward smaller computers has given rise to a lot of companies that are striving to put the latest technology on the road and/or in your pocket. One of the latest is Laser Computer and its PC3, a notebook-size computer that offers ten functions for those times

you don't need the power of a full-blown laptop, or for those for whom a laptop or one of the sleeker notebook PCs is still too expensive.

The PC3 isn't meant to replace a full-size laptop. It doesn't run DOS programs, but rather makes use of its own ROM-based applications. Its ten functions include a spelling checker, a calculator, a telephone directory, an appointment book, an alarm clock, a personal database, a typing tutor, a communications module for uploading and downloading to and from a desktop system, a word processor, and

an expense-account module. It's an eclectic mix, kind of a scattershot approach for a machine that tries to be something for everyone.

The PC3 weighs in at 2.4 pounds, including the four AA batteries that power its Z80 processor. An optional AC adapter is available. While these features are commendable, the system falls short in other basic areas. For example, the display screen is two lines deep by 20 characters wide, more similar to an electronic typewriter than to a laptop or notebook PC. Also, although the keyboard is laid out well and avoids crowding, it feels clunky—character repeats are common. To say the least, it takes some getting use to. (Perhaps that's why Laser included a typing tutor in the collection of built-in software.)

On the plus side, the ROM-based applications work well and leave almost the full 32K of RAM free for data. The personal database, appointment book, and telephone directory are especially well designed, with lightning-fast searches. To find a piece of information, simply type in the string you want the computer to search for at the appropriate spot. The string doesn't have to be a complete word; for example, if you wanted Bill Smith's telephone number, you could type *Smi* and the search would reveal all matching entries (including any *Smithfields*, *Smithereens*, and *Smirkles*).

The telephone directory, appointment book, and personal file are limited to five 40-character lines per entry. Acoustic autodialing is offered in the telephone directory. The alarm-clock function handles up to four alarms that can be set on a daily or weekly basis.

The word processor is pretty bare bones, but it serves its purpose. It's backed by the PC3's 80,000-word spelling checker. One drawback to the spelling checker is its inability to check an entire document. When run by itself, the spelling checker works much like one of the pocket electronic dictionaries that are so common these days.

The PC3 comes with version 5.5 of *PC-Tools Desktop*, through which it up- and downloads information. I wish Laser Computer allowed for straight transfer of ASCII files. If you want to use your word processor to edit a document you've written on the PC3, you have to send the document up through the *PC Tools Desktop*, save it into the Notebook as an ASCII file, and then open that file under your own editor. It's not impossible, but it involves a few extra steps. The

only problem I had uploading came from a flaky serial card. The technical support staff at Laser talked me through the entire procedure until we were sure that the problem wasn't in the software or in the PC3. Give that support good marks. Once I was linked to a working serial port, I was able to send the first part of this review into a Notepad file and convert that file to ASCII for *XyWrite II Plus*.

Although the transfer went smoothly, I was disappointed that my paragraph breaks did not translate. The translation should be more transparent and more accurate. On the other hand, when I sent my file to a printer, the paragraph breaks did translate correctly.



While on the road, the PC3 puts all of the important features at your fingertips.

The main strengths of the PC3 lie in its ability to share files with a desktop computer (either a PC or a Macintosh) and its bottom-line price. Although it lists for close to \$250, I recently saw an ad from a major retailer showing it at \$179. That's almost \$200 less than Tandy's new WP2, one of the PC3's main competitors. Both machines offer word processing with a spelling checker. The Tandy has the advantage of the larger screen; the PC3 offers other modules that make it more of a personal information manager. Neither machine rivals a laptop for versatility, nor is either as small and compact as some of the pocket-size organizers like Sharp's Wizards.

In the end, buying any downsize personal computer is a matter of balancing expense with function. If a couple hundred bucks is all you want to spend, and you only need to take some of your computer's capabilities on the road, the PC3 is worth considering.

PETER SCISCO

IBM PC version—\$279
Apple Macintosh version—\$279

LASER COMPUTER
550 E. Main St.
Lake Zurich, IL 60047-2576
(312) 540-8086

IF IT MOVES, SHOOT IT!

The title says it all. This game isn't for computer adventurers bent on solving the unfathomable riddle of the Wizard Orloc and retrieving the key to the princess's dungeon cell. And it isn't a slow-paced puzzler for computer-chess fanatics who long to challenge Deep Thought. This game tests your joystick and/or keyboard skills while it pushes your eye/hand coordination to the max; quite simply, if anything moves on the screen, vaporize it with your laser.

You play the role of the last elder in a colony established generations ago on the planet Kort. Over time, a mystery has developed: Colonists have disappeared during treks into the wilderness. As you set out in search of the lost colonists, an army of techno-renegead spaceships descends on you. Your only hope: shoot anything that moves.

You start armed with simple lasers, but you can add to your arsenal as the battle wears on. Some weapons are ineffective against particular aliens.

The game's background graphics are an interesting, futuristic, and alien pastiche. It's the familiar look from overseas, a Euro-arcade (to use *COMPUTE!* Assistant Editor Denny Atkin's phrase) with a distinctive style. The opening score is quite an achievement in its own right, coming from the standard PC speaker. It won't put John Williams out of a job, but it reflects a sincere effort to create a unique game.

Other than the graphics (best seen in EGA or VGA, of course) and the brief opening music, *If It Moves, Shoot It!* doesn't distinguish itself from other shoot-'em-ups. It is, thankfully, priced at a level equal to its worth. If your idea of computer-gaming fun is blasting aliens and avoiding destruction, this is your ticket to ride. But be careful. If you lose, you lose your soul.

PETER SCISCO

Amiga—\$29.95
IBM PC and compatibles—\$29.95

EMERALD SOFTWARE
Distributed by Broderbund Software
17 Paul Dr.
San Rafael, CA 94903-2101
(415) 492-3200

BANNERMANIA

Seeing your name on a banner is the next best thing to seeing your name in lights. Broderbund's *BannerMania* lets you easily make banners. It's packed with flexibility—and when it comes to making banners, flexibility means fun!

The program offers what seems like an endless variety of eye-catching one- or two-line banners; each line can contain up to 63 characters. Letters can be printed in your choice of 19 different fonts, and you can use different fonts on each line.

For added excitement, *BannerMania* offers a wide variety of graphics. These include arrowheads, pointers, stars, and more.

BannerMania also lets you choose from among 34 letter-enhancement options. These let you print your banner with effects that include altered perspectives, shadows, balloons, and accordion folds. On multiline banners, you can use a single effect throughout or assign different effects to each line.

You also get a choice of almost 30 different banner shapes. Some, like sports-style pennants, you've seen before; others, such as double convex or wavy, may be less familiar but delightful. Regardless of the shape, the program automatically configures your message.

More choices arise for shading and coloration. With monochrome printers, you've got your choice of 18 combinations of black, white, dot, and line patterns; if you have a color printer, choose any of 134 predefined color sets. You can use one set throughout your banner or assign a different set to each line.

And then there's formatting. You can center your message, justify it right or left, or print it with both lines of text the same length. You can also stretch your banner's message, changing its width without changing the height of the letters. This is particularly handy when you want to emphasize a message or for when you want to create banners more than 25-feet long.

BannerMania lets you shrink your message in 10-percent increments down to 10 percent of the standard width. Another option lets you set the vertical alignment of your message, moving it to any of several different positions on the page.

Fonts, effects, multiline messages, numerous print options—that's

a lot of flexibility, but the program isn't hard to master. It's built around a series of easy-to-understand menus. You select items by highlighting a choice and pressing RETURN; alternately, you can make choices with a Microsoft-compatible mouse. The screen also offers a message area, and context-sensitive help is available at the press of a key.

One particularly handy feature is the ability to preview your banner on the screen. Look at the entire banner or an enlarged view of just a portion. Page breaks are indicated to make things easier for banner makers limited to fanfold paper.

This package will find a place in a variety of settings. Whether at work, school, or home, kids and adults will revel in its flexibility. The 40-page manual does an excellent job of documenting the program's many features. The program supports a long list of printers, including laser printers. If you've been searching for a first-rate banner program, look no farther. You'll be happy to rally around the *BannerMania* flag.

STEVE HUDSON

IBM PC and compatibles—\$34.95

BRODERBUND
17 Paul Dr.
San Rafael, CA 94903-2101
(415) 492-3200

TANK

The imminent collapse of the Warsaw Pact and the waning of Syrian and Iranian military strength in the Middle East make it look like the only way armor enthusiasts will get to fight a big tank battle is by commanding heavy metal on a PC. Armchair Pattons everywhere will rejoice now that Spectrum HoloByte has released *Tank*, the definitive tank-warfare game.

The stars of *Tank* are the General Abrams M1, M1A1, and M1A2—the U.S. Army's main machines, lovingly recreated in as much detail as Spectrum HoloByte could coax from the Department of Defense. What sets *Tank* apart from other tank simulators, which often limit you to either strategic or individual combat scenarios, is the full range of roles you can take in the game. You can plot tank strategy and operations as a battalion or company commander by moving tank and support-vehicle icons on de-

tailed terrain maps derived from the real ones. At the tactical level, as platoon captain you can command and position a few tanks and support vehicles to take objectives defined by the upper brass. Or you can rock-'n'-roll in the tank itself as driver, gunner, or tank commander, with realistic driving and gunnery displays. Lose your tank and you're automatically transferred to another until you achieve your objective, all your tanks are destroyed, or mission time expires.

Tank offers 15 missions in three groups: training missions at Fort Knox, operations against the Russians on the plains of eastern Europe, and contests with Russian-backed Syrian forces at the Lebanon-Syrian-Israeli border.

The key to winning *Tank*, as in a real war, is knowledge and preparation. With multiple information screens, command roles, tank missions, levels of play, and individual players, nine maneuverable viewpoints, symbolic terrain maps to read, icons to memorize, complex control panels to master, and up to 12 tanks to command, you could spend as much time learning *Tank* as real tankers spend in tank school. On the strategic level, a little research into the realities of armored combat doesn't hurt—so hop down to the library and check out General George S. Patton's memoirs for tank-deployment tips.



You'll have to command your vehicle forcefully in Spectrum HoloByte's *Tank*.

For success in individual combat, quick mastery of the several sets of keyboard commands is necessary, but not easy; you'll need to keep the supplied keyboard-summary card handy for a long time. You can use a joystick for some actions, but you'll still depend primarily on the keyboard. Also, think like a real tank commander—hit hard and split, because if you stay too long in one place, Ivan or Abdul will turn you into slag.

One real battlefield threat that *Tank* ignores is infantry with wire-guided antitank rockets—the bane of the Israelis in the Yom Kippur War. In fact, there's no role for infantry anywhere in this game—but you can't

have everything. One thing I do wish had been included was a game-save feature, but you can at least pause the game to get more C-rations.

Tank is for PS/2s and AT-class PCs only; it comes on a 1.2MB 5¼-inch high-density disk and a 720K 3½-inch disk and runs best from a hard disk. Game graphics are not VGA, as you might expect, but EGA; they don't provide "realism at its best," as the box copy claims, but are certainly adequate for a simulation. The 3-D graphics are as good as EGA can do, detailed and smooth-scrolling. In fact, all response in this game is gratifyingly immediate.

Included is a well-written manual with an index and a bibliography. Make sure that you pay attention to the several addendum sheets included with the package, since these note important changes in the program. Two or more players can meet on the field of battle via modem; some can take Russian tanks, but all interior shots are of M1 armament.

If you sigh wistfully for the great tank battles that may never be, *Tank* is definitely your game.

STEVEN ANZOVIN

IBM PC and compatibles—\$59.95

SPECTRUM HOLOBYTE
2061 Challenger Dr.
Alameda, CA 94501
(415) 522-3584

ALGEBRA I FIRST SEMESTER AND ALGEBRA I SECOND SEMESTER

Have variables, linear equations, or polynomials gotten you down? Is algebra a sore subject? Well here's some good news: Britannica's Algebra I educational software is waiting to be your personal tutor. The company's two programs, *Algebra I First Semester* and *Algebra I Second Semester*, cover all the Algebra I essentials. These two tutorials are great whether you are learning algebra for the first time or are just reviewing your skills.

Developed by educators, the pro-

grams parallel many school textbooks. They include a handy curriculum chart showing which lessons on the disk correspond to specific chapters in six of the most widely used Algebra I textbooks. If your book isn't listed, it's easy to compare its table of contents with the list of program concepts to find the appropriate program areas.



Algebra I First Semester and *Algebra I Second Semester* help hone your skills.

Algebra I divides its tutorial into units of study, each of which includes four concepts. For example, the unit on linear equations explains and tests the concepts of solving equations, simplifying equations, graphing equations, and solving word problems. This amount of segmentation makes it easy to pinpoint the part of the program you need.

Every concept is presented in three sections: a lesson and demonstration, examples with help, and practice problems. The first section displays step-by-step solutions for sample problems. You can view as many as you want and then proceed to the example stage. This level walks you through the solving process while asking questions. Mistakes are immediately flagged, and you're given the chance to correct errors using hints from the program. The last section tests your mastery of the concept. It keeps score and displays the answer for any problems that you missed. Correct answers are rewarded with congratulations such as *super* and *fantastic*. You may need to calculate your answers for many of the concepts using pencil and paper, because the computer asks for a final answer only.

There is one minor glitch which can reward the student prematurely. For example, suppose you thought the answer to a question was 11 but the answer was really 1. As soon as you enter the first digit, it displays *well done*. You get credit for a correct answer, though you had a different one in mind. Fortunately, this happens rarely and the effect is minor.

There's a unit test covering the four concepts within each unit. It's similar to a textbook chapter test.

There's no danger of memorizing answers; each practice session and test presents a different set of problems.

It's easy to monitor your success with the Progress Report option. This keeps track of your practice and test scores from session to session. It keeps score for several students.

The program is straightforward and easy to use, and the simple-to-understand menus make it even easier.

You get a choice of CGA or Hercules graphics. I experienced a serious problem with some memory-resident programs. Using pop-up TSRs while running or after exiting *Algebra I* caused my system to crash. Additionally, if I used any other program and then tried to rerun the program, I got an error message.

If you or someone you know needs help in algebra, just call on your personal tutor for help. *Algebra I First Semester* and *Algebra I Second Semester* are excellent programs and are considerably cheaper than summer school.

JANE CROSS

Apple II—\$49.95 each, \$79.95 for both
IBM PC and compatibles—\$49.95 each,
\$79.95 for both
Lab packs—\$125.00

BRITANNICA SOFTWARE
P.O. Box 77186
San Francisco, CA 94107
(415) 546-1866

DEATHTRACK



Ever wish you had just one little land mine to teach a persistent tailgater a lesson? Or perhaps a heat-seeking missile to eliminate the little blue Chevette going 45 in the fast lane? If so, *DeathTrack* is your kind of game.

DeathTrack is sort of a combination of a Grand Prix race and a Rambo movie. You're out to win the most races on a ten-track circuit. Why rely on speed and driving finesse to win, though, when you have heat-seeking missiles, particle-beam weapons, mines, and machine guns to give you that extra edge? The problem is, the other drivers are armed to the teeth, too, so you've got to try dodge enemy fire while out-driving and outshooting the other racers.

You can choose among three cars and outfit them with your own choice of power train and armament. If you're the shooting type, buy a big machine gun and a laser. If your com-

bat style is more personal, beef up your armor, put a set of ram spikes on your car's grille, and knock the other cars off the road. The higher you place in each race, the more money you win. You can use your earnings to repair damage and soup up your car even more for the next race on the circuit.

DeathTrack's graphics are excellent. The cars are 3-D solid models with a fair amount of detail. Ram another vehicle and you see the dents. Screen updates are incredibly fast on a turbo XT or AT. The game runs in the high-resolution black-and-white mode on a CGA system. EGA and Tandy graphics are full-color.

This game is just plain fun. And it's excellent therapy after a long freeway commute.

DENNY ATKIN

IBM PC and compatibles with 512K—
\$44.95

ACTIVISION
Distributed by Mediagenic
3885 Bohannon Dr.
Menlo Park, CA 94025
(415) 329-0500

QUICKLOOK

This DOS file utility is a lot like a Ferrari. They both come in a sleek, glossy package. They're both fast. But unlike the Ferrari, buying *QuickLook* won't make you a pauper.

QuickLook takes the pain out of maintaining DOS files, especially on a hard drive system. Fire up the program and the first thing you notice is its use of color. The screen area isn't cluttered by unnecessary lines and boxes, just pure simple color to highlight different areas of interest. If you have a monochrome system, you'll see different shades.

As you begin to push *QuickLook's* limits, it becomes clear that this package was designed for high performance. Almost before you release a key—*vroom!*—*QuickLook* has performed the operation and updated the screen. And it's done without the vibrations such as screen flicker and drive rattles you've come to expect in some software packages. It's a speed demon.

And it handles well. Almost every command can be executed with one finger. Just look on the bottom three lines of the screen for a list of the keystrokes you can use. A dual com-

mand interface allows you to either press a single key to perform a command or press the slash key to activate a point-and-shoot system in



Tame the DOS prompt and speed up your directory accesses with *QuickLook*.

which you highlight the desired command and then press ENTER.

All the files in the current directory appear onscreen in alphabetical order. If you want the first file erased, simply press K for kill. If you want the second file copied and the third file moved, highlight those files respectively, press C for copy and M for move. Press the ENTER key; the first file is erased, and the second and third files are copied and moved to the chosen directory or drive. It's remarkable how simple it is—the DOS inventors should have done this well. *Quick-*

Look comes with all the standard options such as Rename, Print, View, Compare, and Sort to make your daily drive through DOS files much more enjoyable.

Some of the not-so-common features are encryption, head parking, and backups. By selecting a file, you can easily encrypt it so that peering eyes can't snoop through your information. Head parking allows you to move your machine without fear of damaging the hard disk. Although it's not a full-featured backup program, *QuickLook* makes backing up files easy for users who don't know a backup from a pickup.

QuickLook's extended features also serve it well. For example, if you accidentally erase your only copy of a file, simply press Ctrl-R, and all files that have been erased in that directory are listed onscreen. Highlight an erased file, press ENTER, and it's recovered.

There's even an onboard vaccination program to help protect you from the recent epidemic of computer viruses. *QuickLook* takes a "snapshot" of your files. Later, if a virus infects any of your files, the picture appears different and the program alerts you. Also included is a phone directory with a 300-name capacity. ▸

"She had big brown eyes, the cutest laugh—and leukemia."

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The one overwhelming feeling you get from this package is speed—everything is quick. Having used *QuickLook*, it's now my number 1 choice of file utilities. I highly recommend it to anyone wanting to master the road of hard disk management.

MICHAEL MASON

IBM PC and compatibles—\$49.95

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STARGLIDER II

Sophisticated flight simulation in a futuristic craft and arcade-style blasting combine for exciting and nonstop action in *Starglider II*. And an adventure-game component gives the game just enough story to provide you with some objectives beyond the all-too-common basic seek-and-destroy mission.

Your craft, the Icarus, has been designed to stop the advance of the evil Egron Empire. You must invade the Empire's most heavily guarded solar system and then locate and destroy a huge space station currently under construction. Of course, space pirates abound and high-powered beam projectors add spice to your flight. But the Icarus is up to the task.

The Icarus boasts a massive array of weaponry, ranging from basic lasers to neuron bombs. Additionally, it has been designed for maximum maneuverability and speed. All of its attributes are at your disposal—once you figure out how to read and use all the beautifully depicted but confusingly similar controls on the panel. Mastering your controls puts you in command of an awesomely destructive craft. However, don't expect to fly this baby effectively upon first takeoff. Its sophistication leads to complication.

A similar dilemma exists when dealing with the multitude of objects that quickly become visible through your cockpit window. The graphics are dazzling in EGA mode, and the number of objects—be they buildings, planets, moons, enemy spacecraft, or asteroids—are impressive. Until you get the hang of this program, the portrayals of the objects are confusing.

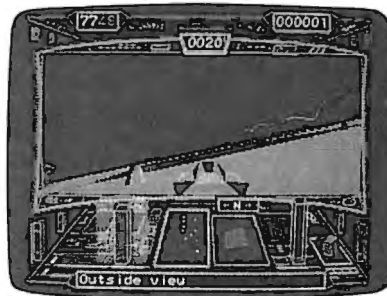
Granted, a teletypelike status screen provides you with information as you approach various objects, but you still need to learn to distinguish

vessels, buildings, and tunnels (akin to intergalactic highways) on sight because of the speed with which the action occurs. The 3-D images, while very well done, inherently limit the details. This factor contributes to the identification problem.

Once you've learned to pilot the Icarus and identify what you're seeing, the game literally takes off. There's certainly enough to do. Besides fighting the bad guys, you must do some intergalactic scavenging in order to obtain materials to trade for repairs and equipment upgrades at Service Depots; you must constantly be aware of fuel requirements and master various methods of obtaining fuel (including the inexpensive but dangerous buzzing of the sun itself to obtain corona energy and convert it to fuel); and you must learn to negotiate the intricate pattern of junctions, exchanges, and tunnels that connect various points of the galaxy.

Incidentally, one neat way of getting fuel is to capture volcanic emissions. You hover over an active volcano and align your ship with the gaseous streams being emitted. However, you must avoid the rocks being upheaved by the volcano or your ship will be totaled very quickly. This maneuver is only for the skilled pilot.

Several listed requirements might incorrectly lead purchasers to skip over *Starglider II* on the shelves. The outer packaging states that a joystick is required for play. You can use a joystick, mouse, or keyboard—all with equal ease. The joystick doesn't seem any more effective than the mouse is, and keyboard commands are necessary no matter which interface you use. The program requires 512K for EGA, VGA, and Tandy 16-



You'll have plenty to shoot while you are piloting the Icarus in *Starglider II*.

color graphics. CGA and monochrome computers need only 384K to run the game. One slight bit of confusion: When I booted *Starglider II* on my system and answered the prompt requesting EGA graphics, the program told me it couldn't find my EGA card. However, after telling it to continue

anyway, I was rewarded with multi-colored EGA graphics.

It's safe to say that *Starglider II* isn't for beginners; it's also safe to say that *Starglider II* will delight those who enjoy action flight simulators with an outer-space theme. Deep space and the Egron Empire await the pilot of the Icarus. Have a good flight.

JAMES TRUNZO

IBM PC and compatibles—\$44.95
Macintosh—\$49.95

MICROPLAY SOFTWARE
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ON-LINE

Few computer experiences can surpass the excitement of telecommunication. Unfortunately, few experiences can be as maddening and difficult at the same time. Selecting compatible hardware and software, configuring everything properly, and connecting with even the simplest local BBS can often be more of a challenge than most potential telecommunicators are willing to tackle.

Sierra's *On-line* is trying to change that. It's billed as the *easiest to use modem software ever!*

Sierra's unimposing manual is 72 pages of clear, understandable prose. Its introduction promises that beginners will be telecommunicating in less than an hour. I started my timer and began following directions.

Backing up the unprotected originals took about four minutes using DOS's DISKCOPY command. Reading directions and installing *On-line* on my hard drive required five minutes more. *DeskMate* users could install the program onto their desktops in about the same time. Alternatively, *On-line* can be run directly from floppies without *DeskMate*. Since the package includes both 3½- and 5¼-inch sizes, virtually any functioning MS-DOS system will do. Just select the proper drive, type ONLINE, and wait a minute or so. Total time from box opening to first glimpse: ten minutes.

Those who already understand Tandy's *DeskMate* interface will feel instantly at ease; others will catch on quickly. Either way, new users will want to read about the program commands and experiment a little, using dialog boxes to set phone numbers, se-

lecting communications ports, and such. Don't change anything yet, though. With *On-line's* preset configuration—COM port 1, 1200 baud, eight data bits, one stop bit—the program should work OK for most situations. I decided to save fine-tuning for later. Running time: 20 minutes.

At this point, you can follow the manual's instructions for calling Sierra's own bulletin board system (BBS) in California, or you can attempt to contact a local BBS. Caution: Attempting to contact local BBSs without first becoming familiar with a few technical things can be hazardous to your sanity. For a gentler introduction to telecomputing, call Sierra's board. It's a convenient way to get your feet wet.

Within 45 minutes of starting my timer, I began downloading a demo version of Sierra's *Leisure Suit Larry* from its BBS. For those who need special help, the board provides a customer-service section.

On an Ease-of-Use scale of 1-10, *On-line* rated a 10 in my unscientific test. I don't know how general-purpose terminal software for MS-DOS users could be made simpler. But what about power and features?

On-line supports a maximum data-transmission speed of 9600 baud, fast enough to handle the most efficient phone-line connection but a bit slow for direct exchanges using a null modem. The program provides an easy-to-use AutoLogOn Editor for creating automatic log-on files. Review



Communications parameters are easy to view and set with Sierra's *On-Line*.

Mode allows users to scroll through the program's memory buffer to find stuff that scrolled off the screen. In Host Mode, your computer can await calls from remote terminals and answer automatically.

For CompuServe's CB Simulator or Chat mode on your local BBS, try *On-line's* Conference Mode, a split-window arrangement that separates your outgoing messages from incoming ones. The program also handles ASCII, several variations of XMODEM and YMODEM, and Compu-

Serve's Quick B+ protocols.

Overall, Sierra's *On-line* offers an attractive blend of simplicity and power. Advanced users will find it a solid performer for regular use. Beginners should have little difficulty making it work. If you've been avoiding telecommunications because of its difficulty, you're out of excuses.

DAVID STANTON

IBM PC and compatibles with 512K and Hayes-compatible modem—\$69.95

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JOAN OF ARC: SIEGE AND THE SWORD

Not many games offer a well-tuned mix of arcade action and deliberate strategy. But the intriguing *Joan of Arc: Siege and the Sword* from Brøderbund skillfully blends keyboard and joystick reflexes with some mind games to replay many of the tumultuous events of fifteenth-century France.

The scenario is straightforward. You're the young dauphin, Charles VII, and you're destined to be king of France. But it's 1429, and the land is ripped by war. The English and Burgundians have already taken over much of your beloved country.

But the tide is fixing to turn, and you're the one to make it happen. The first step is to battle your way to Reims—you'll do this with the help of Joan of Arc. There you'll be crowned king, and once you're king, you'll lead your people to freedom.

At first, since you have no resources, your strategic options are limited. But as the game progresses and your campaign to free France begins to take shape, the list of options lengthens. In fact, once you're crowned king, you'll find a number of avenues open. You can collect taxes, raise armies, send out spies, assign generals, execute your enemies—all the usual things that kings do. But each decision has potentially broad implications, so you'll need to make every move with all of the care and foresight that your royal wisdom allows. Without a doubt, this will keep the gray matter humming.

But *Siege and the Sword* is more than just a mind game. All along the way you'll find yourself faced with situations that require immediate and physical action. These situations let you exercise the old joystick hand and provide welcome relief from the tensions of day-to-day kingship.

At one time or another, five different medieval situations will march across your screen. One is open-field battle, where you lead squads of infantry, archers, and cavalry—with bombardiers in the background—against a similarly equipped enemy.

Then there are walls. Sometimes you must defend them by dropping rocks or boiling oil on your attackers, and sometimes you must scale them yourself. You'll also have the opportunity to take a bridge.

A fifth encounter comes when you're challenged by an enemy cavalier. When that happens, you get a choice of weapons. This will keep your trigger finger warmed up and limber.

With 73 authentic provinces and towns and 31 historically accurate characters, *Siege and the Sword* offers virtually unlimited scenarios. You



Digitized images add even more realism to *Joan of Arc: Siege and the Sword*.

may choose to emphasize diplomacy this time around; next time, the focus may be on strategy or confrontation. You have as many as 20 options to specify on each turn, so you can make your conquest as simple or as elaborate as you choose.

The game itself plays well, although I found keyboard control a bit awkward. Joystick or mouse control is smooth and definitely preferred.

You'll enjoy *Siege and the Sword's* graphics. The opening screens, built around a medieval-looking book, provide a captivating introduction. The battlefield graphics are good, too. A color monitor, although not required, is highly recommended.

Overall, *Siege and the Sword* is well done, with a blend of strategy and action that should keep game players enthralled for hours. If you've ever

longed for conquest, check out *Siege and the Sword*. It's just the thing for armchair adventurers far and wide.

STEVE HUDSON

Amiga—\$44.95
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BRODERBUND
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IQ STUDY MATE

Are you faced with an insurmountable pile of facts that need to be memorized? Let *IQ Study Mate* turn your computer into a drill sergeant who's willing to test you ad nauseam on virtually any information you care to enter using the keyboard. It's computerized home study, tailor-made to fit your needs.

The program consists of several modules. You create files in the Homework section. *IQ Study Mate* makes the assumption that most information consists of sets of isolated facts. So, you can enter data only in the form of paired pieces: a date and the associated event, an expression and its explanation, a location and its description, or a person and his or her importance. Using these pairs, the program forms questions and answers. Multiple-choice questions draw their erroneous answers from a bank of responses that is stocked from the answers of other questions. Once the data is in place, another option on the Homework menu lets you review the facts by scanning through the pairs one at a time. You can then switch to Take a Test and quiz yourself in the interactive mode. With Print a Test, you can generate a written exam complete with a handy answer key.

The program is menu-driven, reasonably straightforward, and quite easy to use. Once you've figured out how to enter pairs of facts to take advantage of the question structure, there is little left to do other than type.

But that simplicity doesn't mean *IQ Study Mate* is stupid. If several questions have the same exact subject, the answers will not be mixed together. That avoids having several correct answers to the same question. This unique feature makes it possible to effectively drill a large variety of different facts about the same person, the same date, or even the same location.

The program's simple design

does interfere with other functions, however. For example, the word processor supplied in the editor is very old-fashioned. It's not possible to insert letters, to correct spelling mistakes without erasing, or to move around the screen freely. This weakness is compounded by the difficulties involved in fine-tuning the phrasing so that the questions make sense in multiple-choice, true/false, and matching formats. As a further complication, there are fairly severe limits on the space for the data pairs. The first piece of information (date, expression, location, or person) can be no longer than 25 characters, and the second piece (event, explanation, description, or importance) can contain only 80 characters—you have to stick to short sentences or phrases.

While in the interactive mode, the response to each question is evaluated immediately, and feedback is given in the form of a score and an explanation. Unfortunately, all of this elaborate recordkeeping isn't saved; once you've finished a quiz or test, your results disappear forever. You can't review selected material, nor can you keep track of your progress on the computer.

As a test generator for classroom use, *IQ Study Mate* lacks many essential features. Because the multiple-choice questions are formed by picking one key pair and then filling in the alternative choices randomly, getting the right answer can often be done by eliminating the ridiculous statements. True/False questions suffer from a similar problem. Since the two parts of the question are selected randomly from the given database, absurd statements appear far too often. Even the controls over the layout of the printed tests are quite simplistic. While it's possible to set the margins and page length, spaces can't be left for diagrams, nor can questions be sequenced in order of difficulty. There's no way to include directions, to mix up question types within one section, or even to offer linked questions.

Because of the limits of *IQ Study Mate* as a test generator, I wouldn't recommend it to teachers. For home use, however, *IQ Study Mate* may be acceptable. It's fast and easy to use, data can be entered quickly, and the interactive testing routine provides a review mechanism that's likely to be more effective than just staring at a pile of information.

The seriousness of the interface makes *IQ Study Mate* appropriate for older students or adults who are sensitive to the value of the time they

spend reviewing material. You'll have to spend a lot of time entering data at the beginning, but it's a job that only needs to be done once per stack of facts.

LESLIE EISER

Apple II—\$69.95
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JOHN MADDEN FOOTBALL

Here's one of the most comprehensive and realistic football simulations ever created for the PC. John Madden Football brings in factors like fatigue, injuries, penalties, and a 30-second offensive time limit (which you can toggle on or off) to create a gridiron on your PC.

You can play on natural grass or turf and in a domed or an open stadium. The weather can be hot, rainy, cold and windy, or snowy. Just as important, you get to select the home-field conditions under which each team normally plays. Thus, a team that nor-



Watch the gridiron action from overhead while you play *John Madden Football*.

mally plays on grass will be faster on turf (though more injury-prone), and a team that usually plays where it's warm will have a particularly tough time in snow.

The game comes with nine pre-built teams ranging in ability from that of an average pro team to that of a team made up of John Madden's picks of the greatest pro players of all time. Before a game, each team can be set on Beginner, Standard, or All-Pro for even matchups between players of varying ability. Similarly, when playing against the computer, you can choose Conservative, Normal, or Ag-

gressive artificial intelligence to balance the computer's game.

One of the great things about *John Madden Football* is that, despite the game's sophistication, the designers were thoughtful enough to include a Quick Game that lets you start playing as soon as you boot up. When playing the Quick Game, you have only nine offensive and nine defensive plays to remember. These are all basic running, passing, or kicking plays and corresponding defensive formations for each. In the Quick Game (as in the standard game), you can simply call the plays and watch the action unfold or take direct control of the quarterback, receiver, or running back. Using the mouse or joystick, you can control the crosshair cursor to aim your passes anywhere on the field or toggle among eligible pass receivers. A special Quickness button allows you to give the ball-carrier an extra burst of speed for a limited time.

When you're ready for the standard game, *John Madden Football* offers 81 offensive and 81 defensive plays to choose from. Separate offense and defense playbooks group the plays by situation and provide chalkboard diagrams of all formations along with advice on play-calling from John Madden. Besides the control of offensive players, the standard game allows you to call presnap audibles for the defensive team from the huddle screen. You can, for example, tell specific defensive players (by entering their jersey numbers) to blitz the passer, assign man-to-man coverage for up to three players, or take control of a single defensive player's movements after the ball has been snapped.

As the ball is snapped, you see a closeup of the action from directly above. Then, if the offense has chosen a passing play, the view switches to a wider shot that includes all downfield receivers. If the pass is caught, the view again changes to a closeup showing the receiver running with the ball. Here, the graphics and animation are only adequate, and the sound consists mostly of digitized snippets of voices, colliding players, and crowd noise.

A full range of individual and team statistics are kept automatically throughout the game so that at any point you can check the stats on first downs, yards passing, yards rushing, third-down conversions, penalties, fumbles, and sacks for both teams, as well as detailed performance stats for all quarterbacks, running backs, receivers, and kickers. In addition, all of the statistics can be printed after a timeout so you can have a hardcopy

to which you can later refer.

If this were all there was to *John Madden Football*, it would still be a great game. But this is only the beginning. The game also lets you create and edit your own players to form custom teams and leagues. An option called the Madden Report lets you compare the abilities of any two teams on a player-by-player basis. Finally, the Chalkboard option lets you edit existing plays and construct your own plays from the ground up by designating individual and group tasks and route assignments. In this way you can create new teams and playbooks and save them to disk, ensuring that *John Madden Football* will remain challenging long after this year's Super Bowl players have hung up their cleats.

BOB GUERRA

IBM PC and compatibles—\$49.95

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THE NEW PRINT SHOP

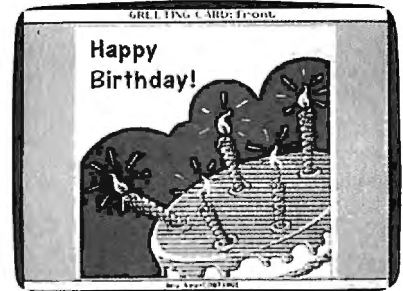
Useful, versatile, and lots of fun—that describes *The Print Shop*. It's been a staple in my software diet for several years. Well, this staple has blossomed into a culinary delight. Besides the greeting cards, letterheads, banners, and signs we *Print Shop* owners have been vigorously producing for years, with *The New Print Shop*, we can also satisfy our cravings for giant-sized posters, calendars, and even certificates.

Constructing large posters is easy: Just print multiple pages in any arrangement and then put them together. With this method, you can make posters as large as a garage door. Monthly, weekly, and daily calendars can contain text and graphics as reminders of important events. Printing certificates from a file of names will give you personalized forms for many occasions. You can also print thank-you notes for those last birthday presents you got.

But the list of additions doesn't stop there. You can place multiple graphics and different fonts on a single page, preview and print in seven colors, and create distortions and mirror images of graphics. One of the

greatest features of *The New Print Shop* is its ability to put graphics just about anywhere on the page. This freedom adds a new dimension to the program.

The program requires at least 512K, DOS version 2.1 or higher, a



Your creations will be better than ever with Broderbund's *The New Print Shop*.

graphics card, and a printer. Operation will be easier with a hard drive or two. Having disks on hand for saving graphics and extra color ribbons for printing is a good idea. For color printing, a hard drive is required. Although full mouse support is offered, the program is also quite simple to use with the keyboard.

The manual has an index to help you locate the new features. Also included are tips for using your printer, a troubleshooting guide to help you when things go wrong, and hints for advanced operations. You won't need any special skills to operate the program because it's menu-driven and has a great manual. Especially handy are the online help that is offered throughout the program and the function keys that are used to quickly issue text commands.

I have just a few minor beefs with this new version. Since there are too many features to be put on one 5¼-inch disk, several disks are included, but they aren't properly labeled. The Data 1 and Data 2 labels become useless the minute the program asks for the graphics disk. A small detail like that can spell the difference between frustration and excitement. Also annoying was the program's inability to figure out which drive to search for a disk. I would have liked a prompt telling me when it was time to insert a data disk or which drive to place it in.

On the plus side, in almost every menu, *The New Print Shop* makes good use of icons to identify the choices available to you. This has to be one of the easiest programs to use. The large number of choices, however, may be frustrating for young children. Although most children can operate the original *Print Shop* without help, they may require assistance

with this version. There's a lot more to read, and creating each project can be a long process requiring many decisions.

Function keys can now be used to change the fonts while you're writing. A quick-print feature has also been included. Quick printing lets you choose a graphic or type in a few words and then print the result without having to go through all the steps necessary to create a entire sign or card.

Although only the smaller graphics can be edited using the Graphic Editor, the modified images can be adapted to print in larger sizes. All of the earlier *Print Shop* graphics are compatible with the new version. I got brilliant results on my ancient dot-matrix printer using both the old and the new graphics.

Just a few sessions with *The New Print Shop* have convinced me that it's a great upgrade to a great program. Besides many new features, the familiar choices of fonts, graphics, borders, panels, and patterns have been greatly expanded. Multicolor options can enhance output, and even in black-and-white, the graphics now have a higher resolution. Uses of *The New Print Shop* are limited only by your imagination—here's an opportunity to feed it and watch it grow.

KRISTEN STERNBERG

IBM PC and compatibles—\$59.95

BRODERBUND
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San Rafael, CA 94903-2101
(415) 492-3200

FIRE BRIGADE

Panother Games' *Fire Brigade* is a war-game simulation of tides turning during the war between Russia and Nazi Germany. It takes place in November 1943, when the Russians were just beginning to assert themselves as the more powerful of the two armies in the conflict.

This game won't disappoint dedicated war gamers. I've never played a computer simulation that comes anywhere close to the excitement and the historical accuracy of a board war game—until now.

As the game begins, the Russians have a bridgehead over the Dnieper River, and Kiev lies almost in their grasp. The massive Russian forces proceed to steamroll the outnumbered Nazis and, by the end of the third day, control large portions of the map. The feeling of being outnumbered and in a hopeless situation comes out in full force. Then the fire brigade makes its appearance. The fire brigade is the 48th Panzer Corps, which, with its component units, proceeds to attempt to stop the Soviet onslaught.

At the start of each day, you have the option of reviewing the situation and developing a new set of orders or of updating the old plans to fit the new situations and problems. Then you review the battles, air interactions, and victory progress. You lose the game if you're decisively defeated for three consecutive turns. Because of this, the Germans must begrudgingly hold forward positions that proper military strategy would deem imprudent. This is a simple, yet accurate, way to show Hitler's "stand fast" orders.

The game system offers you a number of methods

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for issuing orders. Orders include attack, pursue, assault, hold, defend, delay, withdraw, and travel; and they can be given in relation to a geographical objective or an enemy unit. Units that suffer from fatigue or from lack of supply can refuse your offensive orders and revert to defensive orders. The computer will handle any actions that you don't. So if you become bored with worrying about supply, you can let your general staff handle it. The amount of detail you control is up to you. This feature lets you grow with the game.

After you've issued orders, allocated fire support, given replacements, and allocated supply, you watch the turn unfold. The units move around and fight each other automatically. Although battle results won't be visible until the next day's briefing, results of the turn become apparent while you watch the display. At six in the morning, your staff holds another briefing, and you do it all again.

The game comes with an 80-page rule book, a map of the battle area, two order-of-battle cards, and 3½- and 5¼-inch disks. The map, although drab by board war-game standards, is certainly functional; the rule book is comprised mostly of examples and charts. The order of battle is both useful in playing the game and historically informative.

Although there's very little wrong with this game, I have a few criticisms. There are no counters or markers to use with the supplemental map. I'm unable to fully visualize a military situation on a scrolling computer map, and markers for the corps and their orders would help in getting an overall impression of the battle.

Second, if you don't use a mouse, you'll find that the game moves much more slowly than it should. Also, the documentation on starting and saving the game is quite confusing; it will take a fair amount of time and you'll experience considerable frustration just trying to get going. Finally, there are no charts and tables to show how the combats and units interact. Without a combat-results table, for example, it's difficult to know how to attack and with how much force.

These shortcomings are minor when compared with the strengths of this simulation. If you have any interest in World War II, if you have ever enjoyed a military simulation, or if you're interested in trying a tension-building computer game that requires thought instead of reflexes, then *Fire Brigade* is for you. For myself, I guess I'll fling my Russian hordes once more into the breach. Helmets on,

comrades, we don't stop till we get to Zhitomir!

ADAM STARKWEATHER

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DOLPHIN BOATING SIMULATOR

So, you picture yourself the Don Johnson-type, huh? Slicing through the open water in an overpowered ocean racer. Well, *Dolphin Boating Simulator* covers everything you need to come aboard, from rigging the anchor to on-board maintenance.

Cruise the Chesapeake Bay with the included Voyage disk or sail off to San Francisco Bay, New England, the Florida Keys, Chicago, Long Island, Southern California, and Vancouver with the optional Voyage disks.

Each Voyage disk offers a number of different open-water courses. The courses are designed to present you with different challenges—from smooth water to variable winds to



Choose your course carefully and set sail in *Dolphin Boating Simulator*.

stormy weather. After you've chosen the voyage type, you pick the difficulty level. This affects things like the size of the waves and how easily your boat will capsize.

The next step is to set your course. Here you can either accept the standard course (a good idea for beginners) or adjust the course to compensate for unfavorable winds. Then it's on to the dock to select one of four boats: A 16-foot runabout, a 26-foot cruiser, a 38-foot ocean racer, or a 48-foot motor yacht. Each comes with either single or dual engines.

After a quick check for mainte-

nance problems, I jumped aboard the ocean racer, which I named the BAD CHILIDOG, and fired her up. Then, with all the grace and aplomb of a fat lady on a skateboard, I backed out of the slip. And, just to underline my obvious skill, I continued to back around in circles for several minutes as I fumbled with the controls.

After more than one near miss with other boats in the area, I was safely underway. A quick look at the chart showed my course straight to the right, which I mistakenly assumed to be 90 degrees. For some reason the map had been drawn with north positioned on the left—not on top as you would expect. Straight to the right turned out to be 180 degrees, or due south.

With my course corrected, I found a number of screens that help keep tabs on what's going on. The Instrument Screen shows a wide variety of gauges including a radar sweep, a tactical display, an engine temperature gauge, a tachometer, and a speed indicator. The Lookout Screen shows the world around you through a pair of binoculars. You can use this screen to check out the scenery and to look for upcoming obstacles. The Tactical Screen shows one-fourth of the chart, and you can zoom in for a close look. Fortunately, no other boaters were crazy enough to come within four miles of me as I weaved my way across the bay.

The Nav Chart shows your current position and heading as well as your plotted course. Part of your final score will depend upon how closely you matched this plot, so it's a good idea to check this screen often. This is also the only way you can really tell how close you are to running aground.

The real strength of this program lies in the fundamental model of how a boat operates and responds to commands on the water. It seems very accurate. Unfortunately, the screen graphics used to display the results of this model are not up to current simulation standards. The only graphics mode offered is four-color CGA, and the other boats you come across appear only as transparent wire-frame drawings. With other simulations using 3-D, filled polygons or detailed bitmapped graphics, the sight of old-fashioned wire-frame boats is certainly a surprise. The lack of visual references from the cockpit view means that you spend most of the time navigating by the compass and the chart instead of by dead reckoning.

I thought this old technology might speed up the graphics display, but the screen-refresh rate was just

Dolphin Marine System's 10-MHz AT. Dolphin Marine make a cryptic reference to a command to speed up or plains how to go about it.

Speaking of the manual, it does a good job of getting you going but assumes that new boaters know more than they might. For example, several pages are devoted to explaining how the important trim controls work, but little space is given to explaining how to set the trim for various sea conditions. In fact, the term *trim* is never actually defined.

Dolphin Boating Simulator is rich in detail and depth. Just about everything associated with powerboating has been included, right down to the trip to the gas pumps. But the outdated screen graphics fail to communicate the feelings of speed, power, and freedom which are such a large part of the powerboating experience.

RICHARD SHEFFIELD

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ROBOCOP

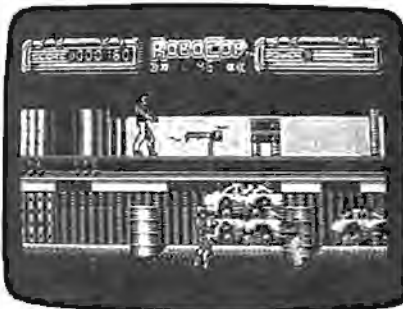
Defend Detroit against the hoodlums and thugs in Data East's *Robocop*. You won't have an easy time of it though, because winning this game takes skill, practice, and patience. Don't be discouraged; even the first few times you play, you'll enjoy this program because there's fast action and a lot of stuff to blast.

You need to anticipate each group of attackers so that you can get them before they get you. It usually takes a couple of times through before this happens, but even then, you'll need quick reactions to ward off attackers. The guys who fire at you from the windows are especially hard to get since you need to fire within a pretty narrow range of angles to hit them. Fortunately, extra firepower and health potions appear along the way. Without these, you'll have a tough time getting to the next phase.

The graphics are attractive, but not quite up to EGA standards. They looked like touched-up art from the Commodore 64. The animation is not as smooth as I'd like, but it's flicker-free and effective. Thankfully, Robocop's gun has a hair trigger, and this gives your character a decided

edge over the competition.

The sound is the typical PC speaker fare. Simple music with effective sounds punctuate the action at appropriate times. I could turn off the music but not the sound effects, an oversight that could cause problems if you play where unwanted noises are a



Blast the thugs and hoodlums as you clean up the neighborhood in *Robocop*.

nuisance (for instance, when other *COMPUTE!* editors are trying to work).

The manual was sparse on details. Robocop died quite a few times before I figured out how to overcome adversaries. For some people, that's half the fun, but not for me.

If blasting the bad guys is what you like, then check out this game. It's not the newest in ideas and technology, but that's not a prerequisite for having fun.

RICHARD C. LEINECKER

IBM PC and compatibles—\$39.95

DATA EAST
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EYE OF HORUS

Take a look at an unfinished legend chiseled on the walls of a dusty Egyptian crypt. It's an ancient tale of love, deceit, revenge, and restoration.

Osiris, the beloved king of all Egypt, has had a falling out with his evil brother, Set. Through a devious combination of circumstances and deceit, Set has tricked Osiris into lying down in a coffinlike chest.

As evil brothers are wont to do, Set nails the chest shut and floats it down the Nile. But, as frequently happens in legends and daytime TV, Osiris's wife, Isis, just happens to be catching a tan by the river and rescues the dying king. Feeling that time is short and that there is a possible leg-

end in the making, they immediately conceive a son; then Osiris passes away.

Fearing Set's anger, Isis attempts to hide the body. But it's quickly covered, and, in a vengeful rage, Set rips the corpse into seven pieces and scatters them throughout the labyrinth surrounding the tomb.

You become Osiris's son. He and you vow to find the missing body parts and return them to the tomb so Osiris and his family can rest in peace.

This game could have been called "Pitfall Harry meets the Mummy." You move your character through various chambers of the tomb in search of valuable magic amulets: the missing body parts. You can either walk (which is kind of slow take on the form of a hawk (which is much faster). Many of the passages are guarded by cursed hieroglyph that come to life and attack you. You can evade them or destroy them with papyrus darts while walking or with bullets while flying. Each time a hieroglyphic hits you, your energy level is reduced. Once you run out of energy, you lose a life. You are given the standard three lives to make it all the



Find your way through the the tomb and its many chambers in *Eye of Horus*.

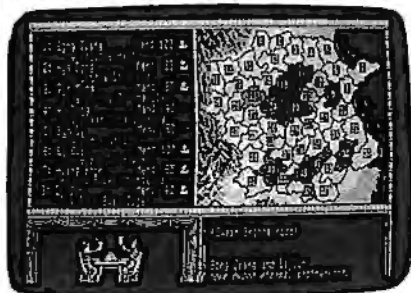
way through the game. The special frog amulet will give you one extra life.

Each chamber goes a short distance in each direction. You must use the elevators to ride up or down to different levels. If you pass an important item along the way, it's automatically added to your inventory. Gathering amulets and keys is important, as they increase your power over Set's evil forces and allow you to unlock certain elevators. Once you find the Amulet of the Steps, the game will automatically create a map of where you have been. This is very handy, as you will quickly run through a number of chambers and ride up and down several levels. Without the map, it's almost impossible to keep up with where you are and where you've been.

EGA and CGA graphics are supported; they're colorful and well done. ▶

and weaknesses determine your ability to lead, negotiate, and fight.

In some ways, *Bandit Kings* is like an ancient version of *SimCity*. You gain support from your citizens by developing flood controls, erecting buildings, and investing in the land, and they pay you taxes that provide



Survey the land and then choose your options in *Bandit Kings of Ancient China*.

revenue for your expansion.

As you grow more prominent, you recruit other bandits to help you rule your prefectures and lead your military forces. Here the attributes of your character's personality determine the recruits. Each one has different strengths and weaknesses that may help or hinder you. It's wise to choose your followers carefully.

You improve your armies by hiring soldiers, buying weapons, and training the men. Finally, you can attack other prefectures to expand your influence.

The battles are fought like those in the *Ultima* series. Each platoon moves and then attacks. Historical events form the basis of this game, but legendary aspects are included with the use of magic and fireballs in battle.

The battlefields feature impassable mountains, hilly terrain, swamps, and worst of all, rivers. The ships (literally junks) have a hard time navigating the raging rivers, and your forces constantly get washed downstream.

Random factors hinder your progress. Snowstorms close access to territories, while typhoons cause floods that can devastate your prefecture. Your citizens may become discontented and start riots. Wild animals may terrorize them. If you can successfully hunt down the beasts, you will gain more support from the people.

The Imperial Minister periodically demands tribute. His appearances, which are as welcome as landing on a hotel in *Monopoly*, seem more frequent as the game progresses. You typically have no choice but to give him a considerable portion of your gold. While collecting, the minister rubs salt into your wounds by sadisti-

cally laughing at you.

Like eating with chopsticks, this game takes effort to learn. However, the energy needed to understand the game and its myriad controls are well worth it. The text is clear and comprehensive. It contains interesting biographies on the characters and discusses the legends referred to in the game.

The game features first-rate graphics. Up to seven people may play at a time. The controls are straightforward and easy to use. However, the sheer number of commands, variables, and characters make this a complex game.

Bandit Kings of Ancient China is not copy-protected. It was refreshing to begin a game without having to insert a key disk or search the manual for a matching picture or word.

This game is among the most addictive and entertaining simulations I have ever played. There is always just one more battle to fight, good deed to perform, army to build, or prefecture to take. It's definitely not a slow boat to China.

WAYNE KAWAMOTO

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TOSHIBA EXPRESSWRITER 301

Travelers who enjoy the fruits of laptop technology can now write ideas and observations on paper at the very moment the lightbulb clicks on over their heads.

In spite of advancements in portable computing, some peripherals have lagged in development. Printers have been no exception; the very nature of designing a miniature version presents enormous problems. But, with the ExpressWriter 301, Toshiba is one of the companies that has met the challenge, solving many of the engineering dilemmas and reaching some adequate compromises with respect to weight, print quality, and features.

Ideally, a portable printer should

be light, small, and durable. The ExpressWriter 301 weighs a mere four pounds, about the same as many dictionaries. It requires less than one square foot of desk space, so it will even fit on those modest motel desks.

According to the manual, the 301 prints only single sheets—no pin-feed multisheet convenience. There's a small flap that holds the paper in place and serves as a sheet guide. This hinged flap closes down over the platen while you travel. Although single sheets work well for many purposes, feeding single sheets is inappropriate for long printing projects. So, I took a stack of regular, tractor-feed paper and tore off the edges. Once fed and



Catch the idea when it's fresh with Toshiba's ExpressWriter 301 laptop printer.

aligned properly, I had no difficulties with the multiple pages. I did, however, have to elevate the paper above the sheet guide so that the folds wouldn't get hung up in the printer. Of course, this requires extra desk space, so if that's a problem, you'll need to stick with hand-fed single sheets.

The printer wasn't as durable as I would have liked. My main objection was with the sheet guide. Several times it snapped back opposite the closed position, 90 degrees from its normal, working position. In spite of its apparent talent for getting stuck like this, it was a struggle to free the thin plastic flap.

Inspired by a stroke of genius at Toshiba, the designers included a battery that lasts up to one hour without a recharge. The battery frees you from the tyranny of the electrical outlet and expands the 301's usefulness tenfold. I found that it lasted reliably for about 50 minutes. After that, it wasn't always up to snuff. This probably depends on the duty cycle of the components.

XyWrite, *WordStar*, and *WordPerfect* worked flawlessly—just what I would have expected. But, to really put the 301 through its paces, I wrote a test text file and some short files with escape codes (using the infamous

DEBUG part of DOS) to print italics, expanded text, and anything else the printer claimed it could do in its manual. During this test, the printer couldn't hide behind a software façade.

The print quality won't win any prizes; it breaks up unless you set it for the highest output density. But it's adequate for doing portable work, and that's one of the compromises Toshiba made.

On the other hand, the printer offers the most important features—expanded, condensed, and super- and subscript characters; underlined, bold, shadowed, and italic print; three resident fonts (Courier, Prestige Elite, and Draft) and user-definable fonts; and full graphics support. Using my short test files, I saw them all come to life. With the exception of the slightly broken-up output, the quality was as good as you'd get from any 24-pin printer.

The 301 won't win any prizes for speed either, but there's a limit to what you can do in such a small space. In high-speed mode, it prints 60 characters per second and, in normal mode, 42 characters per second. Although I couldn't find it specified anywhere in the manual, the data seemed to be buffered. Programs regain control before the printer is done. A Centronics parallel port makes the 301 compatible with most cables—a welcome relief.

The manual was especially well written and had a generous helping of clearly labeled illustrations. All of the escape and control codes are listed in charts so that you can embed them within the body of the text.

Two other nice touches are a self-test and some useful error alerts. You can print a test page to check the output and see the variety of resident fonts. A warning light blinks at different rates, based on which errors are present. It takes some practice to discriminate between blink rates, but you'll appreciate them once you've mastered them.

For people who need printouts on the go, the ExpressWriter 301 is the ticket. A long list of features, adequate print quality, and optional battery operation make this one of the best choices for portable printing.

RICHARD C. LEINECKER

IBM PC and compatibles—\$489

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EYE RELIEF

Here's a riddle: What do your grandmother with her trifocals and a jet-hopping executive with a laptop have in common? Trouble seeing text on a screen. Enter *Eye Relief*, by Ken Skier of SkiSoft Publishing.

Skier's new word processor will appeal to several groups with special needs. People who find themselves squinting at the screen, either because of less-than-perfect eyesight or a less-than-perfect screen display, may find *Eye Relief* a very welcome . . . well . . . relief. This program prints to the screen in any of six text sizes, from tiny (standard pica) to jumbo (half an inch tall). To further improve visibility, you can expand or contract the line spacing.

Text size defaults to jumbo so you can see what you're doing right away. Without my contact lenses, finding the computer was a bit of a problem but seeing the text on the screen was easy.

To further make the program accessible to people with vision problems, Skier printed the manual in large type. Features taken together, this program is a serious advance in word processing for people who haven't been privy to the joys of booting up. You can even slow the cursor blink rate to a stop so that some epileptics, whose seizures can be triggered by flashing lights, can use a computer for the first time.

To translate readability to paper, *Eye Relief* prints in standard type on a dot-matrix printer, but, with a laser or PostScript printer, you can use 18-point characters.

In some of its features, *Eye Relief* compares favorably to big-name word processors. It has all the usual cut-and-paste options; it inserts and deletes in the usual fashion. It saves files in a fairly standard way and performs search-and-replace functions like a champ. Page formatting is quite simple through the Print menu.

Typing speed seems a bit slow, rather like some desktop publishing programs. I didn't outtype the cursor, but a crack executive secretary might. Cursor speed is fixed at an annoyingly poky pace, especially when compared to the speeds that can be selected in *WordPerfect*, for example. The arrow, Pg-Up, and Pg-Dn keys let you zip around handily, though.

Eye Relief loads and saves files

with reasonable quickness, but I'd like to have a directory option in the File menu.

In general, the pull-down menus are convenient for selecting functions. Menu-text size is, of course, variable. Once you learn your way around, you can bypass the menus with control-key commands.

The Video menu lets you control text size, spacing, screen colors, and cursor blink rate. The File menu offers load, save, print, and quit options. From the Edit menu you can cut, copy, paste, delete all, and insert a hard page break. The Other menu lets you count words, create a new macro, and execute a macro.

Macros are handy features in all major word processors. In *Eye Relief*, they're kind of fun to watch, but not as quick as they should be. Hitting CTRL-X, typing *letterhead*, and waiting while the return address, salutation, and complimentary closing appear stroke-by-stroke on the screen is a far cry from the speed offered by some programs.

Editing is reasonably convenient. The insert, delete, and backspace keys operate in the usual way. Deleting and backspacing over text is slower than I'm accustomed to, but no one should delete large chunks of text with the backspace key, anyway. For large block deletions, hit F2 and select the text. Then hit the ENTER key, and say bye-bye to the sentence or paragraph. To paste, tap F4 and back it comes. Nice and simple.

For some reason, though, there are features lacking. There is no provision for tab stops, you can't clear the screen without exiting, there are no file-management routines, and there is no dictionary or thesaurus.

All in all, I'd say that this program will be a boon to schools that teach vision-impaired students. It will also be useful for someone who uses a laptop in poor light. The display is a definite improvement over the average laptop hieroglyphics. Many laptop users, though, will be unwilling to put up with the program's limitations.

It will, however, give anybody's weary eyes welcome respite from those tiny letters on the screen.

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- * Single disks for *COMPUTE!'s Gazette* are \$15.00. Disk/magazine combinations are \$16.00 NOTE: No disks dated prior to June 1986 are available. The May 1986 and October, 1987 *Gazette* disks are no longer available.
- * Back issues of *COMPUTE!'s PC Magazine* are \$16.00 each. This publication is available only as a magazine/disk combination. Our back issue inventory consists mainly of magazines with 5.25-inch disks, but we will attempt to supply 3.5-inch disks if requested. The following issues are NOT available: *PC Magazine*: 9/87, 11/87, 1/88, 3/88, 9/88, 11/88, 1/89.
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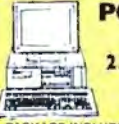
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NEW PRODUCTS

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Window Greetings

hDC Computer has introduced *hDC Card Designer*, a greeting-card maker that operates in the *Microsoft Windows* environment. The program is the first in a series of *Windows* desktop utilities from hDC called *MicroApps*.

Card Designer works with *hDC Windows Manager*, a desktop utility manager, and comes with Art Gallery and Card Maker *MicroApps* for designing and printing cards. A variety of clip art also accompanies the program. The graphics can be modified with a painting or drawing program. Original art or graphics from other clip-art packages can be saved to an Art Gallery Library. Art can be pasted into cards, and text from Notepad or a word processor can also be pasted into the cards.

hDC Card Designer requires an IBM PC or compatible, *Microsoft Windows/286* or *Microsoft Windows/386* versions 2.0 or higher, *hDC Windows Manager*, and any PostScript or *Microsoft Windows*-supported printer. The package, which includes sample cards, has a retail price of \$49.95. *hDC Computer*, 6742 185th Ave. NE, Redmond, WA 98052

Circle Reader Service Number 200.

Back to Basics

Borland International has transferred the development and publishing rights of future versions of *Turbo Basic* back to its original developer, Robert Zale. Zale has reached an agreement with Spectra Publishing to publish a new version of *Turbo Basic* under the name *PowerBasic*.

The updated product is a complete development environment for the IBM PC and true compatibles with an interactive editor, a fast compiler, and an interactive debugger.

Spectra Publishing offers full technical support for *PowerBasic*, which has a retail price of \$109.95. Registered users of *Turbo Basic* 1.1 can upgrade to *PowerBasic* through Spectra Publishing for \$50 plus ship-

ping and handling.

Spectra Publishing, 1030 D E. Duane Ave., Sunnyvale, CA 94086

Circle Reader Service Number 201.

Testy Software

TouchStone Software has released version 2.1 of *CheckIt*, a general-purpose utility that details and tests the hardware and software configuration of IBM PCs and compatibles. The utility defines a system's configuration, helps implement upgrades, and troubleshoots problems.



CheckIt tests the hardware and software configuration of PCs.

One added feature is an enhanced-memory diagnostic that provides complete testing for expanded memory.

CheckIt version 2.1 carries a retail price of \$149.

Touchstone Software, 909 Electric Ave., Seal Beach, CA 90740

Circle Reader Service Number 202.

Larry the Third

Everyone's favorite lounge lizard, Larry Laffer, returns in Sierra's *Leisure Suit Larry 3: Passionate Patti in*

Pursuit of the Pulsating Pectorals.

This is the first Sierra game that lets you play two different characters.

For the first part of the game, you play Larry, who is recently divorced and on the prowl. In the second half, you become Passionate Patti, Larry's female equal.

Features include autosave, a first for Sierra, and over an hour of original music. An opening trivia test prevents children from playing the game's steamier scenes. How you perform on the trivia test also determines determines how risqué the game will be.

Larry 3 for IBM PCs and compatibles comes packaged on eight 5¼-inch and four 3½-inch disks. The game supports EGA, CGA, VGA, MCGA, Tandy 16-color, and Hercules monochrome graphics. The program's sound can be improved with enhancements such as the Roland MT-32, Ad Lib, IBM, Game Blaster, Casio MT-540/CT-460, Casio CSM-1, and Yamaha FB-01 sound devices. The retail price is \$59.95. Amiga, Atari ST, and Macintosh versions are planned. *Sierra*, P.O. Box 485, Coarsegold, CA 93614

Circle Reader Service Number 203.

Civil War, the Final Stages

Strategic Studies Group has announced the release of the IBM PC and compatibles version of *Decisive Battles of the American Civil War, Volume III: Wilderness to Nashville*.

The *Civil War* simulation features six battles from the final period of the war. Recreated on the screen are the battles of Wilderness, Spotsylvania, Cold Harbor, Atlanta, Franklin, and Nashville.

SSG's *Decisive Battles* system uses the *Warpaint* graphics editor and the *Warplan* war-game construction kit. All game icons can be edited with *Warpaint*, giving you control over the presentation of the game. In the *Decisive Battles* system, you can create any scenario you like and make it look exactly as you want.

Decisive Battles of the American

Civil War, Volume III supports EGA and VGA graphics and has a retail price of \$39.95. SSG software is distributed exclusively by Electronic Arts.

Electronic Arts, 1810 Gateway Dr., San Mateo, CA 94404

Circle Reader Service Number 204.

Calling All Computers

Canon's Navigator provides everything you need: a telephone, an answering machine, a facsimile machine, and an XT-class personal computer. The components are fully integrated, but each may be operated independently of the computer.

The computer has 640K of memory and dual 3½-inch floppy drives. The 10-inch monochrome screen doubles as a pressure-sensitive control panel. Programs can be run by touching the appropriate icon or symbol on the menu screen. The unit also has built-in serial and parallel interface ports.



The Navigator combines a telephone, an answering machine, and a fax with a PC.

Built-in tools include a message board, a digital clock, a memo pad, and a screen sweeper.

The Navigator has a retail price of \$2,995.

Canon U.S.A., One Canon Plaza, Lake Success, NY 11042

Circle Reader Service Number 205.

Nostalgic Trip

California Dreams has introduced *Street Rod*, a nostalgic racing simulation featuring 25 hot cars from the past, ranging from a '32 Deuce Coupe to a '63 Corvette. Once you've chosen your set of wheels, you can use the program's construction set to customize and tune your heap.

The construction set allows you to switch engines, transmissions, tires, and carburetors; and it lets you add custom touches such as a chopped top, custom paint, and custom designs.

When your hot rod is ready, it's time to cruise. Stop by Bob's Diner, check out the competition, and challenge one of the local legends to a quarter-mile drag race or a treacherous road race. While racing, be sure to keep an eye out for the cops. Defeat all comers and become the King.

Street Rod has a retail price of \$49.95. Additional cars and options will be available later on supplemental data disks.

California Dreams, 780 Montague Expwy., #403, San Jose, CA 95131

Circle Reader Service Number 206.

Backup Plan

The Norton Backup, a PC utility for backing up and restoring files to hard or floppy disks, has been released by Peter Norton Computing.

The product protects against the loss of data by creating backup copies of an entire disk or selected files. The program can be used to restore data in the event of a hard disk crash, virus-related file damage, or user error.

The Norton Backup automatically configures itself to its hardware environment on the first run. Performance can be further increased by fine-tuning the selected settings. The program also maintains a master catalog of a hard disk for immediate restore selection and a full catalog of each set of backup disks. Backup selections can be automated with reusable setup information for regular backup of the same files.

The introductory price for *The Norton Backup* is \$149. The program requires an IBM PC, XT, AT, PS/2, or compatible and DOS 2.0 or higher. *Peter Norton Computing, 100 Wilshire Blvd., 9th Floor, Santa Monica, CA 90401-1104*

Circle Reader Service Number 207.

No Extra Hardware

Unison World's *Avagio Publishing System* offers scalable font technology without requiring additional hardware. The program allows you to create up to 500-point type, in 1-point increments, without jagged edges on most dot-matrix or laser printers.

Other features include a program that lets you convert almost any PostScript-format graphic to Unison World's outline format. All fonts can be compressed or expanded in one-point increments, and a mingle feature lets you specify how objects mingle with each other when they overlap. All *Avagio* onscreen fonts exactly match those on the printed page because they're generated from the



Avagio combines desktop publishing power with the capabilities of stand-alone graphics programs.

same outline fonts.

Avagio for the IBM PC, XT, AT, or compatible requires DOS 2.1 or higher, 640K, and a 20-MB hard drive. It supports Hercules, CGA, EGA, and VGA graphics and offers mouse support. The retail price is \$299.95.

Unison World, 1321 Harbor Bay Pkwy., Alameda, CA 94501

Circle Reader Service Number 208.

Flamethrower

Strategic Simulations has released *Dragons of Flame*, the second Advanced Dungeons & Dragons ancient game set in the Dragonlance game world.

You lead the eight Companions of the Lance on a quest through the wilderness of the Elven Mosaic, where they gain valuable allies: the elves of Qualinesti. The Companions must also ally with nonplayer characters such as nomads and refugee town-folk, and they must sneak through the caves of Sla-Mori and into the fortress of Pax Tharkas. Once inside the fortress, the Companions must recover the sword, Wyrmslayer, and free the slaves held there by the evil dragons and Draconians.

Each companion has specialized skills that can be used to evade Draconian patrols and other evildoers and monsters. Ultimately, your goal is to triumph over evil and save the world of Krynn from Takhisis, the Queen of Darkness.

Dragons of Flame is available for IBM PCs and compatibles and retails for \$39.95. The Amiga and Atari ST versions also retail for \$39.95, while the Commodore 64/128 release sells for \$29.95. A clue book is available for \$7.95. The SSI game is distributed in North America by Electronic Arts. *Electronic Arts, 1810 Gateway Dr., San Mateo, CA 94404*

Circle Reader Service Number 209. ▶

Laser Printing for Less

Okidata has released a lightweight, low-profile, and affordable personal laser printer called the Okilaser 400.

Compatible with a wide variety of word processing and graphics software, the Okilaser 400 prints four pages per minute. Seventeen built-in bitmap fonts in four typefaces are included, and there's a cartridge slot for additional fonts. The printer features HP Series II emulation and has 512K of RAM that's expandable to 2.5 MB for full graphics applications. It handles single-sheet paper (up to 200 sheets of 16- to 24-pound stock), envelopes, mailing labels, and overhead transparencies.

The Okilaser 400 has a retail price of \$1,395.

Okidata, 532 Fellowship Rd., Mount Laurel, NJ 08054

Circle Reader Service Number 210.

Auto Designer

A new IBM PC version of *Car Builder* is now available from Optimum Resource. With *Car Builder*, you can take on the role of design engineer while planning, constructing, refining, and testing vehicles of your own design. You can design sedans, station wagons, four-wheel-drive vehicles, vans, and sports cars.

Start with the selection of mechanical components including chassis, engine, transmission, suspension, steering, tires, and brakes. Once the mechanical stages are complete, you choose and modify the body using wind-tunnel and road tests to perfect the design. Following the testing stages, you modify body lines to improve aerodynamics and minimize drag and redesign mechanical aspects to increase performance. Data on finished cars can be stored to disk or printed out.

Car Builder requires CGA graphics and 256K. The retail price is \$49.95.

Optimum Resource, 10 Station Pl., Norfolk, CT 06058

Circle Reader Service Number 211.

Race to the Death

Activision's new 3-D driving simulation, *DeathTrack*, puts you behind the wheel of a deadly, weapon-armed machine in which you battle enemy racers.

Once you select a car, you can add customized parts and weapons to make your car invincible. Next, you select from one of ten grueling race-tracks located in major cities such as Los Angeles, San Francisco, Chicago,

and Phoenix. Your view is from the driver's seat, where you have an array of computer-controlled driving and targeting indicators. You are warned when another racer is approaching and are told who the driver is and what type of weapon he or she is carrying. A rearview mirror also helps you keep an eye on approaching enemies.

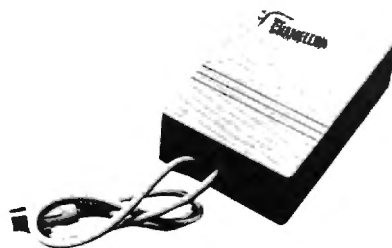
DeathTrack for the IBM PC and compatibles requires 512K and a color monitor. It supports CGA, EGA, and Tandy (640K required) graphics. The suggested retail price is \$44.95.

Activision, 3885 Bohannon Dr., Menlo Park, CA 94025

Circle Reader Service Number 212.

Keyboard of a Different Color

The Chameleon Keyboard Customizer from Sirius Industries can send lengthy command sequences and repetitive blocks to your PC-, XT-, or AT-compatible keyboard with just one keystroke. You can program over 90 macros or redefine any key. The Chameleon also allows you to program macros for different programs and automatically upload and download different configurations. Other features include the ability to change the repeat rate of any key and the capacity to create a security device.



You can customize your keyboard with the Chameleon.

Keyboards can be plugged directly into the Chameleon, which requires no host memory. The retail price is \$59.

Sirius Industries, 216 N. 20th Ave., Phoenix, AZ 85027

Circle Reader Service Number 213.

Plain English

Creative Solutions has released *PC-IQ*, a program that uses artificial intelligence to translate simple English commands into DOS commands. Instead of using the DOS command language, you can type in your own words to describe what function you want the computer to perform. Should the input be unclear, the pro-

gram will ask you for more information in an informative and friendly manner. *PC-IQ* requires 640K, DOS 2.0 or higher, and a hard drive. The retail price is \$79.95.

Creative Solutions, 58 Creekview Dr., P.O. Box 128, W. Seneca, NY 14224

Circle Reader Service Number 214.

Designer Bookkeeping

Accounting by Design's *Bookkeeping by Design* for small businesses features lively onscreen graphics and a streamlined program structure. The program takes advantage of *Microsoft Windows'* graphical interface to create a layered look for many of its bookkeeping screens. Data-entry processes and command sequences have been simplified.

The program provides small businesses with accounts payable, accounts receivable, invoicing, and payroll systems, as well as a general ledger with a report writer. You can use the program to review sales records, write checks, and make payroll entries without leaving the software environment.

Bookkeeping by Design requires 640K, a hard disk, a graphics card, and a mouse. It comes bundled with a runtime version of *Microsoft Windows* and retails for \$695.

Accounting by Design, 2140 Shattuck Ave., Suite 501, Berkeley, CA 94704

Circle Reader Service Number 215.

Foreign Affairs

Two language-teaching software programs from International Software can perform direct translations from English into either German or Spanish. With *Learn German* and *Learn Spanish*, you can type in a simple sentence on your IBM PC or compatible and the program will act as interpreter and display or print the translation.

The programs employ artificial-intelligence parsing to ensure that grammar, gender, conjugation, and composition of words within the translated sentences are correct. After examining the translation, you can save each sentence in an ASCII file. The accumulated text can then be edited with any word processor.

Both *Learn German* and *Learn Spanish* contain a large resident vocabulary and a dictionary; separate displays for numbers, verb conjugation, and noun declension; and word exercises that test your knowledge of the language. Each program retails for \$99.95.

International Software, 1954 Nob Hill, Box 747, Running Springs, CA 92382

Circle Reader Service Number 216. □



OFF LINE

D A N G O O K I N

Somewhere inside your computer, nestled amongst the tangled ganglia of cables, power supplies, phone cords, cookie crumbs, dust balls, and lost pens, is a dark, secret, forbidden world—kind of like OS/2. It's a magical place where mysterious creatures exist. Even if you've never seen them, you've witnessed their mischievous effects.

The key to unlocking the door to this kingdom, I have discovered, is a pint of Dark Chocolate Mocha Fudge Haagen Dazs ice cream. Eat the entire carton at 2:00 a.m. (don't forget to top it with half a goopy gallon of Hershey's Triple Ooey Goopy Chocolate topping). Then go directly to bed.

In your dreams, sometime between the moment you give the State of the Union address in your underwear and the final fulfillment of that long-held fantasy mud-wrestling match with Bill Gates, your sugar-saturated mind will wander into the cable jungle behind your computer. Keep your wits about you, and you should survive this close encounter.

The first creature you're bound to meet is the Cable Wraith. Actually, the computer cable jungle is just one stop for this ugly little cuss. He's also the same bothersome pest who kinks and knots garden hoses and weaves those enchanting tangles into your Christmas-tree light strings.

But even if you never see the Cable Wraith, you might, perchance, notice the sound he makes. He's that phantom giggle you hear when you put the phone on top of the modem, just as you're about to dive behind the desk to hook up everything to the wall. No matter how carefully you place the wires, the second your back is turned—*zing!*—giggle-giggle!

A more common creature is the Pixel Fairy and her damnable pixel dust. The Pixel Fairy is a lively little elfin creature—kind of a combination Tooth Fairy/Sandman. Every night she deposits a thin veil of pixel dust

on the surface of your computer's monitor. Nightly. You can't stop her.

Related to the Pixel Fairy is the Phosphor Burn-in Phantom, a nasty bit of business who operates on the inside of your monitor. Looking a little like Claude Rains (and sounding a lot like Michael Crawford), the Phosphor Burn-in Phantom is the beast who etches a permanent image of your favorite computer program into the sensitive phosphors of your monitor.

Those who have seen the sight draw back in fear. Even with the monitor off, programs appear. The Phosphor Burn-in Phantom is always there, lurking inside your CRT.

Next on the poltergeist parade is the Hard Disk Troll. This awful little grunt will slow your hard disk to a crawl. If some of your data is missing

reason, the Troll can't stand it.

The most annoying of the mystical DOS creatures is the 640K DOS Memory Demon. Contrary to popular belief, there isn't a brick wall at address 640K in your PC. Instead, there's a delicate sheet of glass. The Memory Demon stands at the Gate of Useful Memory, a huge mallet in his hands, and glowers at approaching programs. When programs near 640K, this horrible monster crowns them just before they reach the threshold.

DOS programmers at Microsoft are at a loss to explain the existence of the Memory Demon. Rumor has it that an OS/2 Memory Demon exists at 16 megabytes—but no one who has ventured into the PC forest that far has ever returned alive.

Many companies have figured out ways to thwart the Memory Demon. The most successful, now in its fourth incarnation, has been the Little Imp Maiden (LIM 4.0). Also effective is the Engaging, Mysterious, and Sensuous (EMS) Imp. Both of these good spirits are hard to control, however.

OS/2 contains its own horde of interesting software creatures, like the CONFIG.SYS Witch. She isn't evil, just difficult to understand. She speaks in odd incantations, and nothing she says is in the OS/2 manual. Folklore has it that Infocom will publish an Invisi-Clues booklet for the CONFIG.SYS Witch.

There are countless other PC creatures, like the Hardware Gnome, who tugs on cables and causes random errors but vanishes when you take the computer into the shop; the Subtle Sleeping Floppy Gremlin, who waits months before magically rendering an important floppy disk useless; the Memory Goblin who inflates programs beyond available RAM; and the Line Noise Fiend, who garbles on-line communications.

You can, of course, dismiss these tales as OEM factory stories designed to keep users from working on their own systems. But, hey, during a full moon, who really knows? □

UNLOCK YOUR COMPUTER AND BEHOLD THE CREATURES WITHIN

or some of your files have disappeared, it's the loathsome Troll's doings. He lives to foul sectors and to fragment files.

Fortunately, the Hard Disk Troll has an enemy: CHKDSK. By itself, CHKDSK is a fairly useless little DOS utility, kind of like the doctor you visit when you're sick who says, "Yup, you're sick all right." But for whatever



HOTWARE

SOFTWARE BESTSELLERS FROM AROUND THE COUNTRY

HOME PRODUCTIVITY

1. Quicken

Manage your finances.
Intuit
IBM, Macintosh

2. The Print Shop

Make signs, cards, banners, and more.
Broderbund
Apple II, Apple IIcs, Commodore 64/128, IBM, Macintosh

3. PC USA

Explore the United States.
PC Globe
IBM

4. BannerMania

Print banners, pennants, and more.
Broderbund
IBM

5. Managing Your Money

Allocate your income.
MECA
Apple II, IBM, Macintosh

6. Calendar Creator Plus

Create many different calendars.
Power Up
IBM, Macintosh

7. WillMaker

Get help in writing a will.
Nolo Press
Apple II, IBM, Macintosh

8. Print Shop Graphics Library

Add variety to your Print Shop creations.
Broderbund
Apple II, Apple IIcs, Commodore 64/128, IBM

9. PC Globe 3.0

Explore world demographics.
PC Globe
IBM

10. Adobe Type Manager

Better fonts for your Mac.
Adobe
Macintosh

HOME ENTERTAINMENT

1. Flight Simulator

Head for the wild blue yonder.
Microsoft
IBM, Macintosh

2. SimCity

Run the world's first simulated city.
Maxis
Amiga, Commodore 64/128, IBM, Macintosh

3. John Madden Football

Take to the field with the pros.
Electronic Arts
Apple II, Commodore 64/128, IBM

4. Their Finest Hour: The Battle of Britain

Turn the tide in the World War II air war.
Lucasfilm Games
IBM

5. M1 Tank Platoon

Thrilling tank action.
MicroProse
IBM

6. Tetris

Deceptively addicting falling-block game.
Spectrum HoloByte
Amiga, Apple IIcs, Commodore 64/128, Macintosh

7. Mean Streets

Become a digitized detective.
Access
Commodore 64/128, IBM

8. Hero's Quest

Your chance to be a hero.
Sierra
IBM

9. The Duel: Test Drive II

Fast-paced car racing.
Accolade
Amiga, Apple IIcs, Commodore 64/128, IBM, Macintosh

10. Battlechess

Animated action on the chessboard.
Mediagenic
Amiga, Apple IIcs, Commodore 64/128, IBM

HOME LEARNING

1. Mavis Beacon Teaches Typing

Learn to touch-type.
Electronic Arts
Apple II, Apple IIcs, Commodore 64/128, IBM, Macintosh

2. Where in Time Is Carmen Sandiego?

Can you find Carmen in time?
Broderbund
IBM

3. Math Blaster Plus!

Teaches basic math concepts.
Davidson & Associates
Apple II, Apple IIcs, IBM

4. Where in the World Is Carmen Sandiego?

Chase Carmen around the world.
Broderbund
Amiga, Apple II, Commodore 64/128, IBM, Macintosh

5. Where in the USA Is Carmen Sandiego?

The chase moves to the USA.
Broderbund
Amiga, Apple II, Commodore 64/128, IBM, Macintosh

6. The Children's Writing & Publishing Center

A desktop publisher for kids.
The Learning Company
Apple II, Apple IIcs, IBM

7. Reader Rabbit

Helps children learn to read.
The Learning Company
Apple II, Commodore 64/128, IBM, Macintosh

8. Learning DOS

Learn the ins and outs of DOS.
Microsoft
IBM

9. Think Quick

Children learn problem solving.
The Learning Company
Apple II, Apple IIcs, IBM

10. Math Rabbit

Build early math skills.
The Learning Company
Apple II, Commodore 64/128, IBM, Macintosh



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- What kind of computer do you own? IBM PC or compatible Tandy Amiga
 Macintosh Apple II Commodore 64/128
261 262 263 264 265 266
- How long have you owned your computer? _____ years _____ months
267 268
- Do you use your computer mostly for playing games working at home
 school work/learning?
269 270 271
- What part of COMPUTE! do you read first? _____
272
- Do you find COMPUTE!'s new design helpful in finding information you need? Yes No
273 274
- How would you rate the quality of information in this issue of COMPUTE!? Average
 Good Excellent
275 277
- What one topic would you like to see covered in COMPUTE! during the coming year?
278
- What other computer magazines do you read? PC Computing COMPUTE!'s Gazette
 PC Resource Home Office Computing COMPUTE!'s PC Magazine
 Personal Computing Other _____
281 282 283 284 285
- What is your total household income? <\$30,000 >\$40,000 >\$50,000 >\$75,000
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New Compatible Games.

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Battle of Britain



MicroProse's
F-15 Strike Eagle II



Taito's Arkanoid II
Revenge of DDH



Activision's
Ghostbusters II



Sierra's
Hero's Quest



Lucasfilm's Indiana Jones
and the Last Crusade

System requirements: IBM PC, XT, AT, or compatible with 256K RAM, DOS 2.0 or higher, CGA, EGA, or monochrome graphics adaptor, and headset or external speaker.
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Circle Reader Service Number 190

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Even the most intrepid Hero knows when to ignore a 'Do Not Feed the Animals' sign.



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match for you. When you've purged the land of evil, choose a new role and play the game again! But remember Adventuring Rule #1: When in doubt, run away! So you want to be a hero? Well, here's your chance -- **Hero's Quest I--So You Want To Be A Hero...** FRP has never been this much fun!

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Hero's Quest players tell us how it is...

'Just got HQ yesterday and am very pleased...some of the humor is priceless.

'...this one has more humor than most CRPG's I've played!'

'The fairies were a riot! Great characterizations in this game, better even than Space Quest III, and that's going some.'

'...much of the humor is a great deal more subtle...the sub thing brought me right out of my chair.'

'I like that ending a lot!!! I want to go back and replay...SOON!'

'...one of the best of all of Sierra Games...I play the game every chance I get. I highly recommend it to anyone who likes games by Sierra.'

'We can't wait to play HQ II!! Sierra is getting too good at this stuff. It's getting to the darn point where no other computer games are worth buying. Keep it up...just make MORE games.'

